



Types of Technology in Aged Care: Wearable Technology

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

What are wearable technologies?

Wearable technologies or 'wearables' as they are commonly known are electronic devices worn on the human body in a variety of places (e.g., wrist, hip, or foot). They can take the form of a bracelet (e.g., Fitbit), a smartwatch, or a piece of jewellery such as a ring or pin. Wearables also include artificial intelligence (AI) hearing aids that adapt to a person's environment, smart glasses, and pieces of clothing that can detect dehydration. All wearables have the ability to monitor in real time, transmitting data elsewhere via the internet, or Bluetooth to applications (or 'apps'), on laptops and mobile devices.

How are wearables used in aged care?

Wearables can be used in aged care to help track a person's health and wellbeing. [1] This could include monitoring daily activities such as exercise, sleep duration, food intake, or the amount of energy burned. Other types of wearables record vital signs such as body temperature, heart rate, blood pressure, and glucose levels for clinical purposes. Wearables can also be used to alert people when help is required. [1]

How can wearables benefit the aged care sector?

In aged care settings, wearables can be used to monitor biomarkers such as heart rate and blood oxygenation, allowing clinical staff to detect changes in a person's health and intervene to prevent an emergency. [2] Devices with inbuilt sensors can be used to sense falls and automatically send out a signal that help is required.

People might also manually activate an alarm on a device worn on the body to summon assistance. Some alerts include inbuilt global positioning system (GPS) tracking features and can send a map or tracking beacon indicating where the person in need is located. Geo-fencing alerts that send out warning messages such as an SOS alert when someone steps outside a defined geographic area may be used to monitor the movement of people with dementia. The small size and discreet nature of wearables may make them more acceptable to older people, especially people with dementia, who wish to avoid the stigma associated with overt monitoring. [3]

Examples of wearable technologies in aged care

Some wearable technologies include:

- **CaT Pin (Bolton Clarke):** This pin can be used to track the wearer's conversations and send alerts to family or care workers if there are signs of social isolation.
- **The mCareWatch:** This smartwatch can be used as a personal alarm to contact family members and emergency services when required and support older people to live independently.
- **Oura Ring:** This smart ring can be used for continuous health monitoring including heart rate and sleep.
- **WearOptimo:** This sensor can be used to measure hydration levels in older people, detect dehydration and reduce the need for frequent blood tests.

References

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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.