Artificial intelligence and robotics in social care

What could the future look like?

The possible use of Artificial Intelligence (AI) and robotics is a relatively new development for the delivery of social care. Evidence suggests there are currently a limited number of robots being used or in development within social care but its development is growing, with many seeing it's use as a key part of how the sector will adapt to increasing needs in the future.

Robotics and AI can be broadly categorised into the following groups.

Physical assistance robots (PAR)

These perform discreet tasks including lifting and carrying to support people who need care and support.

Some PARs have been designed to operate independently from the care workforce and others to support them to undertake physical tasks associated with performing their care role.

Example: Obi is a robotic arm that allows people with physical disabilities to feed themselves and restore in the process a sense of dignity that might otherwise risk being lost.

Socially assistive robotics

These robots have the ability to help people through individual non-contact assistance in convalescence, rehabilitation, training and education.

- Service robots support activities of daily living.
- Companion robots are more generally associated with improving the psychological status and overall wellbeing of its users.

Example: Pepper is the first humanoid robot capable of recognising the principal human emotions and adapting its behaviour to the mood of the person interacting with it. Pepper was launched in the UK 2016 has been designed to identify emotions and to select the behaviour best suited to the situation.
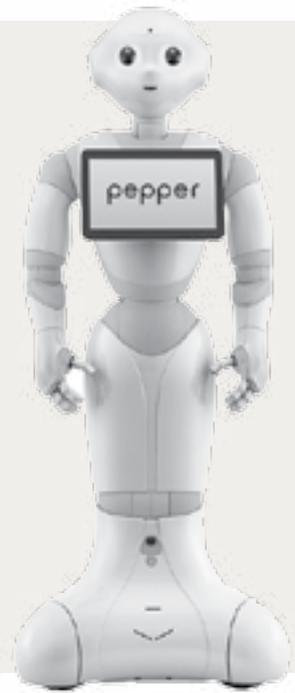
Cognitive assistance robots (CARs)

These can support users in performing cognitive tasks with the potential to support people with dementia, Alzheimer's disease and other cognitive impairments.

- They can use chatbots* as part of their customer interface.
- They have the potential to aid carers and people who use care services to monitor and self-manage their care.
- They identify at an early stage behaviours or symptoms that may require professional intervention and support.

Example: Hector is a fully autonomous robot designed to play the role of a companion for elderly people living alone or spending many hours of the day alone. The robot aims to help them remain independent, secure, fit and happy through fall detection mechanisms integrated with emergency calls or remote monitoring services. Users interact with Hector directly through voice commands and a large touch screen.

*A chatbot is a computer programme with conducts a conversation via audio or text. They are used to simulate how a human would behave in a conversation.

This work is part of a project to look at how digital technology can support social care delivery.

You can read more about this project and see Skills for Care's evidence review of the use of robotics and AI across the sector at: **www.skillsforcare.org.uk/digital**.