

Outcomes: Smart homes and the future of social care

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Overview

Smart home technology promises to transform social care and independent living among disabled and older people. On Tuesday 16th July 2019, the APPG for Assistive Technology gathered parliamentarians, health and social care professionals, smart home and assistive technology providers and charities for a roundtable to discuss the potential of smart technologies to upgrade services and improve lives.

The meeting marked the launch of our workstream exploring the role of technology in social care and independent living. The discussion took place as the Department for Health and Social Care released the Prevention Green Paper and promised to publish the long-awaited Adult Social Care Green Paper.

The outcomes will help shape the development of the new workstream, and inform our work to impact future policy.

Key findings

- There is still a gap between the potential of smart home technology to support social care and independent living and the role products currently capable of performing. In particular mainstream technologies are often not accessible or reliable enough to be used alongside specialist products in the care context.
- Health and social care services need to more effectively embed technology into provision. They should support staff to work with technology by creating specialist dedicated roles within their organisations and empowering staff to develop the mix of technical and clinical skills required to deliver high quality technology enabled care services.
- There is an urgent need to develop a legislative and regulatory framework for the use of technology in care to ensure that people's rights are protected and innovation is allowed to flourish.

Smart home technologies present both opportunities and obstacles for social care and independent living

“One thing we've got to keep at the forefront of our minds is this is about individuals. This is about the person first, technology second” – Claire Sutton, National Care Forum

- The blurring of the line between mainstream and specialist technology in social care means that services now need to consider how technologies across the board can be integrated into their provision.
 - In doing so, services will need to be able to evaluate the appropriateness of technologies. For example, the lack of inclusive design in mainstream products makes them unsuitable for many people.
 - The reliability of products is another important consideration, especially when people depend on the technology to assist with critical functions, such as calling for help in an emergency.
- Another opportunity is the huge amount of data that can be gathered through smart technologies. This data can be used for:
 - Predictive analytics to help drive improvements in care throughout the system, for example, by preventing escalations in people's care and support needs and reducing hospital admissions.
 - Tailoring care and support packages to the needs of individuals.
 - Sharing information across health and social care organisations to improve coordination between services and agencies.
- Some smart home systems on the market offer more flexibility than others. Sunderland Council chose Samsung Smart Things for its trial of smart home technologies with older clients because lots of third-party devices can connect to the system.¹

¹ Doyle, P and McLaren, R (2019) “Smart technology must be interoperable” published in the Agile Ageing Alliance's [Neighbourhoods of the Future 2019](#)

Preparing our homes for smart technologies

“The most expensive cable you're going to put in your house is the one you forgot to install. We repeat that to everyone, because retrofitting is expensive, and it's a headache” – Aneta Armova-Levin, CEDIA

- The digital fabric of housing will determine what role smart technologies play in social care and independent living.
- Many modern building materials are not conducive to wi-fi signals, hampering reception within the home.
 - Housing developers are often reluctant to install extra cables due to costs. However, retro-fitting a building can be even more expensive.
 - Builders and architects must be brought into the discussion on technology-enabled care to ensure people's homes are capable of supporting smart home systems.

Taking a more holistic approach

“If we're going to be person-centric we've got to understand what that person needs, so we've got to train not just the technology providers in making those assessments, but the OTs, the social workers, the enablement teams” – Gerry Allmark, UKTelehealthcare

- Improving technology provision in social care services will require a significant shift in the culture of adult social services.
- There is a shortage in technological skills among professionals across the health and social care sector. However, providing truly person-centric services will mean making sure social workers, occupational therapists, enablement teams and other services are able to perform effective assessments of people's needs.
 - In particular, they need to be able to think about the suitability of technology for the person and their circumstances. For example, since many people are dependent on others to support them to use their equipment, professionals must be prepared to factor in the impact of technology on these wider support networks.
 - People's informal support networks are important stakeholders in technology-enabled care services. Professionals should involve family and friends in the development of support packages as without their cooperation technological solutions are unlikely to work as effectively and may not work at all.

- Services should accommodate the fact that some people may only require assistive technology in the short term.
- They will also need to be prepared to continuously assess people's technology requirements both in light of changes in their intrinsic support needs and the impact that the technologies themselves have had on the person's life.

Equipping services with technological skills and expertise

"We invented the role of digital OT. The OT who goes out and does grab rails for your bars, someone who goes in and looks for digital solutions and almost prescribes it clinically. It nailed it overnight" – Geraint Thomas, The Disabilities Trust

- Many services struggle to keep up with developments in technology, leading staff to miss opportunities to exploit its potential on behalf of the people they support. While all staff must have some technical expertise, they should be supported to take advantage of technologies.
- Commissioners and service managers should build assistive technology into the design of services to allow staff to confidently deploy technology flexibly. This could be achieved by:
 - Identifying technology advocates within services who combine the clinical and technical skills that are often necessary to implement technology effectively. Cultivating their expertise can help bolster the confidence of their colleagues once the benefits of assistive technology have been demonstrated.
 - Creating a dedicated role such as that of 'a digital occupational therapist'. The purpose of these officers would be to conduct clinical assessments of service users' technological needs and prescribe relevant solutions. They would also be well-placed to make sure assistive technology provision is up-to-date with the latest good practice and offer support to colleagues in finding technological solutions.
 - Including a technology section in an assessment document to ensure staff consider technology.

Differences between NHS and local authority commissioning models

“Environmental controls have been lucky in one sense, we've always had a small amount of budget within the NHS, small being the operative word” – Zoe Clarke, NHS Barnsley

- Assistive technology services run by NHS England and local authorities have evolved separately. Whereas NHS services such as environmental controls and communication aids are commissioned on a national basis, local authorities are in charge of telecare provision.
- Since the introduction of the Health and Social Care Act (2012), NHS England has commissioned environmental controls and communication aid services centrally, developing a national specification for provision to be implemented by regional hubs.
 - This has led to the creation of a national coordinating group that oversees services and seeks to ensure there is equitable provision across the country. It also produces guidance for locally commissioned teams that serve people who are not eligible for support from specialised services.
 - Before these changes, provision was sporadic around the country.
- Local authority services tend to vary significantly due to differences in their history, commissioning patterns and levels of investment. As a result, there is no one-size-fits-all approach to delivering these services.
 - In principle, these arrangements can allow councils to tailor support to meet the shape of local demand.
 - However, many services are conservative in their approach to telecare and assistive technology.
 - Also, care is generally contracted out to external providers which means local authorities are rarely responsible for training care workers.

The need for better policy and clearer regulation

“The barriers to innovation, regulation is a huge one, it's an absolute minefield, what comes under HRA regulation, what comes under NHS Digital regulation, what does CQC want to know about?” – Claire Sutton, National Care Forum

- There is an urgent need to develop a legislative and regulatory framework and the use of technology in care, particularly in relation to the capabilities of smart devices. The

increasing use of machine learning, algorithms and artificial intelligence in care contexts has created new ethical concerns.²

- Legislation such as the Human Rights Act (1998), Mental Capacity Act (2005) and Care Act (2014) have a direct bearing on technology-enabled care that has yet to be fully acknowledged. Policy makers need to consider how a legal and ethical framework could be developed to ensure people's rights are properly observed.
- These ambiguities also act as a barrier to innovation. For example, it is unclear what aspects of the technologies and associated services should be overseen by bodies such as NHS Digital and the Care Quality Commission or human rights regulation.

² Policy Connect (2019), '[Trust, Transparency and Technology: Building Data Policies for the Public Good](#)', from an inquiry of All-Party Parliamentary Group on Data Analytics, co-chaired by Lee Rowley MP and Darren Jones MP

Appendix: roundtable participants

Barry Sheerman MP

Member for Huddersfield, Labour (Co-op)

Robert McLaren

Policy Connect

Clive Gilbert

Policy Connect

David Crockford

Possum

Zoe Clarke

NHS Barnsley

Andrew Kell

Aspire

Aneta Armova-Levin

CEDIA

Iain Gordon

KNX UK

Adrian McConnell

Safety Health Environment

Claire Sutton

National Care Forum

Geraint Thomas

The Disabilities Trust

Nnamdi Jenkins-Johnston

The Institution for Engineering and Technology

Gerry Allmark

UKTelehealthcare

Allan Burns

Telemental

Kate Hamblin

University of Sheffield

Chris Sawyer

Innovate UK

Rupert Lawrence
Worcestershire Telecare

Cynthia Bullock
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Wayne Scott
Sunderland City Council

Noel Duffy
Dolphin Computer Access