

Written evidence submitted by The Centre for Care, University of Sheffield

This evidence submission draws on academic research by Dr Kate Hamblin and her team as part of the Sustainable Care programme¹ to respond to the following questions:

- **Are there any groups in society who may particularly benefit from or be vulnerable to the increasing prevalence of smart technology, such as young or elderly people, people with disabilities and people likely to be digitally excluded?**
- **How can we incentivise or encourage design that is safe, secure, environmentally- and user-friendly and human rights compliant?**

Dr Kate Hamblin leads the Digital Care research theme within the ESRC Centre for Care².

- The Centre for Care is a research-focused collaboration between the Universities of Sheffield, Birmingham, Kent and Oxford, the London School of Hygiene & Tropical Medicine, the Office for National Statistics, Carers UK, the National Children's Bureau, and the Social Care Institute for Excellence. Funded by the ESRC (Economic & Social Research Council) as one of its flagship research centres, it works with care sector partners and leading international teams to provide accessible and up-to-date evidence on care – the support needed by people of all ages who need assistance to manage everyday life.
- Led at the University of Sheffield by Centre Director Professor Sue Yeandle and Deputy Director Professor Matt Bennett, its work aims to make a positive difference in how care is experienced and provided in the UK and internationally by producing new evidence and thinking for policymakers, care sector organisations and people who need or provide care.
- In studying care, we focus on ways of improving wellbeing outcomes and on the networks, communities and systems that support and affect people's daily lives, working closely with external partners.

Our responses to these questions focus on Adult Social Care (ASC) in the UK and the potential of smart technology to contribute to wellbeing and sustainability in the sector, while acknowledging potential risks and inequalities. The response to this question draws on:

- Research published in peer-reviewed academic papers³ conducted by Dr Hamblin and Dr James Wright (now at the Alan Turing Institute) based on data from interviews with 40 key stakeholders in the local authority, technology and care sectors and with people with lived experience of care and support.

¹ Economic & Social Research Council (ESRC) (award ES/P009255/1, [Sustainable Care: connecting people and systems](#), 2017-21, Principal Investigator Sue Yeandle, University of Sheffield).

² The Centre for Care is funded by the ESRC, award ES/W002302/1, with contribution from the National Institute for Health Research (NIHR/Dept. of Health & Social Care, PI S Yeandle). Views expressed are those of the author(s) and not necessarily those of the ESRC, UKRI, NHS, NIHR or Dept of Health & Social Care.

³ Hamblin, K. (2020) '[Technology and social care in a digital world: challenges and opportunities in the UK](#)', *Journal of Enabling Technologies*, 14 (2): 115-25:

Wright, J. (2021) '[The Alexafication of Adult Social Care: Virtual Assistants and the Changing Role of Local Government in England](#)', *International Journal of Environmental Research and Public Health*, 18(2), 812:

Wright, J. (2021) '[Comparing public funding approaches to the development and commercialization of care robots in the European Union and Japan](#)'. *Innovation: The European Journal of Social Science Research*, 1-16:

Hamblin, K. (2022) '[Sustainable social care: the potential of mainstream "smart" technologies](#)', *Sustainability*, 14 (5): 2754.

- Sustainable Care Programme Papers⁴ that mapped policy related to technology and care in the four nations of the UK and explored factors affecting the sustainability of adult social care in England and the potential role of technology.
- A policy brief⁵ drawing on our early findings related to challenges facing the technology-enabled care sector to provide key messages to policymakers.

Are there any groups in society who may particularly benefit from or be vulnerable to the increasing prevalence of smart technology, such as young or elderly people, people with disabilities and people likely to be digitally excluded?

Need for adult social care is growing increasingly complex, driven by an ageing population, extended periods of later-life ill health and increased solo living. Weaknesses in the supply of care workers are also affecting the sustainability of ASC in England, with the vacancy rate in ASC higher than in any other employment sector.

In response to these challenges, technology is often presented as a potential solution that could increase capacity and save local authority resources. Devices that use analogue technology (a feature of ASC provision for decades in the form of pull cords and pendants) will become unreliable as a result of the digital switchover currently underway in the UK. Technological advances and the now widespread use of smart devices in domestic environments feature in the recent ASC White Paper and are receiving increasing attention in the care sector.

In studying ASC practice, we found that pilots of technology have been developed in many local authorities. Some have explored how mainstream technologies can be used in social care - including voice-controlled virtual assistants and smart speakers, (e.g. Amazon's Alexa, Echo, Dot, and Spot; Google's Assistant and Home), wearables such as smart watches, and other Internet of Things-enabled (IoT) devices. Participants in our research gave examples of smart devices being used to increase the wellbeing of people receiving ASC support by maintaining their networks, facilitating social connections and reducing loneliness. In our interviews, stakeholders in the care and technology sectors and people with lived experience of care services highlighted various ways in which smart devices could support activities without the stigma that some users of specialist, medicalised equipment have felt. We found some local authority commissioners were exploring the potential of mainstream devices to deliver cost savings (they are cheaper than care-specific equipment), including by replacing some short, in-person, care visits⁶. Local authorities are also increasingly looking to expand their 'digital offer', including provision of information, support and advice via online services.

Issues of interest to the committee include the 'digital divide' (inequalities in access to digital technologies) and how greater emphasis on smart devices will affect provision of social care support to people unable to use or unfamiliar with the internet. This relates to *access to technologies* and to the *skills needed to use technologies*⁷. Participants in our research expressed concerns about barriers

⁴ Wright, J. (2020) '[Technology in social care: review of the UK policy landscape](#)', Sustainable Care Paper 2, CIRCLE, Sheffield: University of Sheffield.

Hamblin, K. (2020) '[Care System Sustainability: what role for technology? An evidence review](#)'. Sustainable Care Paper 3, CIRCLE, Sheffield: University of Sheffield.

⁵ Wright, J.; Hamblin, K. and Lariviere, M. (2020). '[The Potential of Technology in Adult Social Care](#)' Sustainable Care, CIRCLE, Sheffield: University of Sheffield.

⁶ Hamblin, K. (2022) '[Sustainable social care: the potential of mainstream "smart" technologies](#)', *Sustainability*, 14 (5): 2754.

⁷ Stern, M.J. (2010) '[Inequality in the Internet age: A twenty-first century dilemma](#)'. *Sociological Inquiry*, 80 (1): 28-33.

to equal access to digital social care services, with some groups likely to experience greater challenges:

- **People who have a disability:** UK data show that almost half (46%)⁸ had used an IoT device or system within the previous three months, compared with 68% of people without a disability. Only 67% of disabled adults use the internet (compared with 92% of non-disabled adults). Only 53% of disabled people own a smartphone (compared with 81% of non-disabled people)⁹.
- **Older adults:** Only 53% of people aged over 65 used a smart phone¹⁰ compared with 84% of all adults in Great Britain. Within the last three months, smart speakers or voice assistants (used in many local authority pilots in the UK), had been used by only 17% of people aged 65+ compared with almost half of people aged 25 to 34.
- **Socio-economic status:** The ‘most financially vulnerable’ people are less likely than others to have a landline, mobile or fixed broadband (just 28%) and more likely (21%) to live in a mobile-only household.
- **Intersectionality:** Research (2019 OfCom sample) has shown disabled adults are more likely to be aged 65+ (45%, compared with 15% of non-disabled people) and/or to live in financially vulnerable households (69%, compared with 47% of non-disabled people) and more likely to live alone (43%, compared with 17% of non-disabled people)¹¹. A 2022 OfCom study also found that socio-economic status and disability influence whether households experience affordability issues with their broadband service: 11% of low-income households (earning up to £10,399) and 8% of households where a resident has a ‘limiting or impacting condition’ struggled with broadband affordability, compared with 5% of all households¹².

Smart devices also rely on connectivity. The modernisation of internet infrastructures is uneven and varies by local authority. Thus, even if some people have the means and knowledge to access smart devices, they may live in regions of poor connectivity. Unless these issues are addressed, some groups of people risk being excluded from the benefits of smart technology.

Digital skills vary across regions: In recent studies, the East Midlands had the lowest proportion of people with five basic digital skills and the Northeast the highest proportion of people with no digital skills¹³.

Confidence: Trust in digital systems and concerns about security, privacy, and protection of personal data are barriers to the use of IoT devices and are not evenly distributed across the population. Over half of people with a disability voiced such concerns as reasons for not using IoT devices, compared with a third of adults without a disability¹⁴.

Awareness of IoT devices: This is a further potential barrier to use for older adults. Almost a third of people over 65 and 23% of people with a disability said they did not know how to use IoT devices or systems, or were unaware of them (compared with 17% of the general population)¹⁵. Our

⁸ ONS. (2022) [Internet Access—Households and Individuals, Great Britain: 2020](#)

⁹ OfCom (2019) [Access and Inclusion in 2018: Consumers’ experiences in communications markets](#)

¹⁰ ONS. (2022) [Internet Access—Households and Individuals, Great Britain: 2020](#)

¹¹ OfCom (2019) [Access and Inclusion in 2018: Consumers’ experiences in communications markets](#)

¹² OfCom (2022) [Affordability of Communications Service](#)

¹³ ONS. (2019). [Exploring the UK’s digital divide](#)

¹⁴ ONS. (2022) [Internet Access—Households and Individuals, Great Britain: 2020](#)

¹⁵ ONS. (2022) [Internet Access—Households and Individuals, Great Britain: 2020](#)

interviewees felt some people with social care needs lack the skills and confidence to use technology, even devices considered ‘user friendly’. Some local authorities’ pilots showed that people receiving social care support will need ongoing help to use devices, with additional ongoing costs for providers. Some raised concerns about the way smart devices process and store data and users’ awareness of this.

Digital skills to implement smart technology in social care are also needed by the care workforce. Care workers are increasingly expected to use smartphones to record visits and keep notes. Our study found some concerns about a digital divide among care workers in terms of their skills and familiarity with technologies, including mainstream devices.

How can we incentivise or encourage design that is safe, secure, environmentally- and user-friendly and human rights compliant?

Smart technology can facilitate implementation of digital care, but research highlights the importance of co-production and co-design in rolling out technology-based care solutions¹⁶. When people, particularly older people, are involved in co-design it can lead to better-adjusted design and increased feelings of ownership. Use of ‘off the shelf’ smart technologies seems to run counter to growing awareness of the benefits of co-production and co-design in adult social care, raising concerns about how users can engage in a meaningful way with a ‘finished product’ applied in care arrangements¹⁷.

Recommendations

1. **Give greater attention to inequalities in access to devices, skills, confidence and connectivity:** This is vital for realising the full potential of smart technologies to support care (or other public services). We otherwise risk leaving some groups behind. From our studies we heard about examples of action to tackle these inequalities, including:
 - a. Digital device loan schemes
 - b. 5G mesh and Long-Range Wide Area Networks (LoRAWAN) provided by local authorities to offer digital connectivity at no cost to residents or care providers
 - c. Peer-to-peer skill sessions to support technology use.
2. **Mainstream smart devices raise important questions about standards, ethics and informed consent** related to data sharing when used in adult social care services, despite its potential to offer attractive, comparatively cheap alternatives to specialist equipment¹⁸.
3. **The use of any technology in public services requires ‘wraparound support’** to facilitate use- adequate assessment, support, response and reassessment. In our research, there were examples of seemingly ‘user friendly’ mainstream devices requiring ongoing support services to help people use them effectively in caring arrangements.
4. **Co-design and involving people who draw on care and support, carers and care workers** in developing and implementing technology is crucial for the responsible design and ethical roll-out of care technologies¹⁹.

¹⁶ Fischer, B., Peine, A. & Östlund, B. (2020) [The Importance of User Involvement: A systematic review of involving older users in technology design](#). *Gerontologist*, 60: (7): e513–e523.

¹⁷ Wright, J. (2021) [The Alexafication of Adult Social Care: Virtual Assistants and the Changing Role of Local Government in England](#). *International Journal of Environmental Research and Public Health*, 18(2), 812.

¹⁸ Hamblin, K. (2022) [‘Sustainable social care: the potential of mainstream “smart” technologies’](#), *Sustainability*, 14 (5): 2754.

¹⁹ Wright, J. (2021) [The Alexafication of Adult Social Care: Virtual Assistants and the Changing Role of Local Government in England](#). *International Journal of Environmental Research and Public Health*, 18(2), 812.

