# The impact of rapid response and telecare services on elderly and vulnerable residents

# Introduction

According to Age UK (2015), a fifth of the English population will be over 65 by 2022, and by 2027 the number of people aged over 85 years will have risen by 60%. This pattern is replicated throughout much of the developed world (WHO 2015). While many older people live happy and healthy lives, for others, old age brings a range of complex comorbidities, disability and frailty. The impact of these on people’s lives varies considerably and, to manage this, people often turn to health and social care services for support.

In recent years, UK government policy has promoted support for elderly and vulnerable people to enable them to retain their independence whilst meeting their needs through improved services (DH 2007, WHO 2015). Digital technology and telecare are increasingly seen as a part of this (Department of Health 2009).

This study highlighted that many older people want to remain independent in their homes for as long as possible. Supporting independent living is a means of promoting and prolonging autonomy and quality of life for the ageing population, allowing them to remain active in their communities, which is increasingly recognised as a human right (WHO, 2015).

Older people’s need for support is likely to increase over time, either through worsening of current conditions or development of new ones (Age UK 2015). According to the ONS (2017), people are also experiencing longer periods of poor health in their lifetimes**.** This is likely to have been exacerbated by the effect of reduced funding for health and social care alongside other public spending, which is likely to affect older people disproportionately.

**With an increasing older population**, the costs of providing services to them will continue to rise (Barker, 2014), meaning that continuing to provide support and residential care services as they are now will become unaffordable. Alternative, more cost-effective, methods of support which can be deployed within community settings are therefore needed to provide long-term care.

Digital and electronic technologies used within the home are becoming increasingly attractive as a means of delivering social care services and telecare is an important part of this. The Department of Health (2009, p5) define telecare as ‘a service that uses a combination of alarms, sensors and other equipment to help people live independently’. Telecare uses a combination of self-activated and automatic sensors (e.g. fall sensors, smoke detectors, extreme temperature sensors, pressure sensors) placed around the home according to personalised need. In the event of an emergency, family, carers or other agencies are notified immediately (Beech & Roberts 2008). There is broad agreement from advocacy groups for older people (e.g. Age UK, 2014) and researchers (Gokalp et al., 2017) that telecare, tailored to individual needs, should form part of a wider package of adult social care services to allow people to remain independent at home.

While assistive technologies are often seen as a cheaper option than residential care, few studies have shown significant impact on the costs of providing care. Telecare can fill the gaps between the care needs of the elderly and the capacity of informal carers (and some service providers) to meet those needs. Some service users may view it as a lifeline to retaining independence; carers see the benefits in terms of peace of mind. However, it may be unsuitable for some elderly people: some may struggle with the technology, others may see it as intrusive and a threat to their autonomy (Draper & Sorrell 2013). There is also a difference between meeting the practical care needs of a service user and caring in the interpersonal sense, and telecare can emphasise this difference. If an alarm does not go off, a service user may feel more isolated because no one needs to visit (Draper & Sorrell 2013).

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| **The rapid response and telecare model adopted**  The housing provider had, as part of its infrastructure, a 24/7 rapid response call centre for residents’ support (all issues) which they could contact directly by phone. Within the rapid response team, Independent Living Advisors, with clinical care support (provided under contract from a commercial company), were? specifically responsible for health and social care issues/problems? The housing association had over 3,000 properties designated specifically for vulnerable residents with a panic alarm connection to the rapid response built in. Occupation of these properties automatically included access to the RR health and social care support as part of the tenancy agreement, with the cost rolled into rent.  All residents could also have telecare alarms installed, paid for by adult social care services if they are assessed as needing it. Residents not in a designated property could subscribe to the health and care support rapid response separately if they wished. They could also subscribe to telecare support, which would be funded by the LA if they were assessed as needing it, but could also pay independently. People living in their own homes, not those of the housing association, could subscribe privately to the rapid response system and telecare. Those in receipt of social care support would be funded by the local authority. |

The aim of this study was to explore the impact of these rapid response and telecare services on service users and their carers. We also investigated how telecare was viewed by commissioners, including adult social care services, and other stakeholders.

# Methods

### Design

This study focused on a rapid response and telecare support service provided in partnership between a local authority **and** a housing provider in the North East of England. A descriptive qualitative model was used to develop knowledge and understanding of the key practicalities of such a programme and, most importantly, its impact on service users, carers and service providers (Nassaji 2015).

### Study Participants

The eligibility criteria for participants was their involvement with the rapid response service in the previous 12 months The housing provider distributed invitations and information sheets to eligible users. Easy to read versions of the information sheet were developed for the elderly and more vulnerable participants. Because of data protection, we do not have data on the response rate.

Those willing to participate contacted the evaluation team directly. Individual interviews were conducted with 12 service users and 6 carers (i.e. family members caring for their own relative), **mostly** individually; **two interviews** were with service user and carer together.

A further seven interviews were conducted with representatives of the housing association, care commissioners, and care companies based on apurposive sample frame developed to include other key stakeholders involved in the service.

### Data Collection

**In total 21 interviews were carried out** by a researcher experienced in involving elderly and vulnerable participants in research and evaluation**.** Data collection used semi-structured interviews, guided by a topic guide which focused on perceptions of the service, practicalities and the impacts of it. **The topic guides were flexible to allow participants to raise issues of significance to them. Interviews took place in home/offices and typically lasted 45-60 minutes. Interviews were audio recorded and transcribed verbatim. Personal information was anonymised prior to analysis.**

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### Data Analysis

Data were analysed using thematic analysis (Charmaz 2006) which allowed identification of the common issues raised by the stakeholders and service users.

The themes identified were coded and then reviewed and refined by the research team. They were then tested against a sample of interviews by two members of the team to ensure the data were being interpreted in the same way. NVivo10 software was used to aid analysis.

### Ethics

This study sought the views of vulnerable people, . Ethical approval was obtained from the research ethics panel of the lead author’s university.

Caring for the vulnerable has to be a partnership between the service user and the carers so, for a holistic approach, this study included service users and their carers. Participants decided whether they were interviewed individually or with their carer. There was no indication that anyone felt inhibited in expressing their views.

All participants completed a consent form prior to interview. These were stored in a lockable cabinet only accessible by the research team. Interviews were recorded and transcribed verbatim. Transcripts were checked by the research team for accuracy and all identifiable data removed. All audio recordings and transcriptions were stored on a password-protected computer only accessible by the research team.

# Findings

Two key themes emerged from this study – the quality of life for the service users and carers, including their ability to remain independent for longer, and the resource benefits for health and social care providers.

## Impact on service users and carers

### Retaining service user independence

Retaining service user independence was identified by both service users and carers as a priority. Living independently in their own homes had a major impact on their reported quality of life. It made residents feel they were still their own person, with intrinsic value, and that they could make their own decisions and maintain as much of their normal social activity as possible.

Service users and carers felt that they could stay at home and remain independent for longer **just** because of rapid response and telecare services. Knowing that there was someone at the end of the phone gave them confidence:

*I just feel happy knowing I can call someone for help if I need to. I don’t worry*

*about being on my own because they will come.* (SU01)

This feeling was echoed by their carers:

*My mam wouldn’t last five minutes in a home. She really wants to stay in the family home. She’s had quite a few falls. I can’t be there all the time so without the rapid response service she would most likely need to go somewhere where people can look after her [full-time].* (FC04)

The monitoring data showed that many service users rarely used the rapid response service and reported that they even forgot it was there. Those with telecare used the services more regularly, reflecting their higher needs, and it became a way of life.

Respondents understood that their health would deteriorate as they aged and some admitted that they would be unable to cope on their own. Their will to stay in their own home was strong. None of the respondents wanted to move to residential accommodation and saw telecare as a means of delaying their need to do so, even if/as? their health deteriorated.

Social workers argued that reduction or withdrawal of telecare would be detrimental to clients’ physical and mental health and wellbeing, for example, diminishing their sense of independence or an increased severity of injury due to delays in care after falls. They also felt withdrawal of telecare could result in more people having to go into residential care and sooner as service users became more disabled or after a hospital discharge.

The rapid response service was seen as key by both the service users and providers who agreed it reduced the potential impact of health issues and provided reassurance to service users and carers which in turn supported independence.

Rapid response staff and those responsible for assessing service users found that use of the services could give early indication of increasing frailty and need for support., Quicker assessment and referral based on the partnership working between the HA and SS/LA also occurred. The services provided another layer of contact with vulnerable people and ad hoc assessment through contact. This is a good example of ‘making every contact count’ (Lawrence et al 2016; Nelson et al 2013). The service is staff-intensive, but both staff and service users found the option to increase services, should the need arise, was reassuring.

### Rapid response service and falls

Before having the rapid response or telecare services, service users and carers reported that after a fall they might have been left on the floor for many hours because they were unable to contact anyone. Being left unattended caused distress, and could exacerbate injury and increase the probability of hospital admission.

*The first time [I fell] I was laid for hours before I managed to get to a phone to call help. I ended up at hospital and staying for 3 days. That’s why I signed up for rapid response. The last time was very different: I pressed the button and they were here in minutes, lifted me up and went on their way. Brilliant.* (SU09)

The majority of calls to the rapid response service were responded to within 15 minutes. Respondents told us the comparison in response times between this and the ambulance services was stark. This was not a criticism of the ambulance service, but highlights their difficulties meeting the demand given the resources available.

## Impact on family carers

### Relieving pressure

The vast majority of care in the UK is provided by family and friends and they are relied on by the statutory services to provide care (ONS 2017). The impact of providing care for a family member is about more than the time involved but included also having to deal with their other responsibilities such as going to work, family commitments, travelling and their own health.

Feeling always on-call was a heavy burden for family carers and affected their reported mental health and wellbeing. Having the rapid response and telecare services made a big difference to them. It provided a release from constant worry in anticipation of an emergency, and peace of mind as they could be confident help would always be on hand if needed. It let carers relax a little and reduce the pressure to be around all the time.

*My whole life revolved around looking after my dad. It got to a point where I was so run-down that I was hardly functioning. Taking back some of my life has been hard but you have to look after yourself as well.* (FC04)

Some carers reported still providing the same level of care, but that they could be more flexible because they knew their loved ones could summon help and that they themselves would be contacted if necessary.

*We just couldn’t keep it up. We were shattered. Mother’s health was deteriorating, not life threatening, but we were really concerned about her in the house alone especially during the night. We got the basic package where they ring me or another family member to attend, but we are so much calmer now and not worrying about what might happen or being constantly on call.* (FC02)

### Allowing carers to become more socially active

For many carers, their caring role made it very difficult to have a social life, visit family, or take holidays. Constant anxiety and fear of what might happen left them exhausted and affected their own quality of life and their mental and physical wellbeing. It drained them of motivation for social activity or **going** out and left some depressed.

The rapid response and telecare services had changed this, allowing some carers to restart hobbies, go to classes and socialise, reducing their social isolation. Carers reported that telecare allowed them to take back control of their lives and make time for themselves, which was something they had got out of the habit of doing.

*I’ve started doing craft fairs again and attend a Health and Wellbeing, Mind, Body and Spirit Group. This was me just starting to get out because I’d not been anywhere or done anything but care. (FC04)*

## Impact on service providers

### Housing Association - sustaining tenancies

Use of emergency response and telecare meant that the housing provider was better able to support their tenants and delay their need to move to residential care. Elderly and vulnerable residents living in designated properties pre-fitted with personal alarms and intercom connection to the rapid response team were enabled to stay in their own home for longer, manage their conditions better and retain their independence. Maintaining stable tenancies like this benefited the residents as well as the housing provider.

The independent living advisors said that investing in the strong rapid response infrastructure had enabled an expansion of client support and allowed them to build ongoing relationships with their vulnerable residents. This in turn allowed them to monitor needs in a non-threatening way and provided another level of support for these residents. Needs assessment **usually** falls to social workers who are often too stretched to be able to maintain the ongoing contact it requires. **The telecare and rapid response combination provided additional opportunities for informal monitoring which relieved some pressures on social workers.**

### Local authorities

The Care Act (2014) placed a duty on local authorities to provide and improve the quality of care for the vulnerable. This was in a time of increasing pressure on resources and a rapid increase in the ageing population.

For many local authorities, risingsocial care costs are becoming unsustainable and they are exploring more cost-effective ways of delivering high quality services. Using rapid response and telecare is increasinglya strand of this.

Residential care is often funded from Adult Social Care budgets, so keeping people independent in their own homes for longer could reduce some of the financial pressures and release funds for others. Also, people want to stay independent and in their own home and those who can feel better about their health and wellbeing (Ref this).

Adult social care staff suggested that telecare services can delay the need for more enhanced care packages and, ultimately, residential care.

Social workers were really clear that, without telecare, clients would have needed residential care at the point of first referral, as they would not have been safe living on their own without support.

*Telecare is part of a continuum, but it’s not the answer to stop everyone going into care homes. It delays but it doesn’t prevent.* (ASC04)

This was particularly pertinent for clients admitted to hospital following a fall or illness and who needed additional support to return home. Social workers felt that telecare and rapid response services helped support discharge, allowing patients to return home safely with less intensive social care support. Telecare is now often included in discharge planning (see below). If telecare was unavailable, many patients would have had to stay in hospital or go into residential care.

*You can’t provide 24-hour care cost effectively for just one person in their own home. It’s not affordable in terms of how we are funded; it’s wholly unaffordable. (ASC01)*

Because the services provided are electronic, usage is logged and used for monitoring purposes for effectiveness and impact. Usage can help highlight a decline in a service user’s health and detect the point at which a resident may need additional support or have to move to residential care.

The data can also show the cost effectiveness of the service to commissioners.

### Acute Trusts – patient discharge

Acute trusts were not interviewed directly, but it was recognised by adult social care staff that telecare support, as part of a discharge package, facilitated people returning home from hospital sooner and without need for interim residential care. In the hospital involved in this study, a social worker was routinely involved in discharge planning for vulnerable patients, and installation of telecare was often a prerequisite for discharge. The early discharge telecare reduced pressure for acute beds and was also the preferred option for patients.

*I did an assessment on someone waiting to be discharged from hospital that lived alone. I felt he was too high risk to go home without some help in place. Telecare was installed as a condition of discharge home. He is still living at home and coping quite well. He may need to go into residential care at some point in the future but not yet.* (ASC05)

### Ambulance services – response to falls

Previously, if an elderly or vulnerable person had a fall, the ambulance service was routinely called to assess and lift them. However, the person often had no injury, no treatment was needed, and they did not need to be taken to hospital. Now, under the rapid response service, a trained team responded to those who had falls, assessed the situation and, for those needing no treatment, assisted the resident themselves. If an ambulance was needed, the responders were able to advise the ambulance call centre of the nature and priority of the need, allowing for a more targeted response. An ambulance was always called if there was any doubt, or if the service user requested it.

During 2013-2015, 2,020 calls were made to the rapid response service for falls. Of these, 1,300 (66%) did not require ambulance attendance and were dealt with by the rapid response team. In the past, all of these calls would have required ambulance attendance. The remaining 720 calls were attended by the ambulance service. Of these, 40 required specialistassistance with lifting, 400 were treated on site by the ambulance team and 280 (39% of this group, 14% of the total) needed to go to hospital,

The rapid response team was also able to respond to calls much faster than the ambulance service and this was reassuring for service users.

*You can wait hours for an ambulance and the rapid response team come really quickly. When my auntie fell, she was fine but couldn’t get up. The team helped lift her off the floor and put her back into bed. She was fine. If I had gone, I would have had to phone for an ambulance because I wouldn’t have been able to lift her.* (FC03)

*When I fell I was really scared. My husband couldn’t get me up so we pressed the buzzer. They were here in minutes. They lifted me up and asked if I wanted an ambulance. I didn’t. Spending all night in the hospital for them to say I was OK to go* *home is not my idea of fun.* (SU08)

These data suggest that reducing the number of calls for those who had fallen could free ambulances for higher priority calls, and a more targeted response (knowing the situation they were going to) may allow for more focused use of resources as needed.

# Discussion

Currently, the biggest area of spend for local authorities is the adult social care budget (NAO 3; ONS 1). Support can include long term care in residential or nursing homes as well as in people’s own homes and short-term respite or emergency care. In 2018/2019 over 800,000 adults received long term support and over 200,000 people received short term support (Kings Fund 2019). The ONS (ref??) predicted that by 2038 one in four people will be aged over 65 years - potentially 20.4 million people - many of whom will need support. As both the population and care costs go up and budgets get tighter, new ways of supporting care have to be found. This is the issue explored in this paper. **The Kings Fund (2018) reiterated the need for more integration across housing, health and social care systems to meet the needs of the growing population. However, current initiatives tend to be small scale and time limited and a wider system change is needed. While this study focuses on one local authority and housing provider, there is potential for the model used to be replicated with other populations/communities.**

The model providing rapid response to an alarm for vulnerable people is not new. Both falls alarms/panic buttons and telecare systems have been in use for some time. Bringing them together in a symbiotic model has shown how the partnership working can augment the basics of the system to the benefit of service users, carers and key stakeholders. **The Kings Fund (ref) argues that, often, many such services are niche and targeted to a general purpose audience, not differentiating between different categories of users. This study provides a model for a much more individualised and flexible care provision.**

Having alarms built into housing designated for elderly and vulnerable tenants allowed the housing provider to **enhance the service provided** to vulnerable residents., The comments residents made demonstrated how much they valued the reassurance of someone on call, and that they can develop a relationship with the rapid response team builds on that. Those relationships gave an extra layer of care as the rapid response team get to know the residents and can keep abreast of any changes in the residents’ health or care needs.

The incremental nature of adding in telecare monitors and alarms increased the confidence of residents. Working with social services allowed the support to grow with growing individual need, supporting residents to stay in their own homes.

**The Utopia Project (2017) found that telecare offered potential savings for local authorities, NHS, ambulance and fire services. Although acknowledging some impact on family members, they did not explore the social impacts for family carers or the benefits to their health and wellbeing, the focus for the present study.**

Our findings support previous work claiming telecare promoted independence, and improved community participation and identity for the elderly (Bowes & McColgan, 2012) and delayed moving into residential care, to the benefit of both the individual and the social care budget. Telecare in particular was shown to be a useful tool to help elderly people cope, remain safe and retain some independence, and to delay or prevent their having to move into residential care **(Kings Fund 2018)**. Without this support, service users would often be deemed by professionals and family members as too high a risk to live alone in their own homes.

The use of telecare monitoring has also improved the lives of carers caring for relatives at home. It allows them some freedom, knowing that their relative is still protected if they decide to go out. This removed what for many had become a burden affecting their physical and mental health. Unpaid adult carers in the UK provided care worth an estimated £56.9 billion in 2014, providing a major contribution to the care networks., This can come at some cost to the health, employment and quality of life of the carers (ONS 2017). Telecare and the rapid response reduced reported stress and anxiety for carers (see also Davies, Rixon & Newman 2013). Carers regarded the services as a “lifeline to a normal life” and a mean**s** to ”re-join**ing** society”, reinstating old networks, developing new ones and actively participating in social activities as a result of services which were viewed very positively. The value of these for carers in terms of their reported health and wellbeing was substantial.

The study did not explore in detail the associated benefits to other parts of health and social care and these could be better quantified by a follow up study. Discharge planning involving telecare is becoming more common. This benefits the individual who return home sooner , reassured that help is their if needed, the hospital through freed up beds and staff time, and to local authorities as residential care is not required.

The rapid response assessment reduced ambulance call outs, and gave a more targeted response when an ambulance was needed. This freed capacity in the system as well as comforted residents. The physical benefits of rapid response could also be explored in more detail to see if the system could be refined.

Unlike telehealth monitoring, telecare is a passive system requiring no action by the users as it is reliant on tailored automatic sensors which made it universally acceptable to participants. Telecare was seen as non-intrusive, and easy as no knowledge or understanding was required by an elderly or vulnerable user. Similarly, unlike telehealth, telecare does not require professional skills of the rapid response team. Any technical needs are covered by the installation team and clinical support would be called in as necessary.

Everyone involved in this scheme praised its support, and expressed gratitude for the independence it allowed service users and carers to maintain. Such an outcome could contribute significantly to managing capacity on a wider scale.

All the service users in the study were white British, reflecting the local demographics (BME in the county is just 1.5% of the overall population) and other cultures may have different feelings about the system and any expansion of this model should examine this.

This was a small study based on a strong working relationship between just one housing provider and local authority working together in a small community. This was its strength, but it may be difficult to replicate within a large urban setting with overlapping areas of responsibility and at scale.

The housing provider felt that linking the panic alarm and telecare services for all clients allowed them to provide an integrated person-centred approach to care, moving beyond just monitoring and providing a more personal as well as physical support to clients.

**Conclusion**

In conclusion, integrated rapid response and telecare services provided a proactive service for stakeholders and clients alike. The infrastructure within the housing association helped improve and expand the services provided and promote partnership working between housing and care providers, adult social care and commissioners. Partnership working between housing and care providers enabled elderly and vulnerable people to remain independent in their own homes for longer which service users saw as pivotal to their wellbeing. This study also highlighted the additional benefits of the system for carers who felt it reduced their stress and let them ‘reclaim’ their lives, improving their physical and mental health. While offering an individualised package of care with the ability to adapt to changing needs, rapid response and telecare served improved the quality of care available to service users and carers.

**This study reinforced existing literature about the value of telecare ifor retaining independence, improved care services, and impact on health and wellbeing.It can also be a low-cost alternative to early residential care, providing good value for money for local authorities. Many earlier studies were survey-based and many did not include service users and carers. This study adds value to existing work in exploring the affect of such services on service users and carers in more detail and provides a much deeper insight. The value of such services to service users goes well beyond cost savings. to provide more personalised and individualised care..**