



## Journal of Assistive Technologies

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### Article information:

To cite this document:

Andrea Wigfield Katy Wright Elizabeth Burtney Diane Buddery , (2013), "Assisted Living Technology in social care: workforce development implications", Journal of Assistive Technologies, Vol. 7 Iss 4 pp. 204 - 218

Permanent link to this document:

<http://dx.doi.org/10.1108/JAT-01-2013-0001>

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## Assisted Living Technology in social care: workforce development implications

Andrea Wigfield, Katy Wright, Elizabeth Burtney and Diane Buddery

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### Abstract

**Purpose** – *The purpose of this paper is to look at the implications of the increasing use of Assisted Living Technology in the social care sector and to assess the implications for the workforce in terms of job roles, skills, knowledge, training, and support.*

**Design/methodology/approach** – *A mixed methods approach was used, through a quantitative electronic survey of staff working in social care (as well as some health care) organisations in England, and three qualitative case studies of local authorities.*

**Findings** – *The research shows that the organisations involved in delivering Assisted Living Technology, the types of Assisted Living Technology being introduced, and the way in which it is being delivered, have implications for job roles and the skills and knowledge needed by staff. The associated training and workforce development similarly varies across the social care sector; it is ad hoc, disparate, and provided primarily by individual employers or by suppliers and manufacturers.*

**Research limitations/implications** – *There is a need for a standardised Assisted Living Technology workforce development approach which can be used across the social care sector.*

**Practical implications** – *The varied nature of Assisted Living Technology providers and delivery models presents a challenge to the development and implementation of a standardised programme of workforce development.*

**Originality/value** – *This paper presents the results of new empirical research arising from a quantitative and qualitative study of the workforce development implications of Assisted Living Technology in the English social care sector.*

**Keywords** *Training, Social care, Telecare, Assisted Living Technology, Telehealth, Workforce development*

**Paper type** *Research paper*

The authors would like to thank all those who took time to complete the survey, and staff at the three case study local authorities who generously gave their time to be interviewed. They would also like to thank Jerome Billeter and Jeromy Porteus for their support in publicising the survey link. Their thanks extend to researchers, Dr Gary Fry, Dr Christina Buse, and Dr Sian Moore for their involvement in the empirical research. The research could not have been carried out without funding from Skills for Care.

### 1. Introduction

It is well documented that the population of the UK is ageing, with the Department of Health (DH) predicting that the number of people aged over 65 will increase by 51 per cent between 2010 and 2030, whilst those aged over 85 are expected to double in the same period (Jowit, 2013). As people live longer, the latter part of their lives is often affected by long-term ill health and disabilities (Victor, 2006) and this inevitably has an impact on the social and health care provision required (Bardsley *et al.*, 2011), with growing numbers of people in need of care. Much of this care is currently provided by unpaid carers, numbers of whom have increased, between 2001 and 2011, at a faster pace than the overall population growth in England and Wales (White, 2013). Indeed, the estimated number of carers in England has increased from 4.9 million in 2001 to 5.4 million in 2011 (White, 2013). However, it is increasingly being recognised that technology also has a role to play in meeting the care needs of people, including older and disabled people, helping them to retain independence, gain greater control over their own lives, and promote quality of life at home.

This paper draws on evidence from two pieces of research (Wigfield *et al.*, 2012; Wigfield and Wright, 2012) commissioned by Skills for Care (SfC) which explore the development needs of

the social care workforce who are working with Assisted Living Technology in people's homes, with a particular focus on telecare. Section 2 provides some background information including discussions of definitions of key terms and concepts; Section 3 outlines the methods used and the evidence base drawn upon; Section 4 examines the different ways in which Assisted Living Technology is delivered in the social care sector; Section 5 looks at the impact of Assisted Living Technology on the social care sector workforce in terms of job roles, skills, and knowledge; Section 6 examines the resulting workforce development requirements and the extent to which these requirements are currently being met; and the final section concludes with a discussion about the measures that could be put into place to support the social care workforce to engage with Assisted Living Technology, thereby maximising the benefits to the user.

## 2. Background

Various research and policy reports which discuss the use of technology in social care refer to a myriad of terms such as Assistive Technology, Assisted Living Technology, telecare, telehealth, and these different terms are often used interchangeably. Research into the use of technology within the social care sector therefore inevitably leads to discussions about terminology and language. This section of the paper outlines existing definitions, and summarises our interpretation of Assisted Living Technology, a term that we use throughout our research.

The term Assistive Technology is commonly used in social care provision and a number of definitions of this concept have been developed, particularly during the last four decades. A definition of Assistive Technology which is commonly cited and first appeared in the USA with reference to the "technology-related assistance of individuals with disabilities act of 1988" is "any item, piece of equipment, or product system, whether acquired commercially or the shelf, modified, or customised, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (Scherer, 2002, p. 1). Marshall (2000) cites a very similar definition, whilst the World Health Organisation (WHO) has defined Assistive Technology as, "an umbrella term for any device or system that allows individuals to perform tasks they would otherwise be unable to do or increases the ease and safety with which tasks can be performed". The WHO definition of Assistive Technology has also been adopted by The Royal Commission on Long-Term Care (Cash, 2003, p. 313). Meanwhile a user group consultation in the UK organised by the King's Fund in 2001 defined Assistive Technology as "any product or service designed to enable independence for disabled and older people", a definition which is utilised by The Foundation for Assistive Technology (FAST) (FAST, 2005, 2007).

Assistive Technology is often used in different sectors to refer to specific types of equipment and products, for example, in education it is associated with products and services which assist learning such as computers, communication aids, and digital learning aids. Whereas, in social and health care, the term Assistive Technology is often used to refer to telecare and telehealth applications. However, in essence Assistive Technology is a broad term which covers a whole range of different types of equipment and products across a range of different sectors. As far back as 2001 in the USA, for example, 27,000 Assistive Technology products were listed on ABLEDATA, an Assistive Technology product database sponsored by the Institute on Disability and Rehabilitation Research, US Department of Education (Scherer, 2002).

Although the term Assistive Technology is sometimes used narrowly in social care to refer to telecare services only, as Lewin *et al.* (2010) helpfully point out, the use of Assistive Technology in this sector encompasses three key services: telecare and telehealth installed in the homes of those needing health and/or social care support to enable them to live longer at home and in their communities; digital participation services designed to educate, entertain, and stimulate social interaction to enrich the lives of people in need of social support living at home; and wellness services to encourage people to adopt and maintain a healthy lifestyle, to help prevent or delay the need for additional health and/or social care support. SfC, the sector skills council which provides guidance and support on training standards and workforce development needs for adult social care staff in England, refer to this tripartite collection of services as Assisted Living Technology (Lewin *et al.*, 2010). The research outlined in this

paper utilises the SfC definition of Assisted Living Technology and explores the impact on the social care workforce.

The first component of the SfC definition of Assisted Living Technology, in particular the telecare element, is growing in use in the social care sector. Cash (2003, p. 315) notes that telecare has been defined as “the remote or enhanced delivery of health and social care services to people in their own home by means of telecommunications and computer-based systems”.

The Social Care Institute for Excellence utilises the following DH definition of telecare, “Equipment provided to support the individual in their home and tailored to meet their needs. It can be as simple as the basic community alarm service, able to respond in an emergency and provide regular contact by telephone” (DH, 2005, p. 8).

It has been proposed (Scottish Government Joint Investment Team, 2010) that telecare falls into three distinct generations of development. First-generation systems are linked to community alarm systems. Second-generation systems grew out of the community alarms systems and are based on lifestyle monitoring, whereby sensors “learn” an individual’s routine and use this information to trigger a response when changes are detected. This includes sensors for hazards such as smoke, flood, and carbon monoxide. Third-generation systems aim to add another dimension through the adaptation of broadband, wireless, and audio-visual technology, and contribute to the quality of life of the user by offering teleservices that could include: real-time consultations with medical professionals; interactive exercise; banking; and shopping.

The growth of telecare use in the UK is demonstrated by evidence from the Telecare Services Association which estimates that 1.7 million people use telecare in the UK (Telecare Services Association, 2012) including older people, people with physical disabilities and cognitive impairments (including dementia), and people supported by community mental health teams. This growth can partly be explained by the increasing acceptance that technology has an important role in everyday life, but can also be attributed to a response in policy trends directed at supporting the ageing population, including self-directed support and personalisation, self-care, early intervention, and preventative action and re-ablement.

The opportunities for technology to facilitate independence have been recognised for a number of years and successive UK governments have supported the wider use of technology, in particular telecare, in private households. As far back as 1998 an NHS report, *An Information Strategy for the Modern NHS 1998-2005*, noted:

Telecare technology will be used to provide a reliable but unobtrusive supervision of vulnerable people who want to sustain an independent life in their own home (DH, 1998, p. 15).

In the last decade the DH set “ambitious targets for telecare to be available in all homes that need it by December 2010” (Audit Commission, 2004, p. 4), and also produced a policy document, “Building telecare in England”, which set out guidelines to inform local authorities of the resources, systems, and procedures necessary to implement telecare effectively (DH, 2005). The importance of telecare for carers, as well as service users, was highlighted in the national carers’ strategies (HMG, 1999, 2008, 2010), and the significance of telecare was also acknowledged in the key policy documents *Putting People First* (HMG, 2007) and “Shaping the future of care together” (HMG, 2009).

Several government-funded programmes have also been introduced to encourage the use of Assisted Living Technology generally, and telecare specifically. The Preventative Technology Grant provided £80 million of pump-prime funding between 2006 and 2008 to support local authorities to develop telecare initiatives in partnership with other agencies in the voluntary, health, and housing sectors (DH, 2006). While funding to support research and development has been injected through The Whole System Demonstrator (WSD) programme, and the DALLAS programme (Delivering Assisted Living Lifestyles at Scale). WSD was designed primarily to strengthen the evidence base about telecare and telehealth and operated in three integrated health and social care sites (Newham, Kent, and Cornwall) between 2008 and 2010, aiming to benefit 6,000 service users, 660 carers, and to be the “largest randomised control trial of telehealth and telecare in the world” (DH, 2008, 2011). DALLAS, more recently introduced,

represents a £37 million investment (£25 million of which is government funding) to establish four consortia-led initiatives in the UK. The programme aims to recruit 40,000 people and to demonstrate how Assisted Living Technology can be used to “promote well-being, and provide top quality health and care, enabling people to live independently” (Technology Strategy Board, 2011, p. 1). The current coalition government has also initiated “3million lives”, a strategy intended to enhance the lives of three million people over the next five years by accelerating the roll-out of telehealth and telecare through the NHS and social care, by working with industry (DH, 2012a).

Policy research in the UK (FAST, 2005, 2007; SfC, 2011) confirm findings from US academics (Committee on the Future Health Care Workforce for Older Americans, 2008; Stone *et al.*, 2004; Stone, 2007) of the need for a greater understanding of the learning and development needs of the workforce involved in the delivery of Assisted Living Technology. In the health and social care sectors, for example, it is suggested (including in the recent White Paper on social care reform) that the growing use of Assisted Living Technology, particularly through telecare, requires a corresponding growth in appropriate workforce development and training (DH, 2009; SfC, 2011; HMG, 2012). Some Assisted Living Technology funded initiatives in these sectors do provide support for workforce development, such as: the Assistive Living Innovation Platform and the National Catalogue of Equipment for Independent Daily Living (DH, 2012b). The previously mentioned WSD and 3million lives initiatives are also contributing to intelligence on workforce development support (Cruikshank *et al.*, 2013; Giordano *et al.*, 2011). SfC is also enabling developmental work in this area to facilitate workforce development in England through the establishment of an on-line learning and development hub, which is supported by a framework and practical resources for use at both organisational and individual levels. This has been complemented recently by funding provided to SfC and Development by the Employer Investment Fund for the development of a UK-wide workforce strategy, and to support development of knowledge and skills sets. This work is due to report in March 2015.

Cross-sectoral research outlined in two FAST reports (FAST, 2005, 2007) states that “the Assistive Technology workforce” is fragmented, made up of “practitioners with diverse roles and disciplines working within a range of service provider organisations in statutory, third and private sectors” (Fast, 2007, p. 5). Both these reports suggest that there is a need for the creation of a broad workforce development strategy, incorporating a skills and career framework through a National Occupational Standards Framework in “Assistive Technology” which can be applied across all sectors. Evidence in support of this approach is drawn from a variety of sources, including a survey of 81 health, education, and social care practitioners, incorporating public, private, and voluntary sector members of staff (FAST, 2005, 2007).

The FAST reports recognise that, given the fragmented nature of the “Assistive Technology” workforce, both across the different sectors and within specific sectors such as social care, the development of a standardised workforce development framework presents a number of challenges. The remainder of this paper seeks to explore the nature of the existing workforce development support in social care for practitioners working with Assisted Living Technology in general, and telecare in particular, and to highlight possible policy responses, including the appropriateness of a standardised workforce development framework within social care.

### 3. Methods: the evidence base

This paper draws on evidence from two separate but interlinked pieces of research commissioned from the University of Leeds by SfC: qualitative case studies of three local authorities currently delivering Assisted Living Technology, particularly telecare, in social care, in England; followed by a national quantitative electronic survey of health and social care sector staff working with different types of Assisted Living Technology (including but not exclusively telecare) in a range of organisations across England. The case study research focused primarily on telecare services offered by local authorities, while the survey was designed to assess how applicable the findings from the three case study local authorities were nationally both to other local authorities and to other (non-local authority) providers, as well as to the delivery of Assistive Living Technologies more generally (i.e. beyond telecare provision). The SfC

definition of Assisted Living Technology, discussed earlier (telecare and telehealth; digital participation services; and wellness services) was used for the purpose of the empirical data collection, although as the three local authority case studies were predominantly delivering one specific component of this – telecare – it is this component which is primarily discussed in the qualitative research findings.

### *Case studies of local authorities*

Qualitative case studies of three English local authorities currently delivering Assisted Living Technology (predominantly but not exclusively telecare services) were conducted. Sfc area team staff approached local authorities on behalf of the research team to identify interested parties to be put forward for inclusion in case study selection. This resulted in 11 expressions of interest from local authorities, all of which were invited to share further details of their service via a short on-line questionnaire. Five completed questionnaires were received, from which three local authorities were selected to form case studies, based on certain key characteristics (see Table I). Primarily the case studies were selected as they: offered different approaches to delivering telecare; had a relatively large number of telecare service users; represented local authorities of differing geographical communities, including rural and urban localities; each adopted differing approaches to workforce learning and development in this field. However, it must be pointed out that the local authorities selected were not designed to be representative of all local authorities, rather they enabled an examination of different contexts, delivery models, and approaches.

In-depth semi-structured interviews were carried out with key personnel in each local authority case study. Interview questions were designed by the research team in collaboration with Sfc. Documentary analysis was also undertaken which involved collecting and analysing documents and reports relevant to Assisted Living Technology (including telecare) delivery in each local authority. Our aim was to carry out ten interviews in each local authority, however, we were reliant

**Table I** Characteristics of the local authority case studies

	<i>Local authority a</i>	<i>Local authority b</i>	<i>Local authority c</i>
Type of local authority	Metropolitan district	County council	London Borough
Region	West Midlands	South east	London
Urban/rural	Urban	Rural/urban	Urban
Estimated population	291,000	1,480,200	303,100
Focus of Assisted Living Technology in case study visits	Various telecare products; some pilot telehealth systems	Telecare and telehealth	Telecare, pilot electronic medication dispensers, telehealth through local health providers
Approximate date service established	1992 (initially Community alarms) 2001 telecare service	2004 (telecare pilot)	Initially through community alarms a number of years ago, extended in 2004 and 2006
Approximate number of (telecare) clients	4,500	1,200	1,270
Service delivery approach	Separate dedicated telecare unit within Adult and Community Services with dedicated team of staff. All telecare services provided "in-house" except monitoring and response (offered by an Arms Length Management Organisation)	Telecare delivered by health and social care professionals dispersed across different council functions Service delivered in-house	Telecare delivered by health and social care professionals dispersed across different council functions Management through ALT team based in adult care services; externally employed ALT coordinator; installation, maintenance and review is subcontracted
Current telecare staff training	Full six week induction. Trusted assessor	Half-day telecare training session	Induction and awareness training (2/3 h session)
Promotion and marketing	Dedicated Awareness and Publicity Officer. Marketing strategies include leaflets, webpage, newspaper coverage and posters	Web site and internal communications	Internal publicity through leaflet, external information events and poster campaign

upon the local authorities to provide us with a representative selection of interviewees and, as a result, the numbers interviewed varied slightly. In total, 32 face-to-face interviews were carried out (nine in case study a, ten in case study b, and 13 in case study c). Each interview lasted between 45 minutes and two hours, averaging one hour. The job roles of interviewees included: commissioners; service managers; care managers; social workers; Assistive Technology coordinators; trainers; assessors; occupation therapy consultants; care workers; equipment providers; technicians/installers; and monitoring staff.

#### *A national survey of social care staff*

To assess the extent to which the experiences in the case study local authorities are replicated across other local authorities and social and health care organisations, and to the delivery of Assisted Living Technology more generally, an on-line survey was developed. The survey questions were informed by the findings of the case study research and designed by the research team in collaboration with SfC. The on-line link to the survey was distributed to a target sample of 310 named contacts, identified by contacting various organisations and agencies. The lead for "Assistive Technology" or equivalent was contacted in all local authorities in England and these leads often provided contact details for other organisations, in the locality, who were involved in providing Assisted Living Technology.

The Telecare Association web site additionally enabled us to identify a broad range of relevant contacts from different types of organisations, including local authorities, registered social landlords, private sector providers, technology suppliers, and infrastructure providers. The target sample included staff working in local authorities, housing and health agencies, voluntary sector organisations, and private companies. Recipients of the survey link were asked to forward the link to relevant colleagues and/or distribute it amongst the workforce in their organisation. The survey was also publicised in relevant e-newsletters and web sites, including the telecare LIN newsletter and the SfC and Skills for Health web sites.

E-mail reminders were sent to the database of named contacts two weeks after initial contact was made, following which telephone calls were made to encourage further responses. In total, 254 completed questionnaires were received. As it is not clear how many people saw the publicity for the survey or how many individuals the survey link was forwarded to, it has not been possible to calculate this figure as a response rate.

#### **4. Delivery of Assisted Living Technology in social care**

The results of the electronic survey showed that a range of different types of social (and health) care providers are delivering Assisted Living Technology, in particular telecare, in the homes of people in need of care support, including: local authorities; voluntary, community, and faith (VCF) organisations; housing organisations; health authorities/primary care trusts (which have subsequently been succeeded by clinical commissioning groups; and private and commercial providers.

The organisations surveyed mainly pointed to the provision of telecare services and these included: first-generation technologies such as community alarm services, push button, pull cord or pendant alarms, smoke alarms, and flood detectors; second-generation technologies such as sensors monitoring the home environment, vital signs, physiological measures, and lifestyle; and third-generation technologies which encompass broadband, wireless, and audio-visual technology, virtual or tele-consultation with health and/or support workers. The newest third-generation technologies can allow virtual or tele-consultations between the health/social care staff and the service user, alleviating the need for hospital appointments or home visits, and this kind of technology appears to be more prevalent where telecare is offered alongside telehealth, and where the provision of these two services is more integrated.

The survey results demonstrated some variation in the kinds of telecare services offered according to the type of care provider. Local authorities and private sector providers appear to have been more experimental and innovative in terms of their telecare provision in comparison to VCF and housing organisations. Many more local authorities and private providers, for example,

have started to move towards the provision of newer second- and third-generation technologies. Indeed, 35 per cent of the commercial and private providers surveyed offer third-generation telecare, the comparable figure for the organisations surveyed overall being just over a fifth (22 per cent). Local authorities and health agencies are more likely to be providing second-generation telecare, with housing and VCF organisations most likely to be providing first-generation telecare only. This evidence, from the national survey, replicated the findings of the three case study local authorities all of which were providing both first- and second-generation telecare, but also indicated that they were moving towards the use of third-generation technologies.

The kinds of Assisted Living Technology provided, the organisations responsible for delivering it, and the delivery models used in the social care sector, have implications for the skills, knowledge, training, and support needed by social care staff. Both the case study evidence and the survey findings demonstrated that Assisted Living Technology, in general, and telecare, in particular, is being delivered in differing ways both within different local authorities and across the range of social (and health) care providers.

As indicated in Table I, the delivery models in the three local authority case studies were varied and our in-depth research in these organisations allowed us to explore the delivery models in some detail. Although all three local authorities were moving towards mainstreaming telecare provision they were currently providing their services in quite different ways, which in turn had varied implications for workforce skills, training, and development. One local authority, case study a (Table I), delivered telecare through a separate specialist unit and had a dedicated team of staff who provided telecare, with all services except monitoring and response (which were offered by an Arms Length Management Organisation) being provided “in-house”. In contrast, telecare was delivered in the other two local authorities by teams of social care and health professionals dispersed across the different council functions and departments. This variation in delivery models has implications for the way in which social care staff are involved in the key delivery processes of: referral; assessment; installation; monitoring; and response, which is discussed in Section 5.

Contrasting approaches to delivery were also found in the national survey. Respondents were asked how Assisted Living Technology (including telecare and telehealth; digital participation services; and wellness services) were delivered by their organisation, and just over a third (36 per cent) stated that the organisations that they work for deliver the full range of Assisted Living Technology themselves, while others (32 per cent of those surveyed) deliver some parts of the service and commission out other elements. A smaller number (17 per cent of those surveyed) commission all Assisted Living Technology from other organisations, and do not provide any directly themselves. A significant minority of the survey respondents (15 per cent) did not know how Assisted Living Technology was delivered by their organisation. This lack of knowledge indicates that the delivery models can be complex and that not all staff involved in the different elements are fully aware of service delivery structures. There were no significant correlations between the job roles and those who did not know how Assisted Living Technology was delivered in their organisation.

## 5. Assisted Living Technology, job roles, skills, and workforce development

Evidence from the case study research, which focused primarily on telecare services, showed that specialist telecare jobs roles had emerged, and at the same time existing job roles had been widened to incorporate telecare-specific tasks. This pattern was replicated in the findings of the survey in which respondents were asked to identify the different kinds of Assisted Living Technology related tasks that they undertake. The survey findings showed that a broad range of different job roles within care provision now involve the use of different kinds of Assisted Living Technology, including telecare. These roles included new specialist roles such as specialist assessors and installers, as well as more traditional health and social care roles which had started to incorporate interaction with Assisted Living Technology to some extent. Evidence from the in-depth qualitative case studies further indicated that as some types of Assisted Living Technology, for example, telecare, become mainstreamed and more closely integrated into existing health and social care provision, there can be a tendency for new specialist roles to be



replaced by a widening of existing roles. Indeed, this was reported to have occurred in one of the local authority case studies.

There are on-going debates about the advantages and drawbacks of the development of specialist roles rather than Assisted Living Technology being another tool in the mix of approaches to promote independence, and some of the key points of consideration in these debates are summarised in Table II.

When deciding whether to retain a specialist focus or train assessment staff in Assisted Living Technology a number of local factors are often also taken into consideration, such as capacity, history, commissioning arrangements, and approach to broader integration of services. Nevertheless across local authorities there is a movement towards awareness raising to ensure staff at different levels are aware of the use of Assisted Living Technology and possibilities for individuals.

Within the survey we explored the kinds of Assisted Living Technology related tasks that were undertaken by the respondents (Table III) and promotion and awareness raising of different kinds of Assisted Living Technology amongst fellow work colleagues, as well as amongst service users and their families and carers, appeared to be the most common task carried out by the workforce surveyed. Indeed, just under half of the survey respondents suggested

**Table II** Summary of key advantages and disadvantages of specialist Assisted Living Technology roles

<i>Advantages</i>	<i>Disadvantages</i>
Can lead to a more strategic approach	Capacity may be limited if everything is channelled into this role
Offers ability to build up greater specialist knowledge	Potential for bottleneck in system
Can lead to a better understanding of integration of systems	Potential for lack of ownership by non-specialist staff. ALT continues to be seen as the role of "others" and not part of mainstream provision
Provision of a single point of contact for expertise, help and support	Risks to the organisation of the specialist person/s with all the knowledge leaving ALT does not become "normalized" into the assessment process Wider workforce development remains limited in this area

**Table III** Tasks carried out by survey respondents in relation to delivery of Assisted Living Technology

<i>Tasks carried out</i>	<i>Number</i>	<i>%<sup>a</sup></i>
Promotion and awareness raising amongst the workforce	116	46
Promotion and awareness raising amongst service users and their families	112	44
Providing learning and support to the workforce	86	34
Assessment for ALT	71	28
Support for service users, families and carers to use ALT	68	27
Referral to ALS	63	25
Installation of ALT	58	23
Maintenance of ALT	48	19
Commissioning of ALS	48	19
Responding to emergency situations linked to ALT	35	14
Monitoring and call handling	30	12
Other	20	8
Base number of respondents	254	

Note: <sup>a</sup>Respondents were able to select more than one answer and therefore percentages do not add up to 100

that they now carry out these tasks. The provision of learning and support for work colleagues in relation to Assisted Living Technology was additionally mentioned as an activity that over a third of the survey respondents carry out. The importance of promotion and awareness raising was also highlighted in the case study research, where these tasks were widely carried out on a continuous basis to ensure the effective integration of Assisted Living Technology, in particular telecare, in health and social care provision. The fact that promotion and awareness raising of Assisted Living Technology, and workforce learning and support, form a key part of staff roles across the organisations studied indicates that there is a continued need for workforce development and culture change to embrace the use of different types of Assisted Living Technology, within the provider organisations. It would be expected, however, that overtime the requirement for workforce development and awareness raising and marketing will lessen as knowledge and use of different kinds of Assisted Living Technology becomes more widespread. Nevertheless, some awareness raising and promotional activities will inevitably continue to be required as technological advancements lead to new and changing products and equipment.

Other Assisted Living Technology related tasks carried out by the survey respondents covered the key delivery processes that were mentioned earlier (assessment, referral, installation, maintenance, monitoring, and response), with between a fifth and just over a quarter of the survey respondents carrying out each of these tasks. However, the way in which these tasks are carried out and the resulting implications for the skills required by the workforce are determined by the different models of delivery being used. Our case study research allowed us to explore some of these issues in detail.

In one of the case study local authorities (case study a), as mentioned in Section 3, a specialist telecare unit had been established with dedicated staff and here the key processes (assessment, referral, installation, maintenance, monitoring, and response) were delivered by staff as separate “telecare” functions. This, in turn, meant that some processes relied on staff having specialist telecare skills. This was particularly evident in the assessment process where specialist telecare assessors, who are provided with a specific assessor training programme, are employed. This can be contrasted to the two other case study local authorities where generic social care assessors, who are required to assess for telecare as one component of the assessment process, are utilised. The use of staff with specialist skills, such as the specialist telecare assessors, in case study a was seen as beneficial by many of those who were interviewed in the local authority. They indicated that staff had expertise and interest in differing technologies and were often able to drive further technological change in service provision. However, at the same time there was some evidence to suggest that the use of staff in these kinds of specialist roles could lead to a lack of ownership and interest in telecare amongst the non-specialist staff. It was pointed out by some interviewees in case study a that this meant that non-specialist staff were sometimes less willing to promote the use of telecare and this, in turn, could hinder the required culture change for telecare to be mainstreamed.

One of the other local authorities, case study c, had adopted a more “holistic” approach to the assessment process. In this local authority, assessment is undertaken by all case workers, social workers, and occupational therapists rather than delivered as a dedicated service that requires needs assessments by staff with specialist expertise in telecare. This approach means that all staff are encouraged to take ownership of, and consider, telecare as an option and this was seen by those interviewed as a way in which cultural change, in terms of staff attitudes towards telecare and other forms of Assisted Living Technology, could be facilitated. However, it was also stated by some interviewees in case study c that the absence of a requirement for these more “generic assessors” to have specialist telecare knowledge can lead to inappropriate assessments, which in turn can lead to inappropriate telecare being introduced into homes. It is therefore important that if generic assessors such as those used in case study c are to be utilised as opposed to the specialist ones used in case study a, appropriate workforce development and support relating to telecare or other forms of Assisted Living Technology is required.

Evidence from the survey research did in fact highlight the significance of workforce skills, development, and support in relation to Assisted Living Technology more generally, with 32 per cent of the survey respondents stating that the knowledge and skills of the workforce is a potential limitation or gap in maximising the impact of Assisted Living Technology.

Furthermore, 36 per cent of managers and commissioners who completed the survey said that staff did not have enough Assisted Living Technology related learning and support, or adequate knowledge to deliver Assisted Living Technology to achieve maximum benefits for the organisation, and 34 per cent of managers and commissioners said that the workforce did not have adequate skills to achieve maximum benefits for the organisation.

When asked to rate their own level of knowledge of Assisted Living Technology, survey respondents were unsurprisingly more positive and although most felt themselves to be knowledgeable about the range of Assisted Living Technology available, a significant minority (just over a fifth) stated that, despite working with Assisted Living Technology, they have little knowledge of it (Table IV).

Furthermore, although the majority (89 per cent) felt they were adequately or highly skilled for their role in relation to Assisted Living Technology in the workplace, a significant minority (11 per cent) said that they had few or no relevant Assisted Living Technology skills.

Those survey respondents who were working in more general social care roles – such as occupational therapists and social workers – were more likely to give a low rating to their skills and knowledge of Assisted Living Technology, whilst those in more specialised roles – such as telecare and telehealth assessors and equipment installers – were more likely to rate their knowledge and skills of Assisted Living Technology highly. This may be in part explained by the fact that those working in specialist roles were more likely to have formal Assisted Living Technology qualifications than those in more generic care roles, or those in commissioning roles. Indeed, a large majority (89 per cent) of all survey respondents did not have any Assisted Living Technology qualifications (Table V).

Interestingly our research, in both the case study local authorities and through the electronic survey, showed that technical and IT skills were not necessarily seen as very important for the delivery of Assisted Living Technology generally, or telecare specifically. Survey respondents rated both technical and IT skills as less important than observational, communication, listening skills, or the ability to match the most appropriate kinds of Assisted Living Technology to clients' needs and their living environment (Table VI). When asked specifically about telecare, similar views were expressed by case study interviewees, who regarded specialist technical expertise as important, but had a general perception that all telecare-related roles also require general knowledge about the people using the service and their vulnerability, as well as wider social and communication skills. As one case study interviewee (a technician) explained:

You've got to have some sort of technical knowledge, but you've also got to have empathy – you're going into people's properties that are in some cases distraught – I mean I've had ladies crying over me, just on the basis that they are dealing with someone whose got dementia in their family and they don't know how to cope with it.

**Table IV** Survey respondents own rating of their knowledge of Assisted Living Technology

<i>Level of knowledge</i>	<i>Number</i>	<i>%</i>
I am very knowledgeable	46	29
I am quite knowledgeable	79	50
I have a little knowledge	34	21
Total	159	100

**Table V** Proportion of survey respondents with Assisted Living Technology specific qualifications

<i>Qualifications</i>	<i>Number</i>	<i>%</i>
Yes I have a qualification	15	9
I am currently completing a qualification	2	1
No I have no qualifications	143	89
Total	160	99

**Table VI** Skills necessary for working with Assisted Living Technology according to survey respondents

<i>Skills</i>	<i>Respondents rating skill as "very important" (%)</i>
The ability to listen and communicate effectively with service users	135 (85)
Knowledge of the range of technology available	132 (83)
Skills in matching equipment to users' needs and home environment	119 (75)
Knowledge and skills to promote independence	110 (70)

Both the case study and survey findings support the need for social care staff engaging with Assisted Living Technology generally, and telecare specifically, to have both technical and social skills. Survey respondents and case study interviewees suggested there is a growing requirement for technical staff to gain wider social and communication skills and for social and care workers to gain greater technical knowledge and awareness.

Given the evident need for the social care workforce to have strong technical and social skills when engaging with Assisted Living Technology generally, and telecare specifically, the availability of workforce development and support in both these areas is of paramount importance. However, evidence from both the case study local authorities and the survey showed that nearly all the Assisted Living Technology specific (including telecare) training provided was offered on a voluntary basis.

Just over two-fifths (41 per cent) of the survey respondents had participated in mandatory training, but the majority of this mandatory training was not specifically focused on Assisted Living Technology, instead it tended to cover more generic issues such as health and safety; safeguarding; working with vulnerable adults; and training on specific health conditions. Furthermore, it is evident from the case studies and survey findings that training provision is not consistent across local authorities or other Assisted Living Technology providers, with the availability of training, the mode of delivery, and its content, varying in the different providers surveyed.

Telecare-specific induction training was seen by local authority staff in the case studies as the most useful kind of telecare training. This type of training included, for example: introducing participants to the basics of telecare; its purpose; how it can be used; and in what circumstances. Telecare-specific induction training was viewed as particularly effective when it was supplemented by a combination of both on-the-job support (including regular equipment demonstrations and "hands-on" support) and off-the-job specialist training. Case study interviewees also spoke of the importance of Assisted Living Technology specific induction training more generally. Nevertheless, despite the perceived importance of these kinds of training approaches, only 19 per cent of survey respondents stated that they had been provided with any kind of Assisted Living Technology specific induction training (including telecare specific) and although they had sometimes attended on-the-job training, off-the-job training was less likely to be available in many social care providers.

Much of the training that the care workforce who responded to the electronic survey had participated in was provided by Assisted Living Technology (including telecare) suppliers and employers, with 69 and 55 per cent, respectively, of the survey respondents stating that they had attended training offered by these providers. However, as the evidence from our case study research showed, supplier-led training was not necessarily always seen as the most appropriate, it was seen by some case study interviewees as rather limited in scope, and "too market orientated" focusing on specific pieces of (supplier provided) equipment only. Staff seemed both unaware of existing university and college training provision and unlikely to access it, with only 18 per cent of the survey respondents undertaking such training. This may be explained by the time commitment required being too great for many organisations and by a general lack of support for the workforce to access this kind of training.

Given this apparent mis-match between what the survey respondents and case study interviewees said was important in terms of the type and nature of the training provision and that

which is currently provided, it is hardly surprising that the current training opportunities were rated as poor by nearly a quarter of the survey respondents. They also felt that Assisted Living Technology training in general could be improved by providing knowledge which more directly related to individuals' job roles, and by providing a broader range of competency-based training. There was an additional perception amongst the interviewees (both case study and survey respondents) that workforce support could be improved further by the provision of standardised competency-based training leading to accreditation or a qualification and specific short workshops for staff involved in working with different types of Assisted Living Technology. However, given the research findings presented in this paper, which demonstrate the variety of the different technologies, delivery models, and staff roles involved in the delivery of different kinds of Assisted Living Technology, in the social care sector, the development of a standardised Assisted Living Technology training course would clearly present a challenge. This is something which has been noted by FAST in the context of a cross-sector standardised competency framework (2005, 2007).

## 6. Conclusions: ways forward for workforce development and Assisted Living Technology in social care

It would appear from the research that there is no coherent, accessible approach to the development of the workforce in this field. Whilst the use of Assisted Living Technology has grown, there has been no consistent parallel growth in the development of staff. There is therefore a need for a learning framework that outlines the needs and thus the pathways for development of this workforce group.

Assisted Living Technologies are increasingly being offered by health and social care providers in England to help individuals in need of support to maintain their independence and quality of life at home. This growth has been supported by successive governments which is reflected in various official documents and reports, as well as through funded programmes such as the WSD, 3million lives, and DALLAS. However, as the evidence from our research has demonstrated: the kinds of organisations involved in delivering Assisted Living Technology; the types of Assisted Living Technology being introduced; the way in which the technology is delivered; the implications for job roles and the skills and knowledge needed by staff who are engaged with Assisted Living Technology; and the associated training and workforce development support vary enormously across the social care sector.

Organisations involved in delivering Assisted Living Technology in the homes of people who need health and social care support include local authorities; VCF organisations; housing organisations; health agencies; and private and commercial providers, and the kinds of Assisted Living Technology that they have introduced varies substantially. Moreover, even where the same kinds of organisations have been examined and similar kinds of technologies are being offered, our research has found that there are large variations in the delivery models being used, which clearly has implications for the way in which social care staff interact with the technologies and the levels of training and support that they require.

The differing ways in which Assisted Living Technology is delivered within organisations can be reflective of the extent to which its provision has been integrated and mainstreamed into wider health and social care provision. Within the local authority case studies, for example, there is an example of a separate specialist unit devoted to providing a telecare service, as well as telecare provision which is more integrated into the council's range of functions. The former can create specialist Assisted Living Technology job roles across a range of processes including: assessment; referral; installation; maintenance; monitoring and response, whilst the latter can lead to some specialist Assisted Living Technology roles (particularly in relation to installation and maintenance) but also a widening of existing generic job roles to incorporate some Assisted Living Technology associated tasks. The development of specialist roles can generate the necessary knowledge, enthusiasm, and drive amongst staff to promote Assisted Living Technology and associated new products and services. However, these specialist roles can also "inhibit" the ownership of Assisted Living Technology and associated services by some workers, which can lead to a dependence upon a small number of dedicated staff, and a reluctance of non-specialist staff to engage with and promote Assisted Living Technology. This therefore indicates the requirement of appropriate Assisted Living Technology workforce training and

development regardless of the type of provider organisation, the kind of Assisted Living Technology, and the delivery model in operation.

Learning and development support for the social care workforce engaged with Assisted Living Technology provision is currently ad hoc, disparate, and provided primarily by individual employers or by Assisted Living Technology suppliers and manufacturers. A standardised Assisted Living Technology workforce development programme which can be used across the breadth of providers does not currently exist and the research outlined in this paper shows that although this is desirable it also presents a challenge. The skills and knowledge required by staff working with Assisted Living Technology needs to encompass technical skills but also wider communication and social skills relating to: effective interaction with service users, their families, and carers; and the kinds of Assisted Living Technology which are most effective for particular health conditions and home environments. Without sufficient knowledge and skills in these key areas the full potential of Assisted Living Technology may not be met, and can lead to, for example: a refusal of staff to recommend Assisted Living Technology; inappropriate referrals which can lead to installation failures; under utilisation of the Assisted Living Technology; and misuse of the equipment.

The evidence presented here therefore calls for a need to develop a learning and development framework which incorporates the skills and knowledge needed for the full range of tasks required to deliver Assisted Living Technology effectively. Any framework should build on existing qualifications and competencies relating to Assisted Living Technology and make links with generic qualifications. The framework and associated support should extend to all those who are likely to come into contact with Assisted Living Technology in people's homes, including staff working for outsourced agencies. The support should be delivered in a variety of ways through both on and off-the-job mechanisms. In-house training should continue to be encouraged but better use should be made of the existing range of external training providers including equipment suppliers, colleges, and universities, thus enabling staff to develop the required competencies and qualifications. Where training is mandatory and extended to all those involved in the service delivery such as health and social care professionals (including those working for outsourced agencies), voluntary and community organisations, emergency services, service users, and carers it is likely to have most beneficial impact.

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