

Adopting and Adapting Technologies to Support Social Care

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About the research

In light of the switch over from analogue telephone to digital phones to allow universal access to full fibre or gigabit-capable broadband this year (visit <https://digitalphoneswitchover.com/> for more information), there is significant potential for commercial smart home technologies like Alexa and Roomba to help improve social care. Adoption and appropriation of commercial technologies is often preferable since they are familiar devices that do not look like potentially stigmatising “health” or “accessibility” specific devices. However, there is a lack of evidence on how these devices help, or hinder care.

Researchers from the School of Computer Science conducted two 3-month long studies examining how two different commercial technologies with multiple access modes (e.g., touch, sight, and voice) supported households in which at least one resident was a social care recipient: the Amazon Echo Show 8 (not designed for care) and a research group’s passive sensor system (designed for monitoring care at a distance). While these technologies could help some participants, we found that in both cases issues arose because the implementation of the devices did not account for or support the collaborative care efforts already existing in the care ecosystem. By this we mean all those involved in social care – the person receiving care, members of their household, other informal unpaid carers such as friends/neighbours, and formal paid carers.



Illustration by Matt Sutton

Policy implications

- **Medical information needs to be made accessible for care recipients.** While the national government aims to develop a shared digital platform to allow up-to-date medical information to be shared between the NHS and care staff this data, for transparency and equity this needs to be made accessible to care recipients in a way that suits their existing care practices – this could mean providing print outs/mailings for those who request it.
- **Implement a national policy that encourages increasing universal development of devices and software** (similar to the EU enforcing that all new smartphones sold to use a common charging standard). Such standardisation would ensure continuous equal access to one’s personal data.
- **Use clear language when introducing the platform.** Significant consideration towards the onboarding of the shared digital platform should be done to ensure that the language used creates realistic understanding of the platforms benefits and limitations.
- **Reevaluate the concept and use of the term “independence” in relation to care.** Striving for “independence” can prove to be detrimental to care ecosystems as it can disregard and devalue the support provided by informal and formal carers. Care recipients and care providers do and should be encouraged to work together.
- **Data must be managed responsibly.** Integration of more technology into care also means policies and frameworks around management of these services and data also need to be adopted. If not incorporated into care properly, technology can serve as a barrier as users may turn to the tech developer to answer questions about their health data.

Key findings

- While some participants appreciated the more complex devices, some found that this inhibited care as they differed too much from their established (e.g. analog or telecare) care practices.
- We analysed how multimodal commercial devices helped with activities of daily living in ways that could help reduce some care burdens:

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|---------------------------------------|--------------------------------|------------------------------|-------------------------|-----------------------|-------------------------------------|-----------------------------------|
| Care work they can assist with | Step by step support for tasks | scheduling | Providing well-being | Checking in | Procurement and information seeking | Emergency support |
| Care work they cannot do | Completing tasks | consequential administration | Providing human contact | Providing reassurance | Procuring Local Resources | Emergency Support Device Reliance |

- While other researchers have noted that telecare systems can shift care network dynamics and responsibilities, this shift can occur during the initial onboarding process (this is the process of familiarising a user with a new technology).
- Commercial technologies when marketing and onboarding their device or system to help with care typically use terms like independence, peace of mind, and safety. We found that this language can sometimes be misleading and cause users to set expectations for the device that are unrealistic.
- Limitations of technology resulted in established collaborative care networks to be replaced by a new hierarchy of care that formed around the system. Those monitored by the system, i.e., those receiving care, had the least control, then informal and formal carers, and finally, the technologists had the most control.
- Finally, since “home technologies” particularly commercial technologies like the ones we studied affect the entire home ecosystem, not just a specific location, we found that informal carers need to be equally engaged prior to use and adoption during onboarding and within the marketing of these devices.

Further information

Czech, E., Soubutts, E., Craddock, I. J., & O’Kane, A. A. (2025, April). [Understanding the Multimodal Voice Assistant as an Informal and Social Care Support Tool in the UK](#). In *ACM Conversational User Interfaces Conference 2025 (CUI 2025)*. Association for Computing Machinery (ACM).

Czech, E., Soubutts, E., Eardley, R., & O’Kane, A. A. (2023, April). [Independence for Whom? A Critical Discourse Analysis of Onboarding a Home Health Monitoring System for Older Adult Care](#). In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (pp. 1-15).

Soubutts, E., Czech, E., Ayobi, A., Eardley, R., Cater, K., & O’Kane, A. A. (2023, April). [The Shifting Sands of Labour: Changes in Shared Care Work with a Smart Home Health System](#). In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (pp. 1-16).

More information about the Digital Phone Switchover in the UK: <https://digitalphoneswitchover.com/>

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