



An environmental scan summary: **Australian technology in aged care resources**

MAY 2024

This report describes the methods and findings of the original environmental scan conducted in February 2023. The scan was re-run in May 2024 and resulted in additional technology resources being added to the Resource Collection. We will continue to repeat the scan process at scheduled intervals to ensure content currency.

Key Points

- An interactive desktop environmental scan was undertaken to identify Australian resources on technology use potentially supporting workforce learning and changing practices within the aged care sector.
- The scanning process involved structured Google Advanced searches and a search of relevant organisational websites. Our Evidence Advisory Group of experts in the field were also consulted.
- The environmental scan identified over 90 resources potentially relevant to Australian residential aged, home, and primary care sectors.
- These resources describe topics including:
 - Understanding the role of technology in aged care and current issues.
 - Types of technology used in aged care, their uses, and benefits.
 - 'How to' guides on designing, implementing, and using different types of technologies within aged care settings.
 - Using technology solutions specific to roles within the aged care organisation and setting.
 - Information and guidance for IT vendors and software developers intending to work with aged care providers, and
 - Factors influencing both the adoption, uptake, and use of technology in aged care.

Background

The aim of this environmental scan was to undertake a limited desktop review to identify current tools and resources on technology considering the Australian aged care workforce for people working in the aged care sector. The search included information and resources on technologies being rolled out and used within residential aged, home and primary care settings.

This report presents the methods and findings of a preliminary scan completed by the Knowledge and Implementation Hub.

We specifically sought resources supporting workforce learning and practices. This includes resources addressing the human factors influencing a new technology's levels of success in being accepted and integrated into the aged care setting (the focus of our scoping review).

Additionally, we looked for resources to support the workforce and organisations when developing or purchasing a technology, testing and implementation of the technology into practice or workflows, and then evaluating how well the technology delivers on expected benefits.

These resources support the topic of our rapid literature review. This report presents the methods and findings of a preliminary scan completed by the Knowledge and Implementation Hub team.

Methods

The environmental scan followed a structured method for identified resources. This included a defined search strategy and eligibility checking against inclusion criteria.

Search strategy

The scan adopted a three-pronged approach to finding relevant resources.

Google Advanced searches

Structured searches for Australian aged care resources with a focus on technology were conducted mid-January to mid-February 2023 using the Advanced Search version of Google (Chrome browser in incognito mode to avoid previous search history impacting results). The searches were varied to find relevant webpages, videos, PDFs and other types of Australian resources.

The search was structured as follows:

1. A set of keywords were listed to guide the search. Concept 1 describes resources in the context of aged care. Concept 2 describes the technologies of interest in their different forms.
 - Concept 1 (aged care context) search terms included; aged care, home care, nursing home and social care
 - Concept 2 (technology) search terms included; technology, smart, digital OR digitisation OR digitization OR digitised OR digitized, automation OR automated, ehealth OR e-health OR mhealth, innovation, gerontechnology OR agetech, virtual reality, artificial intelligence OR AI, sensors, wearable devices OR wearables, Apps, robots, cybersecurity OR cyber security, accessibility, useability OR usability
2. Each term describing Concept 1 (aged care context) was searched in combination with each concept 2 term (technologies) by entering them in the field titled 'All these words'.
3. At the same time, terms describing the various types of resources of interest were entered in the field titled 'Any of these words' with terms separated by the word OR (i.e., reports OR guidelines OR videos OR apps OR tools, etc.)
4. 'Australia' was selected from the 'Region' drop-down menu.

For each combination of terms searched, we reviewed the first 50 pages of results returned (i.e., 500 individual items). We also looked within each resource to potentially identify other relevant resources.

Scanning organisational websites

We compiled a list of key organisations for more targeted searches for resources. These included relevant organisations to the aged care and/or technology sectors. Organisations were nominated by the Knowledge and Implementation Hub team or found during the scan process. They included:

- [Australian Government Department of Health and Aged Care](#)
- [Aged Care Industry Information Technology Council \(ACIITC\)](#)
- [Australian Digital Health Agency](#)
- [Aged Care Quality and Safety Commission](#)
- [Australian e-Health Research Centre](#)
- [My Aged Care](#)
- [COTA](#)
- [Australian Ageing Agenda](#)
- [Aged Care Guide](#)

- [Aged Care Insite](#)
- [InnovAGEING](#)
- [Dementia Australia](#)
- [National Ageing Research Institute](#)
- [NSW Smart Sensing Network](#)
- [Australian Government Australian Signals Directorate](#)

Consulting the ARIIA Knowledge and Implementation Hub Evidence Advisory Group

The Technology in Aged Care Evidence Advisory Group (EAG) offered their guidance on content development also suggested relevant Australian resources.

Eligibility criteria

- We considered resources for inclusion if they:
 - Provided significant and valuable information to inform and guide the aged care workforce and service providers in the application of technology in practice.
 - Were available online and free of charge. Those needing registrations were also considered.
 - Were produced in the last five years.
 - Met criteria listed in the [AACODS Checklist](#) which details:
 - Authority, or the credibility of the individual or organisation responsible for the intellectual content.
 - Accuracy of the content and the source information's traceability.
 - Coverage and scope of the resource. How well it covers the topic it sets out to cover.
 - Objectivity of the information presented and any potential for bias.
 - Date of production to assess the currency of the content.
 - Significance, or the value, richness and/or impact of the resource compared to others covering the same topic.

Data extraction

The following data fields were captured for included resources:

- Resource name
- Author / Organisation
- URL
- Year published
- Audience
- Resource type
- Settings
- Description of resource(s)

Results

Of the hundreds of webpages and resources found through our searches and assessed for quality and relevance, over 90 met our eligibility criteria. These resources are now available within the [Knowledge and Implementation Hub Resources collection](#).

Resource characteristics

The resources vary in type and target audience. They include industry reports, videos, webinars, podcasts, webpages, blogs, articles, and information sheets. Most resources were intended for more than one audience and might apply in more than one service setting.

The selected resources focus on a variety of topics including:

- **Understanding the role of technology in aged care and current issues**
These include resources designed to support awareness and comprehensive understanding of how technology can support the aged care sector within a rapidly evolving digital environment.
- **Types of technology used in aged care, their uses and benefits**
Resources describing technologies such as virtual reality, robots, apps, software, smart devices, smart homes, and assistive technology devices.
- **'How to' guides on designing, implementing, and using different types of technologies within aged care settings**
Guidance documentation on requirements including resources, training requirements and considerations when implementing and using video conferencing, telehealth, and virtual reality, as well as the need to consider cybersecurity.
- **Information and guidance for IT vendors and software developers intending to work with aged care providers**
Resources provide information on technology frameworks, standards, and issues (challenges and barriers) to developing solutions within the aged care sector.
- **Factors influencing both the adoption, uptake, and use of technology in aged care**
Information and resources describing issues potentially influencing adoption, use and acceptance of certain technologies and how they can be addressed. These describe issues such as staff reluctance to engage with technology, safety and ethical concerns, and economic considerations.

Several resources are in the form of self-paced e-learning modules for staff:

- **Using technology solutions specific to roles within the aged care organisation and setting**
For service providers, managers and policy makers, a suite of resources is available to guide them in technology implementation – including information and tools on staff training, cybersecurity, ensuring privacy, and awareness of the relevant standards.
For clinicians and allied health professionals, a suite of resources on telehealth and other forms of video consultations, including standards of care and privacy checklists, are available.
For aged care workers, several instructional resources describe uses and benefits of virtual reality. These include formal learning modules and courses on using digital technology.

Conclusion

Technology plays a significant role in addressing the needs of the aged care sector to ensure its long-term sustainability. However, the aged care sector still needs to overcome challenges to support its workforce and the ageing population to adopt, accept and use technology within care settings. Results from this environmental scan has demonstrated that there has been an enormous amount of work that has been and is currently being undertaken in this area. Existing resources support organisations and the aged care workforce to address implementation challenges, however due the rapidly evolving digital environment in Australia, we expect to identify additional information as technology processes and products change to integrate into the new interconnected health and aged care systems.

This summary report describes the first process used to find resources capable of informing, training, educating, or generally supporting the aged care sector in its work. This is the first part of an ongoing process to build the resources of the Knowledge Hub. We will repeat the scan process on a scheduled basis to ensure new resources are identified and included so that Hub content remains relevant to the sector's needs.

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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.

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