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Housing and Papering Over the Cracks of the Welfare State: Exploring the Role and Impact of Technology as Part of Housing Service Provision in an Era of Multi-level Precarity

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The UK welfare landscape is increasingly challenging due to ongoing austerity involving public sector cuts, service retrenchment, and withdrawal of statutory responsibilities. This article shows that as the welfare state contracts, precarity increases and responsibility for service provision is progressively devolved to front-line individuals and service users. To illustrate, the article examines the use of assistive and everyday technologies to improve social housing residents' quality of life based on a longitudinal mixed methods study conducted between 2020 and 2022. The findings highlight how housing providers can support person-led technology interventions for older residents, where minor improvements positively impact day-to-day living. However, interventions are often limited by practicalities, capacity, and cost. This article connects technological engagement in housing to the ongoing 'responsibilisation' of many areas of housing provision to social landlords and tenants. This suggests an extension of responsibility where social housing providers are papering over the cracks in the welfare state.

Keywords: Responsibilisation, supported housing, retrenchment, assistive technology, austerity.

Introduction

This article explores the role of social housing organisations in filling the gaps in the welfare state within the context of ongoing welfare retrenchment, alongside increasing need, demand, and precarity. The continuing impact of austerity in the UK has resulted in a reshaped, retrenched, and as some claim 'broken' welfare state (Farnsworth, 2021). The consequences of this retreat of public services include increasing unmet needs and hardship, and an ongoing legacy of 'societal scarring' (Irving, 2021), with a disproportionate impact on poorer local communities and people living in poverty (Beatty and Fothergill, 2014; Hastings *et al.,* 2015). The result is an era of increasing precarity on multiple levels, especially for those deemed to be in more vulnerable groups (Nettleton and Burrows, 2001; Standing, 2011; McKee *et al.,* 2017: 7). The enduring neoliberal agenda, alongside the recent health crisis of COVID-19, has also accelerated 'responsibilisation' of welfare provision, transferring control, autonomy, and risk to service users, front-line workers, and organisations at the forefront of housing provision.

Already a priority, the COVID-19 pandemic of 2020 has further accelerated interest in the role of technology in housing practice, especially for communication and connection between housing staff and social tenants. Housing organisations are increasingly facilitating support functions in key welfare areas. This activity can have positive outcomes for residents and tenants in the social housing sector (McCall *et al.,* 2022b), but wider housing support roles are not a systematic type of provision and therefore can be economically precarious (Gibb and McCall, 2023). For example, housing associations have been supporting older and more diverse groups to access and use different technologies. There has been an increasing integration of housing outcomes linked with health, social care, and digital technology agendas within the UK to prepare for an ageing population (McCall *et al.,* 2021; McCall, 2022b). This is related to the role of housing as a social determinant of health, with a significant role for assistive technologies in the housing sector and housing policy (Tinker, 2003; Rolfe *et al.*, 2020; Garnham *et al.,* 2021). The expectation of social housing providers across the UK has, therefore, evolved in relation to welfare support functions. This is a useful point at which to examine the interaction between the impact of welfare state retrenchment and front-line housing provision, and how this intersects with tackling feelings of precarity among social housing tenants.

This article explores this evolving role for housing associations and presents new empirical findings from the Promoting INclusive liVing vIa Technology-Enabled support (INVITE) Project undertaken by the University of Stirling, in partnership with Stonewater Housing Association (funded by the Longleigh Foundation). The project involved a longitudinal mixed methods study conducted between 2020 and 2022, exploring assistive and everyday technologies in retirement living properties, designed to enhance wellbeing and sustain inclusive communities. The article explores two key research questions: 1. What role does housing play in a reformed welfare state? 2. How can technology promote inclusive communities, within a supported housing context?

This article examines these questions through the lens of 'responsibilisation', by which individuals, families, communities, and front-line workers assume control for wellbeing and providing services. The paper outlines both the barriers to and benefits of assistive technology and aims to show that the concept of responsibilisation is based on a contradictory mix of welfare retrenchment and state control over individual behaviour. The article firstly explores precarity and impact of austerity and retrenchment in housing provision, outlining its link to 'responsibilisation', before positioning assistive technology as an example of wider processes in housing delivery. We then detail the methodology and present qualitative empirical findings from the perspectives of front-line housing service professionals and older service users that indicate the trajectory of contemporary welfare provision in the social housing sector.

Austerity within social housing

Wider support services within housing associations must be contextualised in the fragmented housing landscape in the UK. In this context, provision, services and processes tend to be developed in relation to tenure (i.e. owner occupation, private or social rent). Social rented properties are part of the welfare-based model of housing, connecting state provision to non-profit housing provision (via local authorities or housing associations) to provide adequate and affordable housing. Much existing literature on social housing

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focuses on its development, history, availability, and allocation (see e.g. Gibb *et al.,* 2020). In contrast, this article focuses on wider housing support services – linked to housing associations in particular – that remain overlooked (Gibb and McCall, 2023).

Social purpose and social justice are central to the welfare model of housing, with social housing going beyond the mere provision of homes (Whitehead, 2017; OECD, 2020). For example, Tunstall and Pleace (2018: 121) highlight activities around the social role of housing to include wider support services, noting that social housing has been 'treasured by and aspired to by millions'. Gibb and McCall (2023) also outline housing support, or the 'basket of activities' that wrap around individuals, as part of housing provision, emphasising technology as a significant area of delivery. Similarly, the INVITE project focuses on the 'social' and 'support' aspects of social housing, framing technology as a strand of housing support, and examining its relationship to developing positive outcomes such as improving wellbeing and quality of life for tenants.

To contextualise the changing social role of housing associations, it is important to understand the overlapping challenges faced by housing providers in the UK. Long-term reductions in social housing stock, following the introduction of 'Right to Buy' legislation in 1980, have created a process of residualisation, substantially increasing the proportion of tenants with high levels of need (Jones and Murie, 2006). Although there have been some moves in the devolved administrations of the UK to reverse this trend, the UK housing market remains highly financialised (Jacobs and Manzi, 2020), placing demands on social housing and pushing many vulnerable households into the private rented sector. At the same time, housing associations have been compelled to reposition themselves as commercially driven businesses, dominated by economic concerns and financial efficiencies (Manzi and Morrison, 2018). More recently, the 'welfare reform' agenda pursued by successive UK governments since 2010 has cut welfare benefits related to housing support (e.g. the 'bedroom tax', which reduces Housing Benefit for claimants deemed to have a 'spare room') alongside stricter conditionality and sanctions, increasing precarity for many tenants and creating financial challenges for social housing landlords through growing rent arrears (Wright and Dwyer, 2021; Manzi and Bimpson, 2022; McCall *et al*., 2022a). These risks for tenants and landlords have been further heightened by the COVID-19 pandemic, with rising rent arrears (Earwaker *et al.,* 2020) that will only be reinforced by cost-of-living pressures (Hill and Webber, 2022).

Service retrenchment (public sector cuts and reductions) in the UK has been linked to austerity, with social housing and adult social care in particular seeing larger cuts compared to areas such as education (Farnsworth, 2021; Taylor-Gooby, 2016). The consequences and legacy of ongoing austerity are stark, especially in relation to increased housing costs and dwindling amenities (Irving, 2021: 104). The long-term impacts of austerity retrenchment are placing greater demands on healthcare systems and increasing precarity for both individuals and services. Recent understandings of precarity and its impact have widened to include housing, risk, relationships, and insecurity in several areas, all linked to the decline of social welfare (Nettleton and Burrows, 2001). Precarity therefore extends beyond 'precarious housing' to wider insecurity and uncertainty in feeling at 'home'.

Our argument in this article is that social housing providers are increasingly responsibilised by welfare retrenchment – balancing the management of their own financial challenges while supporting tenants to cope with welfare reform. For older people in retirement living, this can include the provision of assistive technology as an

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attempt to fill the gaps left by shrinking health and social care budgets, whilst addressing the needs of tenants who wish to age securely and safely at home.

Responsibilisation and the role of technology in housing provision

Within the wider context of welfare retrenchment, we see two aspects of responsibilisation that include processes where autonomy is given to individual tenants and areas where responsibility is devolved to third sector organisations and staff, due to cuts in statutory sector health and social care services. The term 'responsibilisation' originates from the literature on advanced liberalism and governmentality (Rose and Miller, 1992; Rose, 1999, 2000; Miller and Rose, 2008) to indicate how state provision has been both withdrawn from direct provision and extended to focus on individual behaviour. These ideas have been developed within social policy research (Kemshall, 2002; ; Bennett, 2008; Ilcan, 2009; O'Malley, 2009; Brown and Baker, 2012; Peeters, 2013; Juhila *et al.,* 2017) and housing studies (Flint, 2002; McIntyre and McKee, 2012; Lowe and Meers, 2015; Stonehouse *et al.,* 2015; Wilson, 2019; and England, 2022). In the context of housing and social welfare, 'responsibilisation' refers to the processes by which individual persons, families, and communities assume control for their own welfare, instead of the state taking primary responsibility for promoting citizens' wellbeing and providing services.

Another layer of responsibilisation focuses on people working in public and third sector services. On the front-line, many welfare service providers and housing workers have become deeply embedded in the conduct, cost effectiveness, and outcomes of their engagement with clients and tenants (Martin and Kettner, 1997; Banks, 2004; Saario, 2014). As so-called 'street level bureaucrats' (Lipsky, 1980), service providers have considerable power (imparted by their professional practice) to produce independent and responsible citizenship (Juhila *et al.,* 2017). It is in this context that housing providers become responsible for the behaviour modification of tenants to create independent, self-sufficient, self-acting, and fully individualised citizens.

One intervention linked to increasing responsibilisation in ground-level activity is the integration of assistive technology into housing provision. This is an area that has traditionally been located in health and social care, with assistive technology formally accessed via social care services, with a smaller but increasing role being played by consumer products (Gibson *et al.,* 2015). A growing focus is being paid to the potential of 'combinatorial health technologies' that describe a combination of integrated digital, mobile and non-digital healthcare technologies that support health, wellbeing, and quality of life (Varey *et al.,* 2020). However, there are increasing issues around access to aids, adaptations, and assistive technology at all stages, including access to information and advice, assessment, funding, and delivery, as well as sector specific issues which differ between health, social care, and housing (Woolham *et al.,* 2021; McCall, 2022a; McCall *et al.,* 2023). To address these gaps, housing associations have assumed an imperative role in facilitating support such as providing technology alongside skills training to tenants to address unmet need and support positive health and wellbeing.

In residential settings, technology supports people to live in their homes for longer, reducing demand for hospital beds and shifting responsibility for healthcare into the domestic sphere, implicating family members and housing providers in the provision of personal/social care. Varey *et al.* (2020) suggest the priority for social care departments in

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England has recently moved away from the direct provision of care, to one of facilitating older people's ability to better self-manage their healthcare needs at home vis-a-vis 'health technology'. The use of technology in the responsibilisation of health, for example, has been observed within recent English health policy discourse to explain how 'investments in digital healthcare are justified based on their ability to deliver greater efficiency of overburdened healthcare systems' (Rich *et al.,* 2019: 38). In residential settings, funding for technology enabled care services is justified by their shifting responsibility for healthcare into the domestic sphere, implicating family members and housing providers in the provision of personal/social care, while also reducing demand for more resource intensive services; e.g. hospital beds. The establishment of NHS Digital in 2013 – part of the National Information Board's Personalised Health and Care 2020 strategy – further strengthened this agenda through discourses of patient 'empowerment', whereby 'digital technologies put people in charge of their own health and care, whilst reducing pressure on front-line NHS services' (NHS Digital, 2020).

Responsibilised approaches to Technology Enabled Care, often framed via discourses of personalisation have been widely criticised. In the previously described policy context of political austerity and service retrenchment, technology enabled care has frequently been positioned within social care and housing policy as a 'silver bullet', which can achieve greater cost efficiencies in the face of reduced budgets while simultaneously meeting clients' perceived goals of 'ageing in place' in their own homes (Eccles, 2020). Such policy approaches have been critiqued as the result of a technological-rationalist and deterministic vision of care technologies, which offers a top-down and supply-side perspective, rather an approach that could truly focus on needs and preferences of end users (Greenhalgh *et al.,* 2012). The individualism and responsibilisation inherent in these policy approaches can be considered as expressions of neoliberalism, transferring responsibility for decisions about care from the state to clients, patients, or service users, based on their construction as autonomous agents expressing personal choice, but without true agency in their choices (Eccles, 2020; Varey *et al.,* 2020). This individualistic approach reinforces the retreat of the welfare state, increasing precarity while devolving responsibility for its resolution to individuals and front-line services.

Methods

The overarching aim of the INVITE project was to investigate how assistive and everyday technologies can be implemented in retirement living properties to improve residents' quality of life and sustain inclusive communities. The study's approach included over 100 residents and thirty housing staff who participated in a mixture of coffee mornings, in-depth qualitative interviews, and staff workshops between 2020 and 2022. The INVITE project initially focused on the potential of digital technology intervention, in partnership with Stonewater Housing Association who had a strategic interest in understanding how technology can support wellbeing. To identify range, scope, and priorities for technologies among residents, the project employed co-production (that includes steps to share power and develop reciprocal research relationships in the study) by generating person-led solutions to different challenges. This process included exploring needs, wants, and everyday living challenges with residents (without a particular device or intervention in mind). The project team then worked with residents, staff, families, and carers to examine and explore solutions, developing a co-produced list (hand in hand with residents and

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staff) of assistive technologies. This was (somewhat surprisingly) dominated by low-tech solutions such as jar openers, kitchen cutlery, and gardening tools. We therefore chose to include these simple items in our consideration of technologies for inclusion, and within the wider project. From resident and staff perspectives, the understanding of technology was aligned to its simplest form: devices that support a practical purpose, resulting in a re-examination and widening the understanding of technology (see McCall *et al.,* 2022b for full process and report).

The longitudinal data upon which this article draws was collected onsite over two waves in four different retirement living schemes in England (covering 212 properties with variations in the size of the schemes, proportion of residents with diagnosed/suspected dementia, and the size/rurality of the place in which the scheme is based). This article draws on two waves of person-centred in-depth qualitative interviews. The first wave of interviews included forty-one residents (twenty-two women and nineteen men, age range forty to ninety-eight with a mean age of seventy-three) and six staff. Interviews were predominantly one to one, although some residents opted to be interviewed collectively. Following the wave one interviews and prior to wave two, an additional forty-one residents opted to join the study and were assessed for and supplied with assistive technologies by the onsite staff. These new participants also took part in one to one 'check-in' interviews with the research team, amounting to a total of eighty-two residents and eight staff interview participants. Interviews varied in length from fifteen to sixty minutes. The second wave of interviews saw seventy-three residents (forty-five women and twenty-eight men, age range forty to ninety-eight with a mean age of seventy-two) and seven staff returning. Most residents interviewed had one or more long-term health condition, including arthritis, mobility, and memory problems (see Table 1).

Wave one data collection took place immediately following the lifting of COVID-19 restrictions from June to October 2021. Wave one interviews with residents and staff used 'Talking Mats', a bespoke visual communication tool format, to explore residents' needs, priorities, and what they found challenging day-to-day (see McCall *et al.,* 2019). Talking Mats adds a wider range of communication options (audio and visual prompts) that also supports co-production opportunities allowing residents to lead the discussion on needs, barriers, and challenges. Interviews also covered residents' health status, wellbeing, and social connectedness as well as their experiences of and current engagement with technology. Field notes were taken after each interview to note, for example, observations about the environment and non-verbal cues. Based on the analysis of wave one interviews, a demonstrator list of technological items was generated to support health conditions, such as arthritis, mobility, and memory problems and assist with day-to-day activities, such as independently making a cup of tea. Residents were matched with relevant person-centred technology interventions to test in their own homes. Overall, a total of 157 low and high-tech items (sixty-seven different types of gadgets) were provided to residents across the four sites (please see McCall *et al*., 2022b for the full list). The technologies ranged from higher tech gadgets such as iPads and Amazon's Alexa to 'low' tech gadgets, such as kettle tippers, jar openers, and cushion raisers. Set-up and support was provided by the research team or onsite Stonewater staff to set up and use the gadgets. Introduction, support, and maintenance were key elements of what helped make the technology work (with reflective insights published in McCall *et al.,* 2022c). Stonewater Housing Association funded the technology, with no set limit per resident or site (beyond unreasonable cost), as a gift to residents to then remain with

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Table 1. Characteristics of residents interviewed in wave 1 and wave 2

	Wave 1 (N=41) N (%)	Wave 2 (N=73) N (%)
Age (average)	73.37 (range 40-98)	71.63 (range 40-98)
Gender (%)		
Female	22 (53.66%)	45 (61.64%)
Male	19 (46.34%)	28 (38.36%)
Ethnicity		
White	39 (95.12%)	70 (95.89%)
Ethnic minority	2 (4.88%)	3 (4.11%)
Household type	37*	68*
Living alone	32 (86.49%)	56 (82.35%)
Living with someone	5 (13.51%)	12 (17.65%)
Number of long-term health conditions	33*	59*
None	1 (3.03%)	2 (3.39%)
One	18 (54.55%)	32 (54.24%)
Two	10 (30.30%)	18 (30.51%)
Three or more	4 (12.12%)	7 (11.86%)
Long-term health categories	49**	91**
Musculoskeletal (e.g. arthritis)	13 (26.53%)	23 (25.27%)
Respiratory	5 (10.20%)	8 (8.79%)
Neurological (e.g. dementia)	5 (10.20%)	10 (10.99%)
Cardiovascular (e.g. heart disease)	5 (10.20%)	6 (6.60%)
Mental health (e.g. anxiety; depression)	5 (10.20%)	9 (9.89%)
Limited mobility	3 (6.12%)	9 (9.89%)
Gastrointestinal (e.g. Crohn's)	1 (2.04%)	4 (4.39%)
Sensory (e.g. visual/hearing impairment)	5 (10.20%)	5 (5.49%)
Learning Disability	2 (4.08%)	4 (4.40%)
Stroke	1 (2.04%)	0 (0%)
Metabolic and endocrine (e.g. diabetes)	2 (4.08%)	8 (8.79%)
Renal (e.g. kidney disease)	1 (2.04%)	3 (3.30%)
Cancer	1 (2.04%)	2 (2.20%)

*Number is less than total participants because not recorded for all participants

**Total number of health conditions

them after the study. During the testing period, residents received a check-in telephone call from the project research team and ongoing support was available from onsite Stonewater staff. Wave two interviews took place over the four sites between January and May 2022 and explored the experiences of residents over time and the impact of the technology intervention.

All interviews were audio-recorded, transcribed verbatim, and analysed by three members of the research team (SR, RS, and JL) using thematic analysis as described by Braun and Clarke (2006). The interview transcripts were imported and managed within QSR NVivo qualitative analysis software. The coding process was guided by the conceptual framework of the study with a 'Theory of Change' based on a prior review of the literature (see Rolfe *et al.,* 2021). The theory provides a simplified model of the

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processes involved, showing what needs to be in place for technology to deliver positive outcomes, whilst acknowledging some of the barriers that may arise and how facilitators may help to overcome them.

Familiarisation involved one team member (SR) developing themes (known as 'nodes' in NVivo) using the 'theory of change' framework, and this was tested using eight transcripts, which were then double-coded by other team members (RS and JL) to validate the nodes. Working through the data, they created four top-level nodes for thinking about the introduction and use of technology, including Needs/Wants, Barriers, Facilitators/Enablers, and Impacts. The initial themes and sub-themes were reviewed, supported by comparing coding stripes within NVivo to determine inter-coder agreement. Extra sub-themes were added following a discussion to improve the representation of the data. This process generated the finalised themes and sub-themes of the coding framework, and the remaining interview transcripts were split between the team members to code. A limitation of the approach was the lack of focus on equalities issues and intersectionality due to respondent profile, an area that is important to consider in future research. Ethical approval was granted by the General University Ethics Panel (GUEP) at the University of Stirling (Reference number – GUEP (2021) 1030).

Findings

The main findings of the INVITE project highlight that when supported by a social housing provider, person-led technology interventions for older residents can be effective, as reported elsewhere (McCall *et al.,* 2022b). The findings presented here focus on practicalities, capacity, and welfare retrenchment.

Practicalities

The key impacts that can be generated from providing person-led technology solutions – or 'gadgets' – were identified as: facilitating social connectedness; staying connected digitally; maintaining relationships; exercising control and autonomy; improving mental and physical health; enhancing safety and security; and improving opportunities for educational activity and entertainment. However, participants' descriptions of these positive outcomes highlight the practical difficulties of individual situations prior to receiving the new technology in stark ways:

> Sometimes my hands go into spasms, you see, and I can't hold the kettle and it's really painful when they do that. So that [hot water dispenser] is a godsend for me, I love it … I was scared because, like I said, my hands could go into spasms, at any moment they can go, so, yeah, I've had the near misses with hot water. (Lisa, Abbey Lodge)

The resident Lisa notes feeling unsafe, scared, and in pain before the technology intervention, with near misses for an accident prior to the technology intervention.

> I could not sit on my settee, because I couldn't get out of it because of my legs. I keep falling … and them blocks, as soon as he put them in, I went and sat on the settee while he was here [staff member], just in case I couldn't get up, so he could help me up, and my husband, and they worked perfect. (Olivia, Abbey Lodge)

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Accidents, or near misses, were commonly linked to precariousness, especially linked to physical limitations, with Olivia for example showing that fundamental elements, such as being able to stand safely, were an impact of some low-level technology intervention.

> Oh, [the two handled mug] made all the difference. From the moment I first started using it, I said, oh this is wonderful. It's made so much difference to me, to be able to drink from a mug, safely, knowing that there's no chance of me burning myself, that my hands aren't shaking any more. It really is wonderful. I'd never heard of two handled mugs before, but they're great, yes. (Nana, Cornmill House)

Safety and avoiding burns were a key outcome from many of the technology interventions. Often prior to the technology intervention, residents had not heard of the items given for support. Further positive outcomes related to increasing people's ability, independence, confidence, and dignity around essential day-to-day activities, such as eating. For example the daughter of one resident commented:

> With the round-edged bowl, she can now scoop her food and it doesn't fall to the floor because the bowl is raised at one side. Previously on a plate her food could be scooped onto the floor and she would not know where the food on her plate had gone. (Karen, family member, Norfolk House)

The situations outlined above show how practical difficulties in relation to health, safety, and security can be overcome. There is a fragility and precarity to some of the respondents' individual situations in relation to risk. The interaction between personal risk and financial precarity is also demonstrated by evidence showing how grateful and amazed people are for very small items – often low-cost gadgets – that can make a big difference for individuals.

The impact of this type of technology also shaped the way people felt in their own homes and wider networks:

> It's awful when you've been independent and then all of a sudden you have to start asking everybody to do little, tiny jobs for you that there is something out there if you only know about it, to be able to use and keep your independence. (Hanna, Cornmill House)

Hence, some of the technology provided supported tenants' feelings of independence and control, which are crucial aspects of the experience of 'home'. This applied to a range of gadgets and digital technology:

> Without the iPad I would have gone round the bend, because that's a window on the world sort of thing. My family are very good but again without the iPad . . . well perhaps the mobile phone as well, they couldn't FaceTime or do message, or video or all the other things that we do. So that basic level of technology is vital to me. (Andrea, Norfolk House)

Andrea's example shows tenants' ability to feel at home in their tenancies was supported by technology that enabled them to maintain social connections, many of

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which had been significantly disrupted by the pandemic restrictions. Overall, precarity was linked to personal safety and sense of home.

Capacity

The findings above also show that the technology and gadget interventions were often very successful. Most residents were also motivated and enthusiastic, although there was some reluctance and resistance (see Serpa *et al.*, 2023). A particularly successful gadget was the Fitbit, a device worn on the wrist to track and record information about activities such as number of steps, heart rate, and sleep. The Fitbit also has a guided breathing session feature called Relax:

> It has changed my behaviour because it's made me more aware ... My mindfulness. I've been actually laying on the bed and doing the breathing and using this. 'Cause it tells you to breathe in and breathe out. It makes me feel in more control. (Whitney, Highland Lodge)

Whitney gives insight into how respondents understood responsibility of healthcare intervention. There were clear examples of successful self-management in relation to the technology introduction. Facilitation and support of technological interventions were central to success, especially when understandings of technology and its uses varied. This internalisation of responsibility was seen via the activities of front-line staff, evidenced in examples of the work undertaken by these staff:

> Kettles and bits and bobs, I've seen other bits here and whatever and he [staff member] helps with that so he connects them to the computer. Yeah, I think he is doing quite a lot of supporting. (Alex, Abbey Lodge)

This adds insight to the re-working of the landlord-tenant relationship discussed by Flint (2015), that shows the increasing role of housing staff in linking and managing tenant behaviours in the social housing sector:

> It's about building relationships with the residents, and getting that trust factor... I know we have some challenging views amongst some of the residents. I think the residents have views of each other. And I think the residents have a different view of us... it's about us building up relationships, trust, and getting to know our customers. (Stonewater staff member)

These examples demonstrate that front-line staff often intimately understand service users' precarity, and housing provision such as the technology gadgets were a welcome way to provide support. Housing association staff saw the social purpose of housing as part of their role, even though technology support was often not central to their perceived skill set:

> My role is going to be, moving forward, engaging with the residents more. Helping them to age well, looking at their welfare, but still promoting and signposting to external agencies, doing referrals where necessary. And having probably more hands-on to do with their health and wellbeing. So that's what we're going to do, and hopefully networking with the wider community. (Stonewater staff member)

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In some cases, intervention didn't work, with examples of challenging situations in which staff could not provide support:

> I mean I can work a computer . . . you know, iPad but I think more, you know, showing people, that's not one of my high strengths. (Stonewater staff member)

> A lot of explanation about what it could benefit or help them [residents] with, in regard to their needs. So that was quite time consuming, on an individual basis. (Stonewater staff member)

> In regard to our roles and helping our residents, customers live longer in their homes and meet their needs, I guess that's what we're here for. But from the more technical side we could have done with a little bit of training or support. (Stonewater staff member)

These examples demonstrate the coercive side of neoliberalism, where retreat from the welfare state has increased such facilitation, placing front-line staff in challenging situations while elevating risk and precarity for service users.

Housing support staff encountered numerous challenges, with staff noting the need for training to build confidence in facilitating technology. When interventions did not work, staff sometimes became upset or worried about the individuals they supported:

> They [residents] could get quite anxious, so I give up my time and slot in time to sit with them, not that I can take over or do it for them, but just there as a security. If they go, oh, I really don't understand that, and don't get panicked about it. Because the one thing I don't want is them to start getting worried about using technology. So, I'm just there as a safety net really . . . . From a property side, a lot might have problems – it sounds really silly. (Stonewater staff member)

Evidence from the project highlights how staff and tenants accepted and internalised responsibility for technology; they rarely placed responsibility for finding solutions on welfare support services or the state.

Retrenchment and welfare

Despite individuals internalising the responsibility for technology interventions, the level of success in supporting any technology intervention was also dependent on structural risk factors and the pace of change within wider welfare provision. For example, housing staff often help residents navigate bureaucratic processes:

> But trying to get anybody that's not known to them referred, very, very hard. Yeah, I would say that it's like pulling teeth, it really is, to get anything anywhere, physio, anything like that. The backlog is just crazy, and of course you're getting new people coming on all the time. A twelve to fifteen week waiting list for someone that needs some physio is nothing and that's a long time if you're living with things that, you know. (Stonewater staff member).

There were several examples where providing solutions was more difficult because of complex interactions with health, social care, and welfare provision. A clear example of this included an older resident whose pension had to change to a bank account mid-project (due to a social policy change, the Department of Work and Pensions in the UK

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had ended paying pensions to post office accounts). In the first wave interview, this individual was confident, open, and motivated to try linked technology (in this case an Alexa and smart phone). On the check-up visit three months later, the resident's health and wellbeing had changed; they were more introverted, unconfident, and thinner. On that visit, the resident gave the items back, noting *"if this is the way of the World now, I want nothing to do with it – they are even getting rid of money for goodness sake"*. The transformation of the individual's health was due to the ongoing difficulties in accessing their pension owing to the Department for Work and Pensions switch over from post-office accounts. This process was of great concern to housing staff:

> I've had several residents here that, over time, that have had the same, that banks are there, banks get robbed and your money disappears and you're best to keep it under the mattress, you know. And the most [this resident] would ever have was a post office account. And then the post office stopped paying pensions into the post office. So, they had to have a bank account. Well, trying to get something set up for him was a nightmare. An absolute nightmare. And we got there in the end but, I mean, I had him coming down and saying to me, if they can treat me like this … I just don't want to be part of this world, part of a world that can do that to me anymore. Fortunately, he had support, a lot of support from me and we got there in the end. But yes, that was, that was a very time consuming. (Stonewater staff member)

This situation had resulted in weeks of destitution as the resident could not access their money, and without the onsite staff supporting the resident this was unlikely to have been resolved. After these issues were fixed, the resident's health improved dramatically. These are important examples which highlight how this type of housing provision is 'papering over the cracks' of the welfare state.

Discussion

The situations captured in the INVITE project are instructive of how different welfare activities interrelate, with housing staff playing a key role as facilitators due to the proximity and availability of people at the front-line. There were numerous examples of housing staff facilitating contact between health and social care to support person-centred solutions and address unmet health need. Housing association staff are well-positioned to deliver trusted support around technology, but this needs investment and support. The barriers to this include resourcing, the re-alignment of understanding around roles and responsibilities in the social housing sector, and staff training on key skills needed. The benefits, however, are that interventions have the potential to be person-centred and person-led, having been developed by residents and staff from the ground-level who understand need and precarity.

The findings demonstrate important ways in which, in a wider context of declining general funding for and availability of social care services, the increased delivery and uptake of technologies within housing support could be considered extended into other areas of welfare state provision. These findings therefore strengthen calls for a reassessment of the relationship between housing and the welfare state, specifically in the realm of organisational welfare state change (Lowe *et al.,* 2012: 105). The ongoing nature of the neoliberal agenda has clear consequences, deepening individuals' precarious and challenging positions in relation to health and care. This was shown in their – sometimes

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uncomfortable – appreciation of support for everyday, essential activities, such as eating, standing, making tea, and connecting with family. Crucially, being able to undertake such everyday activities easily, safely, and with dignity is essential for people to feel at home in their tenancy. Given the importance of a sense of home for mental wellbeing and ontological security (Dupuis and Thorns, 1998; Hiscock *et al.,* 2001; Clapham, 2005; Rolfe *et al.,* 2020), fragilities in an individual's sense of home add to the risks of multi-layered precarity. Evidence from this project suggests that some forms of technology, combined with support to adopt and utilise it effectively, can support residents' ability to feel at home and thereby mitigate some aspects of precarity.

Self-management and responsibility for health and tech provision was shown to be internalised by individuals and front-line staff. The findings show that intervention is perceived as an individual and organisational-level responsibility – and staff tend to acknowledge this as a future part of their roles in housing provision. Paton *et al.* (2017) make a similar point regarding neoliberalism in relation to class and place, arguing that cuts in universal services, local amenities, and support go hand in hand with projects that *internalise* the logic of those cuts. This is compounded by social insecurities and 'exposes the coercive edge of the neoliberal project; a distinct urban class inequality of our time' (Paton *et al.,* 2017: 3). Resultingly, the responsibility for supporting and solving complex health challenges is both transferred – and accepted – by services users and front-line services.

Front-line staff were also eager and grateful for solutions, which support service users, often small, low-cost items. There were numerous examples of housing staff facilitating between health and social care to support person-centred solutions and address unmet health need. However, the gadgets that were introduced centred on the individual's capacity to self-manage their healthcare and be self-sufficient. This shows the limits of responsibilisation, as relationships with providers, family members, and other residents were also a central part of facilitating the collaborative management of healthcare.

Conclusion

In conclusion, the findings show that precarity has a symbiotic relationship with responsibilisation in housing. As the welfare state retreats, precarity at different levels increases, with the responsibility of solving it progressively devolved to residents, with some local support from front line staff. There are different and fundamental layers of precarity in housing support provision: individual precarity with health; precarity of front-line service provision; and availability of support. There is also an organisational-level precarity in terms of providing essential but often short-term solutions, with housing services responsibilised into providing essential welfare state functions. This is a multilayered precarity that affects individuals and the service itself.

The findings highlight that that even with positive outcomes from housing provision interventions, individuals are often negotiating precarious positions. There was consistent internalisation of responsibility for health management by staff and individuals, yet clear evidence that the retreat of welfare state added to challenges. In many cases, housing provision supporting health and wellbeing outcomes via technology were determined by considerations of practicality, capacity, and cost (of welfare retrenchment). This finding was relevant to the responsibilisation of individuals, housing organisations, and front-line staff. Despite challenges around confidence, training, and capacity, staff at the front line

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internalised the responsibility for their housing support roles. For example, they saw it as appropriate to buy technology for residents and support their access to, use, and maintenance of this technology. These actions were attributed to the challenging bureaucratic processes of wider welfare provision.

Social housing providers can be nimble and innovative, with wider choice in what they do, and can provide the space for co-produced approaches (overcoming more rigid in commissioning arrangements and service delivery linked to other sectors). Yet, the findings indicate the ways in which social housing providers are papering over the cracks of the welfare state, while also highlighting additional cracks. Front-line staff may not be able to provide necessary support, and budgets may not be able to provide enough technology. This gives insight into the role of housing associations in supporting wider welfare state functions. For front-line workers, extra work and worry both increase with responsibilisation alongside cost for the organisation, an aspect which could instead be absorbed by health or social care budgets. Responsibilisation in itself deserves a more complex assessment – being empowered to take on responsibility for health/wellbeing is good in some perspectives but becomes negative under conditions of austerity and retrenchment. As this article has shown, the role of housing in supporting technological engagement is clearly connected to the responsibilisation of many areas of social housing provision to social landlords and tenants. This finding highlights that responsibilisation in housing, if driven by a coercive neoliberal agenda, has significant limitations.

Data availability statement

The participants of this study did not give written consent for their data to be shared publicly. Due to the sensitive nature of the research, supporting data is not available, please contact author VM for any queries.

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