

Research Brief

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Co-creating Connected and Intelligent Care Homes for People with Dementia



EXECUTIVE SUMMARY

Connected Care aims to address three main challenges that care homes face with regards to people living with dementia

1. Care homes are increasingly challenged by a rising number of people living with dementia and a simultaneous demand to improve quality of care amidst limited funding and staff shortages.
2. Although innovation is associated with better quality of care, there is limited research looking into the ways in which digital technology, including the Internet of Things and sensors, could help care homes deliver better care for people with dementia.
3. Scholarly research has highlighted that top-down implementations of technology fail to deliver their potential benefits when there is limited user buy-in. In the context of care homes, care workers, residents and their families are often under-represented in technological developments.

Key questions

The project aims to address the following questions:

- What are the challenges that care homes face specifically in relation to the delivery of care to people living with dementia?
- How can digital technology (such as sensors, Artificial Intelligence the internet and 5G) be developed and used to improve the work of care home staff and the delivery of dementia care?

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PRELIMINARY RESULTS

Drawing upon the principles of participatory research and following qualitative methodology, our team has engaged with care homes (n=6) in Brighton and Hove and West Sussex, using interviews and observations (conducted in January 2020), in order to explore the following three questions:

1. What digital technologies do care homes currently use?
2. What experience do care homes have of the use of those technologies?
3. What are the gaps in technology to assist care home staff, people with dementia and their families?

Preliminary analysis of these key findings suggested care home staff and managers expect technology to assist in their work by:

- helping detect, monitor and/or predict critical events such as falls, providing an alarm to staff in a timely manner so that response time to incidents and subsequently also the number of false alarms is reduced, without human intervention.
- undertaking and automating administrative type of work (such as typing notes) so that it frees-up time for care home staff to care for residents.
- providing care home staff with timely and up-to-date information when needed.

People with dementia who reside in care homes and their families/carers expect that technology will:

- offer a single platform of communication between residents and their families to sustain their family relationship
- be user-friendly adjusted to the varied needs, skills and cognitive ability of people with dementia whilst also offering opportunities to simulate residents' cognitive capacities.
- be affordable.

Technology is also envisioned to:

- be integrated with existing infrastructure and to be compatible with existing technologies.
- offer smooth connectivity between care homes, families and other local health and social care authorities and preserve privacy and security of residents and care workers.
- be flexible given differentiation of needs between care homes.

In February 2020, the results given above were presented to over 26 participants from care homes, family representatives, health and social care authorities and technology providers. Feedback from participants recognised the importance of the themes we have identified as main areas of our research:

'It was very useful to take part in this meeting, group discussions and invited speakers shared with us interesting information that made me think that, in the future standards of care could be higher and the care home system improved'. (Care Home Staff)

'[The findings] provided greater insight into the challenges and opportunities' (Technology provider)

'The scoping exercise pre-meeting with care homes identified appropriate areas'. (Health and Social Care Authority)

'I am aware that there is a great expectation that technology will deliver improvements in the management of care homes and the quality of care and quality of life for residents but this helped to add flesh to the bones. I thought this was well summarised and I could then clearly articulate this to other colleagues in the local authority... Clearly we (as an authority and wider health and social care system) need to be more involved / supportive of this work'. (Local Authority)

STAKEHOLDERS

5G and IoT communication providers: BT, Huawei and Vodafone

SMEs: Terabee (sensor technology), and Kinseed (SwiftCare – Health and Social Care Platform)

Care homes representatives: Dissideo, Autumn Lodge, Guild Care, Hyman Fine House and Maycroft Manor, Heaton House, Oaklan Care Home

Local health and social care authorities: Sussex Partnership NHS Foundation Trust, West Sussex County Council, Brighton and Hove City Council.

Technical Professional Association: IEEE UK and Ireland

Funder Support: NIHR RDS SE

IMPACT AND OUTREACH

We envisage our research will have an impact on the following non-academic users:

Care homes and care home staff

- development of digital solutions that support the work of care home staff by offering information in a timely fashion whilst automating more routine tasks that frees up time for staff to care for residents.

Family/carers

- digital solutions that will be affordable and user-friendly for the day-to-day communication and interaction between residents in care homes and family members.

Health and social care authorities

- cost effective solutions that will improve the delivery of dementia care and offer opportunities for more personalised care.

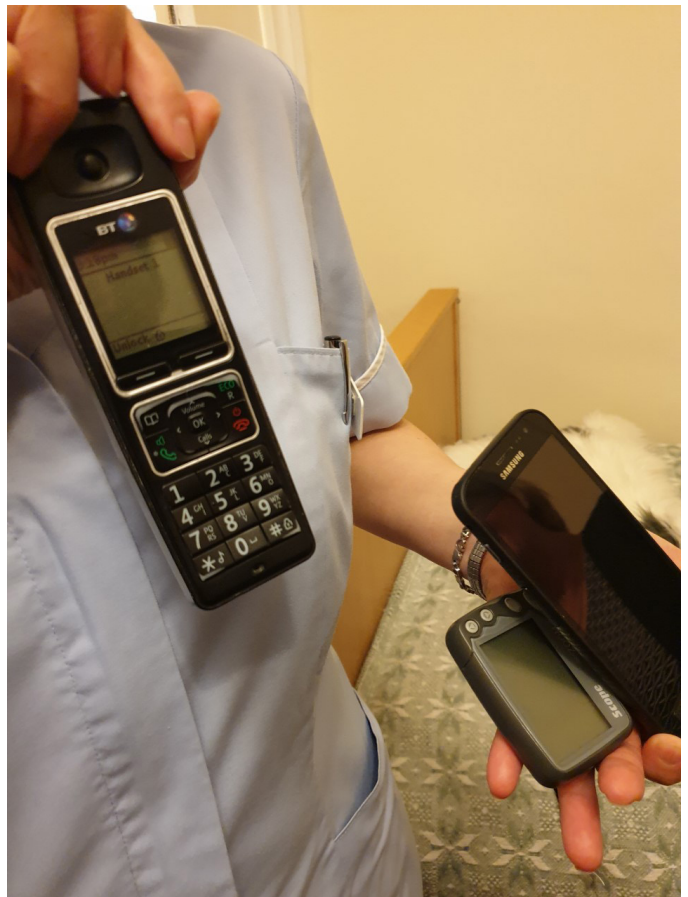
We expect our project will have at least two academic contributions.

- First, the project will provide methodological expertise by offering evidence regarding the process of co-designing health research in social sciences with stakeholders who often have conflicting interests.
- Second, the project will be contributing to the literature on care by reinvigorating the debate around the way in which care and technology play out in increasingly digital health and social care settings.

We will be involving our stakeholders in a second workshop organised in December 2020.

Drawing upon the current Covid-19 pandemic and the particular challenges care homes have been facing, the team is looking to conduct a study that will explore the role digital solutions can play in addressing some of these challenges by enabling care homes' connectivity. The study will explore and evaluate the adoption and implementation of digital technologies in care homes and assess the way in which they meet the needs of care home workers and family/carers of people with dementia within and beyond Covid-19.

Please contact Connected-Care-PI@sussex.ac.uk if you are interested in getting involved in the project.



FEEDBACK

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FUNDING

The Connected Care project is funded by an ESRC Impact Acceleration Account grant. It brings together experts from four Research Centres based at the University of Sussex: The Centre for Social Work Innovation and Research; Centre for Dementia Studies; Centre for Advanced Communications, Mobile Technology and IoT, and the Digital Future at Work Research Centre.

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REFERENCES

Balouch, Sara, Rifaat, Enas, Chen, Hengliem Lisa and Tabet, Naji (2019) Social networks and loneliness in people with Alzheimer's dementia. *International Journal of Geriatric Psychiatry*, 34 (5). pp. 666-673.

Chen, Hengliem Lisa (2016) Partnership working in the long-term care system for older people: cross-national learning from England, the Netherlands and Taiwan. *Asian Journal of Human Services*, 11. pp. 31-56. ISSN 2186-3350

Chen, Hengliem Lisa (2014) Care workers in long-term care for older people: challenges of quantity and quality. *European Journal of Social Work*, 17 (3). pp. 383-401. ISSN 1369-1457

Chen, Hengliem Lisa (2012) Everyday experience of front-line professionals and in/formal carers: long term care of older people in England, the Netherlands and Taiwan. *International Journal of Public and Private Healthcare Management and Economics*, 2 (3). pp. 27-40.

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Mol, A., Moser, I., Pols, J., 2010. Care: putting practice into theory, in: *Care in Practice on Tinkering in Clinics, Homes and Farms*. transcript-Verl., Bielefeld.

Robertson, A., Cresswell, K., Takian, A., Petrakaki, D., et al 2010. Implementation and adoption of nationwide electronic health records in secondary care in England: qualitative analysis of interim results from a prospective national evaluation. *BMJ* 341, c4564–c4564. <https://doi.org/10.1136/bmj.c4564>

Sheikh, A., Cornford, T., Barber, N., Avery, A., Takian, A., Lichtner, V., Petrakaki, D., et al 2011. Implementation and adoption of nationwide electronic health records in secondary care in England: final qualitative results from prospective national evaluation in "early adopter" hospitals. *BMJ* 343, d6054–d6054. <https://doi.org/10.1136/bmj.d6054>