Theme 3: Technology in care: opportunities and obstacles in place-based care contexts

Session 3A: Technological design and entanglements for people ageing in place

Chair: Andreas Hoff
Discussant: Obert Tawodzera

Tanja Ahlin
Calling India: Everyday digital technologies for elder care at a distance
Affiliation: University of Amsterdam

Worldwide, technological innovation for elder and other care is actively being promoted by policy makers. In this presentation, I suggest that in order to support care and wellbeing, technology need not be highly innovative, novel or specific to (health)care. My long-term ethnographic fieldwork with Indian transnational families has shown that everyday digital technologies, such as mobile phones, webcams and the Internet, can also effectively support intergenerational care at a distance. Furthermore, I argue that these technologies not only support, but also shape care in specific ways. I draw on STS care studies, particularly material semiotics, whereby care is understood as something that is enacted jointly by people and technologies. Policy makers considering the inclusion of technology in formal and informal care may gain insight from this approach in relation to the substantial impact of these devices on care. Building on the example of Indian transnational families of nurses, I describe how digital technologies actively join family members in their care practices by forming ‘transnational care collectives.’ Within these collectives, family members tinker with each other and technologies to establish what practices of care are possible at a distance and how they should be done to be considered good.

Kate O’Loughlin
Moving beyond the shower chair: Supporting digital technology use for successful ageing in place in Australia
Affiliation: The University of Sydney
Other authors and affiliations: Meryl Lovarini and Lindy Clemson, The University of Sydney

Ageing in place (AIP) is a policy focus of governments and a goal of many older adults. The use of technology to facilitate AIP has been identified, however health professionals typically focus on traditional assistive technologies (eg, wheelchairs, shower-chairs) to enhance activities of daily living. Given the increasing emphasis on digital technologies to support AIP, we conducted two studies exploring this topic. Study 1: in-depth interviews (n=15) with community-dwelling people aged 70+ years using a range of technologies (typical, digital). Forty-six percent used a computer; 31% smartphone, 23% tablet device; 23% engaged in social media activities. Most used non-digital technologies: landline phone (100%); television (100%); lifter chair (77%); shower aid (100%); mobility aid (69%). Irrespective of the technology, all participants needed support in selection, use and management. Study 2: a review of international policy documents and research literature assessed older adults’ use of digital technologies to support health and AIP outcomes. Digital inclusion was identified as critically important and despite the so-called ‘digital divide’, use by older adults is increasing. Mixed success with telecare/telehealth services was reported; the evidence-base is limited due to a lack of large outcome-based studies. While digital literacy programs for older adults are available, how health professionals can best support them to use digital technology for successful AIP is unclear. Drawing on the findings from both studies, we present recommendations for advancing research along with strategies that could be used by health professionals to support older adults’ use of digital technologies for successful ageing in place.
‘Ageing in place’ policy aims to define formal government and international support for practices designed to enable older people to continue to live independently in the community. Local authorities in many nations hold responsibility to address social care needs of older adults including assessing and providing different forms and levels of care. Such care arrangements are often interchangeably called ‘home care’ and ‘community care’ despite distinctions between ‘home’ and ‘community’ as concepts in care and research.

This paper draws on findings from two studies: i) an ethnographic study with people with dementia and their carers using assistive technologies and telecare and ii) an ongoing study with private and third sector organisations involved in the development and implementation of new technologies to support older adults and their carers, to problematise ‘ageing in place’ and its conflated associations with ‘home’ and the ‘community’ in care policy and practice. I draw on these materials to examine how two particular groups, technologists and older people, imagine distinct approaches and relations to spaces through their respective design and use of enabling technologies. These findings highlight spatial liminality of ageing; ageing is not fully-bound by a single place but occurs in and between several places: a person’s home, neighbourhood, community and digital spaces - at times all or some of them simultaneously. I suggest a re-imagining for ‘ageing in place’ to better characterise and attend to these mobile and multiple places of ageing and unsettle geographical boundaries of living in later life in local contexts.
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#### Theme 3: Technology in care: opportunities and obstacles in place-based care contexts

**Session 3B: Technology advice and information to support care**  
Chair: Kate O’Loughlin  
Discussant: Alhassan Hassan

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#### Jo Moriarty  
**Carers’ access to social care support in England**  
Affiliation: King’s College London  
Other authors and affiliations: Jill Manthorpe, Nicole Steils (KCL), Jose Luis Fernandez, Nic Brimblecombe, Joanna Marczak, Tom Snell, Martin Knapp, (LSE), Liz Lloyd, Wenjing Zang (University of Bristol)

Over the past decade, national and local governments in England have been increasingly relying on the internet to disseminate information about what support is available to citizens. This is part of a wider international trend towards digital public services (European Commission 2018).

What does this trend mean for carers who may have substantial caring roles, health problems of their own which hamper their ability to access online information. Little is known about the extent to which carers experience ‘a digital divide’.

The Care Act 2014 placed a duty on local authorities to establish and maintain information and advice services relating to care and support for all people in its area. A study of local authority websites undertaken before implementation of the Care Act 2014 (Lloyd and Jessiman (2017) identified the lack of a consistent framework for structuring information for carers. In particular, they noted that some local authorities had made better progress than others in developing websites that were accessible in their format and content, meaning that access could vary by geography rather than need. This presentation will focus on an updated web audit to discuss what is meant by online information and the relationship between information and advice in terms of support for carers.

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#### Alhassan Hassan  
**Information and communication technologies (ICT) based solutions for informal carers and challenges to be addressed**  
Affiliation: INRCA-IRCCS, Centre for Socio-Economic Research on Ageing, Ancona, Italy, Marche Polytechnic University, Italy

Background: Information and communication technology (ICT)–based solutions have the potential to support informal caregivers in home care delivery. However, there are many challenges to the deployment of these solutions. Objective: The aim of this study was to review literature to explore the challenges of the deployment of ICT-based support solutions for informal caregivers and provide relevant recommendations on how to overcome these challenges.

Methods: A scoping review methodology was used following the Arksey and O’Malley methodological framework to map the relevant literature. A search was conducted using PubMed, IEEE library, and Scopus. Publication screening and scrutiny were conducted following inclusion criteria based on inductive thematic analysis to gain insight into patterns of challenges rising from deploying ICT-based support solutions for informal caregivers. The analysis took place through an iterative process of combining, categorizing, summarizing, and comparing information across studies. Through this iterative process, relevant information was identified and coded under emergent broader themes as they pertain to each of the research questions.

Results: The analysis identified 18 common challenges using a coding scheme grouping them under four thematic categories: technology-related, organizational, socioeconomic, and ethical challenges. These range from specific challenges related to the technological component of the ICT-based service such as design and usability of technology, to organizational challenges such as fragmentation of support solutions to socioeconomic challenges such as funding of technology and sustainability of solutions to ethical challenges around autonomy and privacy of data. For each identified challenge, recommendations were created on how to overcome it. The recommendations from this study can provide guidance for the deployment of ICT-based support solutions for informal caregivers.

Conclusions: Despite a growing interest in the potential offered by ICT solutions for informal caregiving, diverse and overlapping challenges to their deployment still remain. Designers for ICTs for informal caregivers should follow
participatory design and involve older informal caregivers in the design process as much as possible. A collaboration between designers and academic researchers is also needed to ensure ICT solutions are designed with the current empirical evidence in mind. Taking actions to build the digital skills of informal caregivers early in the caregiving process is crucial for optimal use of available ICT solutions. Moreover, the lack of awareness of the potential added-value and trust toward ICT-based support solutions requires strategies to raise awareness among all stakeholders—including policy makers, health care professionals, informal caregivers, and care recipients—about support opportunities offered by ICT. On the macro-level, policies to fund ICT solutions that have been shown to be effective at supporting and improving informal caregiver health outcomes via subsidies or other incentives should be considered.

**Andreas Hoff**

The VATI technology navigator – impartial advice on assistive technologies for older people, family carers and care providers in Germany

Affiliation: Zittau Görlitz University of Applied Sciences

Other authors and affiliations: Bill Pottharst, Zittau Görlitz University of Applied Sciences

Awaiting abstract

**Milica Petrovic**

The potentiality of advanced positive technology for dealing with psychological stress in caregiving. Evidence-based treatment in Italy

Affiliation: Università Cattolica, Milan and ExprienceLab, Università Cattolica, Milan, Italy

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Interventions and coping strategies addressing the physical, psychological, and economic stress of informal caregivers have been generally helpful at managing role related-stress. However, informal caregiving is an idiosyncratic process, limiting most of the available interventions that pose informal caregiving as a generalized experience. Assessing and assisting the deeper meaning-making needs that informal caregivers face, leading to psychological distress, have been long neglected. Redefining oneself in a new life path and transitioning into the role of a caregiver suddenly and unprepared can ultimately be perceived as a traumatic experience. The study explores the potential of advanced positive technology (i.e., video storytelling technique) to alleviate caregivers’ stress, using transformative experience-design (Gaggioli, 2016) and drawing from the theory of narrative identity (McAddams, 2011), by integrating a highly-stressful experience of caregiving into a coherent story of “the self”. The technique is delivered via semi-interactive videos, playing the unified scripted story of the caregiver life, re-created and structured in a five-act story arc with the semi-interactive points allowing acquiring and exercising coping and emotion regulation skills. The ultimate goal of this study is to design and use the semi-interactive video storytelling technique in a third-person perspective as a stimulus for triggering narrative self-structuring of “the self” and the role transformation within one’s life.
**Kate Hamblin**

**Challenges to care system sustainability and the role of technology: The English policy landscape**

Affiliation: University of Sheffield

Other authors and affiliations: James Wright, Alan Turing Institute

Care systems in the England (and further afield) are facing challenges to their sustainability and ability to deliver care and wellbeing outcomes. Population ageing and the mismatch of care supply and demand for older people, changes in family and household structures and reduced levels of public investment in social care have all created increased pressure on existing social care arrangements. Technology has repeatedly been presented as a policy solution to difficulties facing health and social care systems in the England (e.g. HM Government, 2010; Carers UK, 2012; LGA, 2016; TSA, 2017; BEIS, 2018; Kings Fund, 2018), but is not without its own challenges, including the ‘digital divide’ in access to and the skills required to use technology and the infrastructure necessary to deliver reliable ‘technology-enabled care’. This paper explores these challenges before exploring the English policy context related to technology in the social care sector at the macro level with some local authority-level case studies. The data highlight the uneven distribution of these challenges across English local authorities and in turn the diversity of commissioning patterns and investment in technology-enabled care. The presentation of technology as a ‘solution’ for social care needs to consider both the different challenges and policy contexts experienced at local authority level.

**Maria Nilsson**

**Older people and informal carers in Swedish local health- and social care policy for assistive health technology: whose interests do these policies represent?**

Affiliation: Linnaeus University, Sweden

Other authors and affiliations: Stefan Andersson, Lennart Magnusson and Elizabeth Hanson, Linnaeus University, Sweden

Background: Assistive health technology is purported as a vital part of health and social care for older people. Swedish health- and social care services for older people are organised mainly at the local or regional level under the constitutional principle of local self-government. Despite a publicly financed health and social care, families are increasingly taking on greater responsibility for the help, support, and care of older people living in their own home (The Swedish Family Care Competence Center, 2018).

This study aimed to provide a critical awareness of problematization regarding older people and their informal carers in relation to assistive health technology in current local health- and social care policies for older people in Sweden.

We asked: What are the main discourses concerning welfare technology and care in local policy? How are the categories older people and their carers socially constructed? Where are the silences and what remains unproblematised, and with what consequences? How can the problem representation be critically questioned?

Method: Based on the poststructural tradition, we undertook a discourse analysis. Data consisted of policy documents from 8 Swedish municipalities. The What’s the Problem Represented to be- method (WPR) were used as the analytical tool (Bacchi, 2009, 2016).

Preliminary results: Two discourses were evident, first assistive health technology as a necessary part of the health and social care. The second discourse was older people has a responsibility to remain healthy. The focus of assistive health technology is on individual factors for the older person, missing broader conditions. The potential role of assistive health technology is not considered important in the policy documents for support of informal carers.

References
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<th>The Swedish Family Care Competence Center, National population survey, not yet published. For more information please refer to Associate Professor Lennart Magnusson, Linnaeus University (<a href="mailto:Lennart.Magnusson@anhoriga.se">Lennart.Magnusson@anhoriga.se</a>)</th>
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| **James Wright**  
**AI in adult social care: virtual assistants and the changing role of local government in England**  
**Affiliation:** Alan Turing Institute |
| Voice controlled virtual assistants, delivered via consumer devices such as smart speakers and tablets, are being trialled by local authorities across England as a convenient and low-cost supplement or potential alternative to “traditional” telecare or home care services. I draw on interviews with managers from eight English local authorities involved in the commissioning and trialling of technologies for adult social care to examine how and why virtual assistants are being implemented, and what implications their use might hold for care. |
| I argue that attempts to adopt virtual assistants are driven in large part by England’s care crisis, including cuts in funding, a lack of expert guidance on care technologies, and an increasingly complex and fragmented care technology marketplace. Scaling up the application of such technologies could shift the role of local authorities towards one of app developer and data broker, while generating considerable risks of reliance on the precarious technological infrastructure of global corporations that may have little interest in or sensitivity towards local care concerns. The findings suggest an urgent need for a national social care technology strategy and increased financial and technical support for local authorities. |
Nicole Steils  
**Telecare in England: how well is it working and could it work better?**  
Affiliation: KCL  
Other authors and affiliations: John Woolham, KCL, Malcolm Fisk, DMU, Kirsty Forsyth, QMU (Edinburgh), Jeremy Porteus (MD Housing and Telecare learning and implementation network)

Telecare is used widely by local authorities (LAS) to support the independence of older people amongst others. In a context of public sector austerity and rising demand for social care, particularly amongst older people, there have been significant levels of investment in recent years. This is because LA managers see it as a cost effective way of helping people remain as independent as possible.

However, there is very little research evidence to justify this claim. For example, the Whole System Demonstrator project, funded by the last Labour government, found that telecare did not produce better outcomes on a wide range of measures.

An important question to ask, therefore, is whether telecare will inevitably offer no real advantage over more traditional forms of service provision or whether it is because of how telecare is often implemented.

This presentation will report on selected findings from the NIHR/SSCR funded UTOPIA project: in particular, an online survey of English telecare managers. This survey included all 152 LAs, achieving a 75% response rate. Telecare was largely used to manage risk to the exclusion of other possible uses, and the range of devices/systems available was limited, reducing scope for tailored solutions. Shortcomings telecare assessment and review activities were noted and training to support telecare assessment activity was often scant. These findings align with the work of others in suggesting that telecare should be regarded as a complex intervention. Changes are likely to be needed for telecare to deliver desired outcomes.

Maxie Lutze  
**Assessing the benefits of assistive technologies in place-based care - NAAM model as theoretical framework in Germany**  
Affiliation: Institute for Innovation and Technology (iit)  
Other authors and affiliations: Gina Glock; Julian Stubbe; Denny Paulicke - Institute for Innovation and Technology (iit)
Background: Digitalisation is becoming increasingly important in the care sector. Numerous research and development projects have investigated assistive technologies for care in the past. However, the integration of these technologies into everyday care is only hesitant. There is a lack of systematic research approaches on the benefits of individual care technologies for people in need of care.

Objective: The aim of the study is to develop a model that focuses the needs of those in need of care, their living and care situation and those involved in care. Developers and users are thus to be enabled to classify and evaluate assistive technologies with regard to the benefit and effectiveness for people in need of care.

Method: In a mixed-method approach, a model for the benefit and effectiveness assessment of assistive technologies (NAAM) was developed, which focuses on people in need of care. In a hermeneutic-iterative approach, two deductive and two inductive approaches are combined via four methodological approaches: the analysis of secondary literature, interdisciplinary expert workshops, the analysis of 145 studies on the benefits of assistive technologies and five case studies on the validation of the model.

Result: The developed NAAM model forms a basis for the systematic recording of the benefits of assistive technologies for people in need of care and their immediate environment as well as of conditions that influence the unfolding of benefits. An individual level, a process and structural level as well as conditions of use are developed, which form a reflection frame for developers, manufacturers and users of assistive technologies in care. The model offers cornerstones for interdisciplinary exchange for both research and practical actors.

Discussion: The NAAM model provides indications for a person-centred and demand-oriented assessment of the benefits of assistive technologies in care. Its application also identifies research gaps and starting points for future research projects that can advance the development and implementation of digital solutions geared to the needs of people in need of care.