

Research into the Future Housing and Support Needs of Older People

**Electronic assistive technology –
supporting older people within local communities**

Final Report – October 2010

Dr Suzanne Martin
Lecturer
University of Ulster
s.martin@ulster.ac.uk

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Executive Summary

This study was commissioned by the Northern Ireland Housing Executive as part of a wider research brief exploring the future housing and support needs of older people in Northern Ireland. The backdrop to this research is a growing awareness of an ageing population within Northern Ireland; with people not only living longer but often with chronic disease. Longer life expectancy is a great success of our generation; however, it brings challenges for our society in the coming years. For older people, independence is about choice and control over their own lives. They value interdependence – helping others as well as receiving help themselves. Good housing in safe, friendly neighbourhoods; getting out and about and keeping busy; an adequate income, good information and good access to healthcare are all considered important.

The research aims to explore the perceptions and knowledge of key decision-makers in Northern Ireland from Health, Housing and the Voluntary Sector about the integration of electronic assistive technology as technology-enriched housing to support ageing in place for the older population of Northern Ireland.

The findings highlight consensus on a range of issues. To decrease fragmentation of service development, an interdepartmental strategy between the Department of Health and the Department for Social Development was considered essential. Furthermore, review of funding and information-sharing at departmental level also featured as an area of improvement with the potential to impact within services. Whilst the focus of this work was on the older population, it was evident that the potential existed for transferability of service models and technology to other groups of people. The need for staff training to increase knowledge and skill was identified as a core parallel requirement to be developed. Furthermore, the Review of Public Administration was considered to have a significant impact on innovation and development as a result of the loss of the 'corporate memory' with considerable numbers of key staff retiring and newly-appointed staff settling into posts and establishing briefs and networks.

1.0 Introduction

1.1 Background

The United Kingdom (UK) population demographics confirm that not only are more people reaching retirement age, but also those at older ages are living longer. During 2007, the number of people above state pension age exceeded those aged under 16 for the first time ever. Furthermore, older people are the fastest-growing group in the population. In 2007, 9.8 million people were aged over 65; however, by 2032 this figure is projected to rise to 16.1 million – equivalent to almost one in four of the population. At the same time, the number of the ‘oldest old’ – people aged 85 and over – will more than double, rising from 1.3 million in 2007 to 3.1 million in 2032 (Dunnell 2008).

Longer life expectancy has created new challenges for our society, specifically around funding and providing services for an ageing population. There will be a decline in the ratio of workers to pensioners, affecting both the revenue streams of public services and the available workforce to provide care. It is anticipated that the need for healthcare services will increase, even though people are generally staying healthier for longer. Currently around 40 per cent of NHS expenditure on health and social care is spent on those aged over 65 (Dunnell 2008).

Reporting on the future costs of long-term care in the UK, the Joseph Rowntree Foundation estimates that occupied places in residential care homes, nursing homes and hospitals would need to rise from around 450,000 to around 1,130,000 by 2051: an increase of about 151 per cent. The number of home care hours would also need to increase, from around 2.0 million a week in 2000 to over 4.8 million a week in 2051: an increase of around 137 per cent (Wittenberg et al 2004).

It is generally accepted that the prevalence of illness is potentially greatest in the older age group (Help the Aged 2006) including physical disabilities, chronic illness and mental health problems. It is also recognised that older people want to remain at home as a preference to moving to institutional care provision (Croucher 2008). For older people, independence is about choice and control over their own lives. They also value interdependence – helping others as well as receiving help themselves. Good housing in safe, friendly neighbourhoods; getting out and about and keeping busy; an adequate income, good information and good access to healthcare are all considered important (Bundred 2004).

Globally, there is a growing movement promoting ‘ageing in place’ specifically for older people. Core to this concept is the view that, as people age and possibly deteriorate in terms of health and wellbeing, services should adapt to an individual’s requirements, around the person and their home environment, avoiding the need to move to different levels of healthcare provision over time. Supporting ageing in place requires ensuring that an older person has the ability to continue to live in their own home safely, independently, and comfortably, regardless of age, income, or ability level. It means living in a familiar environment, and being able to participate in family and other community activities (National Aging in Place Council 2009, Marek and Rantz 2000).

Electronic assistive technology (EAT) can contribute to support ‘ageing in place’ for older people (Beech and Roberts 2008, Mynatt 2000, Audit Commission 2004, Royal Commission on Long-Term Care 1999). Service models based on supported housing options are emerging as the preferred solution among Health and Social Care providers, helping older people remain in their communities (Barlow et al 2007).

A range of service descriptors are becoming more evident as common language when EAT is used, for example Telecare, Telehealth,

Telehealthcare. *Telecare* tends to be used for alarms and sensors which have been installed to support someone at home following the identification of certain risk scenarios. As a general rule of thumb, telecare involves remote continuous automatic monitoring of lifestyle and emergencies to help manage associated risks to independent living for some groups of people, for instance those with learning disabilities or where cognitive limitations are present.

Additionally, *Telehealth(care)* is the remote exchange of physiological data between a patient at home and medical staff at hospital to assist in diagnosis and monitoring (this could include support for people with lung function problems, diabetes, etc.) It includes (amongst other things) a home unit to measure and monitor temperature, blood pressure and other vital signs for clinical review at a remote location (for example, a hospital site) using phone lines or wireless technology (Curry et al 2003).

Both these definitions are from a service or caring perspective. Furthermore, descriptors are sometimes applied that stem from the technology or device, for instance social alarm, smart home, context-aware home, lifestyle monitoring. The language in this area is still evolving and often terms are used interchangeably.

Most recently in Northern Ireland the term 'Connected Health' has emerged specifically in use by the Department of Health to support the planned roll-out of remote monitoring of chronic disease. There is a European Centre for Connected Health based in Belfast (<http://www.eu-cch.org/index.htm>) whose function is primarily to support the vision of the Minister for Health, Michael McGimpsey, that by 2011 5,000 people in Northern Ireland with chronic conditions will have access to remote monitoring service support.

The use of EAT in Health and Social Care is an established practice. However, in recent years, information and communication technology has advanced rapidly in terms of the device development (hardware), what it can do functionally (software) and how devices connect (networking) with an increasing commercial profile which is financially competitive, with clear healthcare applications.

1.2 Northern Ireland Context

Taking account of projections regarding an ageing population, the Housing Executive in 2007 embarked on an extensive programme of research into the future housing and support needs of older people.

The overarching objective of the research was to provide a comprehensive assessment of the current provision of housing for older people in Northern Ireland, determine the adequacy of this provision, identify what new accommodation models and services are required and highlight the policy implications of the findings.

Mechanisms to enable older people to remain in their own homes were identified as a key element of the research, resulting in the commissioning of this project, the third in the series.

This paper presents the results of the study with commissioners and providers of technology-enriched supported housing options in Northern Ireland.

1.3 Scope of the study

The key objective of this study is to advance understanding of perceptions and knowledge about technology-enriched housing to support ageing in place for older people in Northern Ireland. The aim of the research is to identify the views of key decision-makers from the domains of Health and Housing from public and third sector agencies. Two methods were selected to discover views on a wide range of issues deemed relevant to the topic.

1. **Stakeholder consultation** – face-to-face interviews with key stakeholders involved in the development and implementation of supported housing options for older people. Using a semi-structured interview schedule (Appendix 1), the researcher taped all the interviews on a digital mini-disc recorder and transcribed the recordings. Following transcription, key findings within the content were achieved with the use of a thematic approach to data analysis.

2. **Electronic survey** – sent to regional housing associations, voluntary agencies, funding organisations, and health care providers (statutory and voluntary) in Northern Ireland to scope the current provision of housing options utilising EAT, funding structures and future planned developments (Appendix 2). The electronic survey was designed and piloted with a small group using an online research tool (Survey Monkey). Following the pilot and adjustments, the survey was sent by email to a total of 84 organisations. The organisational contacts were sourced from the Northern Ireland Housing Executive contacts database, the Northern Ireland Federation of Housing Associations (NIFHA) database and Health and Social Care contacts within Northern Ireland (Public Sector and Third Sector).

2.0 Key findings from the stakeholder consultation

2.1 The Role of Technology

There was consensus from all participants that technology had a role in the future provision of Health and Social Care for older people. Technology-enabled services were viewed as offering the potential to increase accessibility to services and responsiveness of services to meet the needs of local communities.

It was considered realistic that technology would be part of a service solution that is trying to cope with a changing demographic profile, reduction in skilled workforce and an increased prevalence of limiting long-term illness/disability among the general population.

In addition, the view was expressed that technology could make a positive difference to the burden on carers and also support both risk assessment and risk management of vulnerable people living at home. Technology was considered to contribute to affording individuals more control over their own lives, and to be in tandem with person-centred care.

Technology was considered to have the potential to support people across the age range and the view was expressed that often it was introduced too late in the process of receiving support. Participants considered that the introduction of technology at a much earlier stage would ease implementation of more complex technologies and prolong the independence of people at home.

The concept of 'ageing in place' was articulated as supporting people with disabilities at a much younger stage in the life journey and enabling them to remain at home for longer. A wider view of the application of technology to support people experiencing a range of dysfunction was considered feasible, for example complex physical disability, acquired brain injury and learning disability.

2.2 Mainstreaming technology-enriched services

The lack of a Northern Ireland strategy for telehealth or telecare was considered a drawback. The view was expressed that an interdepartmental (Department of Health and Department for Social Development) cross-agency strategy with key stakeholder involvement would consolidate current implementations and promote mainstreaming of services.

The lack of a strategy was viewed as a barrier to development and innovation and it was suggested that in effect it had resulted in fragmentation of services, which participants found frustrating.

Linking technology into existing services, and modernising those services, were considered to be a challenge that needed to be addressed. The development of an interagency forum/network was suggested as a sensible first step to support and stimulate innovation and implementation within Northern Ireland.

2.3 Service models

In general, the participants had an awareness of existing mainstreamed technology-enriched housing options, but lacked detailed knowledge on specific schemes. The view was expressed that there is much to be learned from the currently mainstreamed cluster-living options, in terms of designing the built environment, technology selection and care service model; for example, how to engage with service users and their families; in addition, how to support people as they relocate and sustain family engagement in the delivery of care.

Inter-agency cross-sector partnership working was considered core to development within this sector. However, this was recognised as being difficult to achieve, partly because of differing organisational cultures and operational processes. As an example, trying to share information across two agencies where computer systems are different can be very challenging.

Dissemination of good practice and resources available to support the design and development of technology-enriched services would be useful to both commissioners and providers of services. Working more in line with the paradigm of 'open innovation', promoting the free flow of ideas and innovation into and out of agencies involved in services, could possibly promote innovation in the sector and reduce the sense of 'silent' competitiveness.

There was a general awareness that to view the concept of using technology in supporting older people to live longer in their own homes as novel or innovative was in effect quite artificial. This was based on the appreciation of the vital role that technology has played for some considerable time in supporting people at home, for example the alarm alert pendants for older people and environmental control systems for people with physical disabilities. However, there was a recognition that the range of devices/networks had increased dramatically, alongside an understanding of the potential healthcare applications.

The design, scale and range of technology-enriched service options was considered significant in terms of health care for the different client groups with different needs – no one size fits all. Heterogeneity of technology and service model was considered as inevitable and indeed preferable.

2.4 Cluster housing options or dispersed living options?

Whilst all participants could see the rationale for cluster housing options at a particular point in time in the recent past, the general view was that contemporary developments should look more at sustaining people at home. Otherwise the individual may have to recreate their sense of identity linked to that sense of place.

The value of a cluster scheme could be appreciated in terms of the merit for commissioners and service providers, who could create a business model clearly defining costs and places created.

There was an acknowledgment that, whilst cluster-living options as part of new-build schemes can be advantageous in terms of the cost-effectiveness of installing technology at the time of construction, the personal impact of moving and settling into a new home – sometimes in a new area – can be detrimental to the older person.

For this reason retrofit with technology was deemed preferable, where possible. Participants thought it was not always helpful to ask individuals to move closer to the service. Always linking technology to new-builds could be construed in a negative way, requiring a move by the individual if they wanted to benefit from the technology.

Involving older people in the planning team for the design, development and delivery of the service was well described. Would this be as easy to achieve in the development of dispersed living options?

Supporting people in rural areas was identified as particularly challenging and requiring attention. The added value to the individual of being able to remain at home was held in high regard. The belief was that, as technology has moved to more mobile networks, the capacity should now be available to achieve this aim.

2.5 Workforce issues

Numerous participants commented that current developments are stimulating a cultural shift in how people expect to receive health care and also how the workforce understand their role in health care delivery.

Participants identified a conflict between the hands-on nature of staff training (i.e. significant personal contact with service users) and the changed mode of service delivery facilitated by technology. There is possibly a role for undergraduate education, and staff training undertaken within colleges of further education, to help support the change of mindset and approach.

The single assessment process for older people was recommended within the National Service Framework for Older People (2001). Incorporating assessment for technology as a core component of a single assessment process, which also considered the home environment, was suggested as having merit in terms of good practice and equity of provision (Centre for Policy on Ageing 2009).

A gap was identified in relation to the knowledge and skill of healthcare staff to manipulate and understand the technology. In addition, healthcare participants expressed concern about the capacity of information and communications technology departments to support and maintain systems.

There was an acknowledgement by all that technology should not be used as a substitute for human contact, or in any way to reduce service provision. Participants were sensitive to the issue of loneliness and isolation of older people and people with disabilities in general.

Some considered that technology for health care purposes could be used to support social inclusion, for example to connect with relatives who live remotely, to link with local community networks, or to engage in community centric activities on-line. It was considered that re-engineering services might in effect enable staff to spend longer with individuals who really needed assistance.

2.6 Procurement of Technology

Funding of technology, in terms of both capital and recurrent monies, was considered problematic and a barrier to implementation. There was agreement that there was not enough money to fund the technology in the first instance, and it was very difficult to financially support the required maintenance contracts and system upgrades. Future debate regarding which department should pay for specific items of the technology required was considered to be essential to advance clarity on this issue. Both commissioners and providers were unsure about who pays for what technology in terms of devices and networks.

It was suggested that large-scale capital projects, whilst often visionary at inception, appeared to be less so when complete, partially as a result of long time lines.

Participants expressed an awareness of a knowledge gap of commercially available technologies, provided by the NHS procurement contracts (Electronic Assistive Technology and Telecare Framework) and from independent commercial providers. They did not know what was available on the market and ready to use.

The lack of locally-based commercial vendors was considered a disadvantage to the region, albeit there was an awareness of the difficulties of stimulating a competitive market within Northern Ireland due to population size, etc.

Debate about funding options for technology was suggested as a sound foundation upon which to start considering how technology could be procured, especially within the preventative healthcare agenda. For instance, could a person with a learning disability use direct payments to purchase a system which would then be supported by the healthcare provider and integrated into the care package? Likewise, if the healthcare provider is purchasing a basic environmental control system for a person with a physical disability, is it possible that the individual could upgrade the system? An inability to resolve these issues limits personalisation¹ and choice for people. The challenge of mixing public funded health and social care with private contributions is

¹ 'Personalisation: Across Government, the shared ambition is to put people first through a radical reform of public services. It will mean that people are able to live their own lives as they wish; confident that services are of high quality, are safe and promote their own individual needs for independence, well-being, and dignity.

'This holistic approach is set out in 'Putting people first: a shared vision and commitment to the transformation of adult social care', the ministerial concordat launched on 10 December 2007.'www.dh.gov.uk

More information about 'personalisation' in the context of adult social care services is available on the following Internet website links:

http://www.dh.gov.uk/en/SocialCare/Socialcarereform/Personalisation/DH_079373

<http://www.scie.org.uk/publications/ata glance/ata glance07.asp>

See also 'SCIE [Social Care Institute for Excellence] Report 20: Personalisation: a rough guide':

<http://www.scie.org.uk/publications/reports/report20.asp>.

complex but, this complexity does not negate the need to discuss and resolve a very real issue within services.

2.7 Challenges

The Review of Public Administration was felt to have had a negative impact on service innovation within Northern Ireland. For example, providers felt that commissioning had been less forthcoming during this process. Furthermore, as the Review is nearing completion within the Health Sector, the change of staff at senior levels across the NHS organisations has had a two-fold impact. First, the 'corporate memory' of long-established working networks and relationships, inevitably, has been diminished, and second, the newly-appointed staff are settling into roles and establishing briefs.

It was suggested that, for the social new-build programme, housing standards could be written to support technology implementation, for example the integration of broadband as a core feature. The capacity would therefore exist within the housing association sector to support the transfer of data and information relevant to personalised healthcare at home.

Organisational barriers and fragmented planning as outlined above were clearly considered to be challenges to provision of services.

Telehealth is currently being delivered within Northern Ireland via the European Centre for Connected Health within the Department of Health. Some participants viewed that this provision should sit alongside telecare.

2.8 Perceived stress of technology enriched housing options

Participants were aware of the potential for the personal touch to be unintentionally lost within health and housing as efforts are made to support vulnerable people at home by integrating technology into the service.

A commitment to improve and innovate services was expressed.

3.0 Technology-Enriched Supported Housing Options Survey

A total of 22 respondents completed the on-line survey following two email shots to 84 organisations invited to participate. Two respondents failed to fully complete the questionnaire. This is a very low response rate of just over 18% and so limits the value that should be placed on the findings.

Key findings

- Responses were received from a range of agencies: health (50%), public sector housing (9%), housing providers third sector (18%) and care providers (4%); 27% of respondents did not feel they could be classified within any of these categories.
- A total of 15 of the 22 respondents considered that their organisations were currently engaged in the provision of technology-enriched supported housing options for older people. More than half of respondents (12) considered that their organisation would have plans for future developments. In some instances they considered that future developments would be in partnership with other organisations and funding from Supporting People monies was identified as a pre-requisite to facilitate development.
- All 22 respondents thought technology had a role to play in meeting the housing and care needs of older people. In contrast, only two respondents confirmed an awareness of housing options where technology is used to help older people live independently.
- All but one respondent thought that multi-agency partnerships are required to deliver technology-enriched housing solutions. The agencies specified included housing providers, health and social services, voluntary sector, Police Service Northern Ireland, Department of Employment and Learning, DARD – Neighbourhood Development, DSD Neighbourhood Renewal, Supporting People, Universities and user groups.

- The challenges to implementation in order of priority were considered to be:
 - Recurrent funding
 - Core funding
 - Acceptance of technology by older people
 - Lack of information about technology
 - Not in line with corporate plan
 - Lack of opportunity
- The survey also asked respondents to consider whether they understood a range of terms often linked to service options which integrate technology (Smart home, environmental control systems, Telecare, Telehealth, Telehealthcare and Telemedicine). The majority (between 16 and 19), felt confident that they understood the terms. However, some respondents commented:

“Are telecare and telehealth care the same thing?”

“There are so many terms used to describe each application of technology that I feel it would be useful to have a standard definition for each one to avoid confusion and misinterpretation.”

- It is interesting that six of the 22 respondents felt that it did not matter who would lead on the development work, followed by the view that housing should hold the brief. Comments were submitted which highlighted the need for partnership working and the importance of developing an agreed and shared strategy.
- One respondent offered the following comment:

“Use of assistive technology is only one resource available to service providers in helping independent living and meeting the challenges facing both providers and service users as more and more complicated needs are experienced by the population. Resources and strategic vision are essential to ensure that this need area remains high on the agendas of the statutory agencies involved in the commissioning and funding of such projects.”

A tabulation of results from the survey is in Appendix 2.

4.0 Key issues for implementation of technology-enriched supported housing options

- 4.1 Development of an interdepartmental strategy between Department of Health and Department for Social Development would decrease fragmentation of service development.
- 4.2 Dissemination across Northern Ireland of key learning points, good practice, and resources available to support design and development of technology-enriched health and social care.
- 4.3 Staff education and training are important to advance understanding of the 'caring role' within a technology-enriched health and social care service.
- 4.4 Technology implementation should be at a much earlier stage in the life journey of people with a disability.
- 4.5 The concept of ageing in place could be adopted regionally by commissioning agencies and providers of health and housing. Within this, technology could be used to support people at home.
- 4.6 Assessment for technology integration could be part of a single assessment process and based on need and not age or location.
- 4.7 The development of an interagency forum/network was suggested as a sensible first step to support and stimulate innovation and implementation within Northern Ireland.
- 4.8 Following the Review of Public Administration, inter-agency networks across all sectors would benefit from networking and building of links.

5.0 Conclusions

The work was commissioned to explore the perceptions and knowledge of key decision-makers in Northern Ireland from Health, Housing and Voluntary Sector about the integration of electronic assistive technology as technology-enriched housing to support ageing in place for older people within the region. The reality is that people are living longer and this poses very real challenges in terms of how their housing and health needs can be met. Within Health, the policy context exists for the implementation of EAT. The Department of Health in 'A Healthier Future: A Twenty Year Vision for Health and Wellbeing in Northern Ireland' (Department of Health, Social Services and Public Safety 2005a) states that,

“The next twenty years will bring an ever greater pace of change and, with that change, we will face increasingly difficult prioritisation dilemmas in the health and social services”

and that, rather than wait passively, action needs to be taken now through effective planning. A commitment is given that the impact of technology will not be restricted to medical techniques. Innovation is evident across Northern Ireland with exemplars of good practice in both technology implementation and housing design. Interdepartmental strategic leadership, financial investment and a cohesive strategy would be timely and would support the evolution of services which are essential for local communities and vital to support people outside of acute sector provision.

Appendix 1:

Format for semi-structured interviews

NIHE – electronic assistive technology and older people Interviews with stakeholders

1. Do you think technology has a role to play in the future provision of health and social care for older people?
2. Do you think supported living options can contribute to older people's care?
3. What do you think is the most effective way to achieve mainstreaming housing options which exploit technology?
4. What is required to support the delivery of technology enriched supported housing options.
5. Do you have a view on the current models within Northern Ireland?
6. What opportunities do you see?
7. What challenges do you think are present within this?
8. The challenge of mixing public funded care and private contribution to health. It is slightly easier in social care but it is most definite black and white in health.
9. What would you like to see happen in Northern Ireland in relation to technology and older peoples services?
10. Who should lead on technology enriched supported housing options?
11. What would cause you stress or anxiety as you think about technology and older people?
12. Do you think staff have the knowledge and skills to deliver what is required?
13. What is the challenge for staff?
14. Do you think older people want this type of supported living option?
15. How do you see future models being delivered?
16. Do you have a view on the commercial technology providers?
17. Is funding a hurdle?
18. Anything else you think is relevant?

Appendix 2:

Technology-Enriched Supported Housing Options On-Line Survey

Introduction to Survey

Thank you for opening this survey. It would be really helpful if you would take five minutes to complete this short online survey for the Northern Ireland Housing Executive. All responses are anonymous. Over the next decade or so, Northern Ireland (in common with other parts of the UK) is predicted to experience a major increase in both the number and proportion of older people in the population.



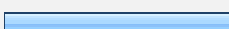

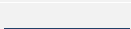
These demographic changes pose very significant challenges for those who provide services to support older people at home. In January 2007, the Northern Ireland Housing Executive's Research Unit commissioned a range of research which will explore the needs of older people in relation to enabling them to live independently in their own homes. This survey is part of that research. The focus is on the use of electronic assistive technology to support older people at home. For example the use of a pendant alarm, or the development of facilities which have a lot of technology like environmental control systems or presence sensors or pressure pads. Sometimes this is called a 'smart home' or telehealthcare.

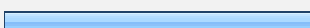
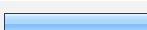
There are 10 questions in this survey.

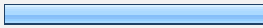
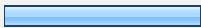
(NB: see tables overleaf for questions and details of responses.)

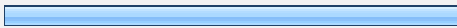
Your views are important to the results of this research. Thank you for taking the time to complete this online survey.



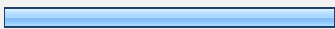
Technology enriched supported housing options

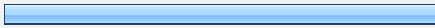

1. Please select which category best matches your organisation.			Response Percent	Response Count
Housing provider public sector			9.1%	2
Housing provider third sector			18.2%	4
DHPSS - Health care provider			50.0%	11
Care provider - voluntary sector			4.5%	1
None of the above please provide detail in the text box below			27.3%	6
Please provide information on your organisation				15
			<i>answered question</i>	22
			<i>skipped question</i>	0

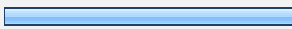
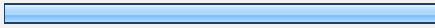
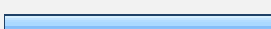

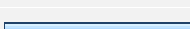
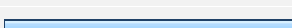

2. Is your organisation currently involved in the provision of technology enriched supported housing options for older people?			Response Percent	Response Count
Yes			68.2%	15
No			31.8%	7
Additional relevant information				11
			<i>answered question</i>	22
			<i>skipped question</i>	0

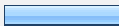

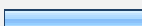

3. Are technology enriched housing options planned by your organisation in the future?			Response Percent	Response Count
Yes			57.1%	12
No			42.9%	9
Additional relevant information				0
<i>answered question</i>				21
<i>skipped question</i>				1

4. Do you think that technology has a role to play in meeting the housing and care needs of older people?			Response Percent	Response Count
Yes			100.0%	22
No			0.0%	0
Don't know			0.0%	0
<i>answered question</i>				22
<i>skipped question</i>				0

5. Are you aware of housing options where technology is used to help older people live independently?			Response Percent	Response Count
Yes			9.1%	2
No			18.2%	4
If yes please give examples			72.7%	16
<i>answered question</i>				22
<i>skipped question</i>				0

6. Do you think multiagency partnerships are required to deliver technology enriched housing options?			Response Percent	Response Count
Yes		95.5%	21	
No		4.5%	1	
If yes, which agencies could be involved?				17
			<i>answered question</i>	22
			<i>skipped question</i>	0

7. What are the challenges to developing new technology enriched service options? More than one option may be selected.			Response Percent	Response Count
Core funding		63.6%	14	
Recurrent funding		95.5%	21	
Lack of information about technology		59.1%	13	
Lack of opportunity		9.1%	2	
Staff training requirements		40.9%	9	
Acceptance by older people		63.6%	14	
Not in line with corporate strategy		13.6%	3	
Other (please specify)				8
			<i>answered question</i>	22
			<i>skipped question</i>	0

8. Which department should lead on technology enriched housing options?				
			Response Percent	Response Count
Housing		25.0%	5	
Health		15.0%	3	
Doesn't matter		30.0%	6	
Other (please specify)		30.0%	6	
			<i>answered question</i>	20
			<i>skipped question</i>	2

9. Do you understand the following terms?				
	Yes	No	Response Count	
Environmental control system	81.8% (18)	18.2% (4)	22	
Smart home	85.7% (18)	14.3% (3)	21	
Telecare	85.0% (17)	15.0% (3)	20	
Telehealth	85.7% (18)	14.3% (3)	21	
Telehealthcare	80.0% (16)	20.0% (4)	20	
Telemedicine	86.4% (19)	13.6% (3)	22	
Please provide any relevant comments on terminology			6	
			<i>answered question</i>	22
			<i>skipped question</i>	0

10. Please provide any other information which you think might help inform our work.		
		Response Count
		7
	<i>answered question</i>	7
	<i>skipped question</i>	15

Appendix 3:

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