Assisting employers with the workforce implications of assistive technology: Desk-based research

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This report builds on and updates the earlier report *Workforce Development for Assistive Technology, Telecare and Telehealth: what is the current landscape?* , Skills for Care, November 2011.

Abbreviations

ALIP	Assisted Living Innovation Platform
ALS	Assisted living services
ALT	Assisted living technology
AT	Assistive technology
ARTS	Assistive and Remote Technology Service
BHTA	British Healthcare Trades Association
CCfW	Care Council for Wales
CSED	Care Services Efficiency Delivery
CSW	Community support worker
CPD	Continuing professional development
CUHTec	Centre for Usable Home Technology
DALLAS	Delivering Assisted Living at Scale
DH	Department of Health
DHSSPSNI	Department of Health, Social Services and Public Safety Northern Ireland
EAT	Electronic Assistive Technology
ED&T	Equipment, devices and technology
EPG	Electronic Prescription Guide
FAST	Foundation of Assistive Technology
GLH	Guided learning hours
HCA	Healthcare Assistant
ICE-T	International Centre of Excellence in Telecare
JIT	Joint Improvement Team
LIN	Learning and Improvement Network
LTC	Long term condition
NIAES	Northern Ireland Advisor on Employment and Skills
NISCC	Northern Ireland Social Care Council
NMDS-SC	National Minimum Data Set – Social Care
NOS	National Occupational Standards
OT	Occupational Therapist
PCT	Primary Care Trust
PVI	Private, voluntary and independent
QCF	Qualifications and Credits Framework
SCTT	Scottish Centre for Telehealth and Telecare
SEHTA	South East Health Technologies Alliance
SfC	Skills for Care
SfC&D	Skills for Care and Development
SfH	Skills for Health
SQA	Scottish Qualifications Authority
SSIA	Social Services Improvement Agency (Wales)
SSSC	Scottish Social Services Council
TAP	Trusted Assessor Programme
TCES	Transforming Community Equipment Services
TSB	Technology Strategy Board
WSD	Whole Systems Demonstrator

Executive Summary

Assistive technology (AT) is increasingly part of the range of solutions practitioners offer to maintain independence and quality of life in home environments. Work is ongoing to strengthen the evidence base for AT (e.g. Whole Systems Demonstrator) and indications suggest that an important factor in successful delivery of telecare and telehealth is having a workforce that is confident and has the skills to engage with available technology. Developing the UK workforce for social care and children and young people's services is the remit of Skills for Care and Development and it is clear that given the potential scope of workforce involvement, more information is needed about existing and future learning and development needs. This report sets out the findings from a rapid scoping exercise, which aimed to consolidate current UK policy in this area, map current learning and development practice and inform the future direction of work in this area.

Policy in the field of AT, telecare and telehealth

Policy in *England* is moving towards the delivery of services which can offer greater control over lives, promote enjoyment of a good quality of life tailored to focus on prevention, individual needs and low level support from social care and health when possible. AT, telecare and telehealth have an obvious role to play and this is supported in documents like the *Adult Social Care Workforce Strategy, vision for adult social care* (DH 2009) and *Capable, Confident, Skilled: A workforce development strategy for people working, supporting and caring in adult social care* (SfC 2011). Also, national initiatives (e.g. 3 million lives, DALLAS) are working to support assisted living at scale, part of which includes examination of service redesign and workforce development.

In *Scotland,* policy has been strong in this area and has resulted in the establishment of the Scottish Centre for Telehealth and Telecare. The workforce is supported through the Scottish Assisted Living Programme, the *Telehealthcare in Scotland: An Education and Training Strategy* (JIT 2010), which sets out action to continue to strengthen skills in the workforce. Work to weave telehealthcare into relevant undergraduate courses has taken place using digital stories, case studies etc. Alongside this, a Professional Development Award has been developed and has been SQA approved for use in the UK. In addition, Scotland is involved in DALLAS and has one project located across five NHS Boards supported by £10 million of funding from the Technology Strategy Board and the Scottish Government.

As with other countries, policy in *Wales* recognises the role of telecare. The White Paper: *Sustainable Social Services for Wales* supports the development of new service models and identifies telecare as one such service model that plays an important role in providing support to people at risk of losing independence. It is seen as a service that enables people to remain in their own homes. The White Paper states: *"We will expect those responsible for regional commissioning and delivery of telecare to resolve issues such as costs to the service user, and integration with community equipment services and telehealth services*"**.** Wales is also within the scope of the DALLAS initiative (see above).

In *Northern Ireland,* the main policy driver is *Transforming your Care*, which is focused on re-ablement, increased independence and care at home. Assistive technologies will be a large component. Assistive Technologies appears on the priority skills document from the NI Commissioner for Employment and Skills as an emerging priority skills area but focusing on the engineering industry and the increasing role of technology and growth in social care is clear. The vision set out in policy is being realized a 6-year contract for remote monitoring in Northern Ireland involving all 5 health and social care trusts (2011). This will provide service requirements, a joined up service and solutions and appropriate technology over the course of the contract. Training, coaching and education solutions are part of the contract delivered by the suppliers.

Existing approaches to workforce development

A number of strands of work were identified that currently support workforce development:

- Strategic developments and frameworks (generic and/or applicable only to parts of the UK)
- Education and training opportunities (e.g. academic courses, individual modules, training courses)
- Supporting good practice guides and handbooks
- Professional associations and networks
- Consultancy support by commercial organisations
- Online forums and updates
- Smart homes and equipment demonstration centres
- Online resources
- Journals and publications.

Recommendations for moving forward with the national strategy

From the work, ten recommendations have emerged for consideration when moving forward to the next stage of developing a UK national strategy reflecting the need to:

1. Consider how best to reflect the different starting points of the 4 nations in this area both in terms of service delivery and workforce development
2. Understand in detail how technology is currently used across the board in order to target learning and development where impact is most likely
3. Build on existing work in the area and start by mapping commonalities across the documents that are currently available
4. Consider a focus on tasks rather than or in addition to job roles to ensure continued relevance in a changing social care and technology environment
5. Reflect the policy drive for integration and identify areas of overlap between services which might bear particular relation to the delivery of AT services

6. Be clear about the scope of the strategy and have a specified audience for the strategy in order to make it practical and useful
7. Remember the growing market of self-funders and how their learning and support needs might fit into the national strategy
8. Consider how to position the work to reflect the different language used but present a co-ordinated picture of moving forward.
9. Embed AT into existing qualifications and CPD in order to raise awareness and 'normalise' the use of technology in social care
10. Develop a workforce that has confidence with technology more generally. The strategy has potential to address not only specific learning needs around the tasks involved in the delivery of AT but also the confidence needed to advocate and assist with the technology itself.

Proposed areas for inclusion in the employer survey

A number of key themes were identified for inclusion in the forthcoming employer survey based on both this scoping study, and knowledge of the area more generally:

- *Workforce demographics*: a section to map the spread of the survey and range of participants involved in responding (sector, job role, specialist vs non specialist, route into AT if specialist)
- *Integration with other services*: closed questions to explore integrated service delivery, partnership working, and links with services outside social care
- *Level of service offered*: closed questions to determine the extent to which investment has been made in technology to fully assess workforce development focus
- *Staff views of AT*: closed questions to explore perceived benefits and ongoing concerns
- *Role in service delivery*: closed questions to ascertain role in service delivery, length of time involved in AT, self assessment of level of awareness, skills and knowledge about AT
- *Learning and development*: closed questions to establish learning and development support prior and since involvement with AT service delivery
- *Perceived gaps*: closed questions to identify perceived gaps in current knowledge and skills and how these might be filled.

1. Purpose of the report

In order to develop support for employers in the area of assistive technology (AT), it is important to build upon rather than duplicate existing work. By conducting a 'mapping exercise', we have the opportunity to confirm and consolidate learning from across the UK, as well as begin to understand the current training opportunities and gaps. To that end, this report aims to:

- Establish the current position on workforce development in relation to AT
- Identify existing strategies, reports and other key sources that will inform the content of the UK-wide workforce development strategy and knowledge and skills sets
- Make recommendations for the next steps of the work, in particular the employer survey and national strategy.

In order to meet the aims listed, the report will be broken down into the following sections:

- Definitions of assistive technology across the UK
- AT policy across the UK
- AT-related initiatives across the UK
- Service delivery models for AT and their implications for the workforce
- Approaches and strategies for workforce development for AT across the UK
- Patterns of education, training and development for AT across the UK
- Initial recommendations arising from the desk based scoping exercise outlining potential areas for consideration in the UK-wide workforce development strategy
- Recommendations for content of the survey that will follow.

It should be noted that this work is not exhaustive but hopes to capture the headlines for the future development of the project.

International developments beyond the UK, such as the European Social Network Telecare Services initiative[1] are beyond the scope of the report but may need to be taken into account during later stages of the project.

2. Definitions for the report

Across the four countries different language is used to cover the use of devices to maintain and support independent living. The definitions presented reflect the views of the social care partners working in this area.

2.1. England

In England, the term *Assisted Living Technologies* (ALT) has been adopted by Skills for Care (SfC) in an attempt to embrace the scope and potential impact of this area. ALT includes:

[1] http://www.esn-eu.org/

- *Telecare* and *telehealth*: delivery of cost effective social and health care using technology in the homes of those needing support to enable them to live longer at home and in their communities. This may include returning home after a period of illness.
- *Digital participation* services: to educate, entertain and stimulate social interaction to enrich the lives of people in need of social support living at home
- *Wellness* services: to encourage people to adopt and maintain a healthy lifestyle, to help prevent or delay the need for support.

The associated services are referred to as *Assisted Living Services* (ALS).

2.2. Scotland

In Scotland currently, there are a number of different terms used. The choice of one term or another is driven by factors including: where upon the continuum of care one is based, professional role or different user groups. The dominant terms in Scotland include assistive technologies to describe the hardware that might be available to service users. Subsequently, the focus is on telecare and telehealth, which would be seen as the services to support the use of technology.

Telehealthcare is also used to describe the convergence of telecare and telehealth to provide a technology-enabled and integrated approach to the delivery of health and care services. It can be used to describe a range of care options available remotely by phone, mobile, broadband and video conferencing.

2.3. Wales

The umbrella term *Assisted Living Services* is used in Wales to encompass telecare and telehealth, community equipment and practical services and other items that support independence and manage risk. *Telecare* refers to the continuous, automatic and remote monitoring of real time emergencies and lifestyle changes over time in order to manage the risks associated with independent living by use of a wireless device linked via a home gateway to a Monitoring and Response Centre or direct to carers. While *telehealth* is defined by the remote capture and exchange of physiological data between a patient at home and clinical and medical staff at hospital to assist in diagnosis and monitoring of their state of physical health.

Finally*, electronic assistive technology* (EAT) devices are electronically powered devices that will automatically and continuously support a person to live independently but may not be linked to any external Monitoring and Response Centre (although where possible this should be capable of being linked to a telecare service to alert emergency situations). The use of EAT as a definition allows for the distinction between assistive technology that would include devices from Community Equipment e.g. a grab rail.

2.4. Northern Ireland

In Northern Ireland, AT is used to describe any device or system that allows an individual to perform a task they might not otherwise have been able to do, or to perform it easier and more safely. This is a broad definition and can include community equipment[2]. Focusing on technology, as with other areas, *telecare* is used to describe the provision of remote care to provide care and reassurance needed to allow people to remain living in their own homes. *Remote monitoring* is used to describe remote monitoring of chronic disease. The monitoring devices will transmit information vital signs via an IT link to the remote monitoring service provider and if necessary their healthcare provider. Finally *telemedicine*, a broader concept than remote monitoring, includes patient consultations using telecommunications and the role of technology in direct treatment e.g. robotics.

2.5. Summary

It is clear that there isn't a single definition across the four countries but the policy, principles and values behind the terminology will be explored in more detail below. For the purposes of this report, the term assistive technology will be used for consistency with the EIF project and will include telecare and telehealth in addition to other technologies used to support independence. It does not include community equipment.

3. Policy context for social care and assistive technology

While specific assistive technology, telecare and telehealth policy differs across the four UK countries, all have an ongoing policy focus on prevention and encouraging self-management to support people to live independently at home for as long as possible. This vision of independence and choice is supported through a number of policy strands, which also begin to tease out the importance and promote the use of assistive technology to varying degrees including self care, re-ablement, prevention and early intervention, Quality, Innovation, Productivity, Prevention (QIPP), extra care housing, self directed support.

3.1. England

In England, policy specifically relating to AT is routed in *Building Telecare Together* (DH 2005) which set out guidance for local authorities and partners how to develop telecare in the community, and was supported by the Preventative Technology Grant. Policies such as *Our Health, Our Care, Our Say* (DH 2006), *Options for Excellence: building the social care workforce of the future* (DH 2006) set out a vision for uptake of AT and workforce development to maximize the impact of this technology are stated. *Putting People First* (DH 2007) supported previous policy by making AT integral, not marginal, to the care package that people are offered. *Transforming Social Care* (DH 2008), *Shaping the future of care together* (DH 2009)

[2] Community equipment ranges from simple aids to daily living such as eating utensils and grab rails, through to more complex equipment such as beds, hoists and lifts. The use of such aids is well supported by existing professions such as Occupational Therapists.

and *Supporting People with Long Term Conditions* (DH 2009) set out a vision for new technologies to help with self care and independent living.

Policy support for AT continued with the then new administration with ongoing focus on reforming social care through a *Vision for Adult Social Care: Capable Communities and Active Citizens* (DH 2010) which noted AT as one of the most promising developments for ensuring the population has access to social care and health services. A view supported by the Dilnot Commission (DH 2011) which states:

> *Technology is developing rapidly, and we anticipate it will have a significant impact on the way care and support is delivered in the future. New technologies are already making their way into care and support … These technologies already have the power to transform the lives of individuals and carers and more opportunities will open up in the future. The care and support systems need to be sufficiently flexible to take advantage of these innovations."*

Finally Health & Social Care Information Strategy *The power of information: Putting all of us in control of the health and care information we need* DH (2012) suggests that social care and health need to take a 'digital first' rather than a 'digital by default' approach. In the strategy, there is a firm commitment to adopting digital methods to help manage illness or long term conditions and continue to live at home using devices and equipment to support this.

3.2. Scotland

The important role of telehealthcare in supporting the delivery of national strategic initiatives such as *Shifting the Balance of Care* and *Better Health and Better Care* has been increasingly promoted within the Scottish Government, Health Boards, housing and social care partnerships over the last 5 years. New models of more effective and efficient service delivery that are supported and facilitated by technology are anticipated to become increasingly prevalent.

In 2008, Scotland launched its first national telecare strategy, which was followed by a Telecare Action Plan for 2010-2012. Along with a development programme of just over £20m over 5 years, this reinforced the potential of telecare to deliver a significant contribution to the achievement of personalised health and social care outcomes for individuals and their unpaid carers as well as wider national benefits in areas such as shifting the balance of care and the management of long-term health and care conditions. In addition, the funding provided support for local health and care partnerships in the deployment of technology as part of comprehensive service redesign.

In 2010 Scotland's first national telehealth strategy was published. This prioritised the delivery of four national clinical programmes: stroke; paediatrics; mental health; and, long term conditions. It also recognised that the expanded use of telehealth, would require to be underpinned by improvements in the technology infrastructure and education and training activities.

In recognition of the benefits that were already resulting from collaborative and integrated working across telehealth and telecare nationally and locally, the Scottish Centre for Telehealth (SCT) and the Joint Improvement Team's TDP were integrated in April 2011 into a single Scottish Centre for Telehealth and Telecare (SCTT). The SCTT was embedded within Scotland's national, technology-enabled service provider, NHS 24 (similar to NHS Direct). This was thought to provide a strengthened focus and drive for the development of telehealth and telecare on a national basis, and support for local care, health and housing service providers.

A comprehensive and strategic framework for integrated working across telehealth and telecare has also been established. A national Telehealth and Telecare Advisory Board is in place to inform strategic direction, whilst the Scottish Assisted Living Programme Board links into Scotland's Life Sciences Advisory Board to drive development and economic opportunities.

Commitment to telehealth and telecare is ongoing in policy e.g. *Scotland's Digital Future: A Strategy for Scotland* (Scottish Government 2011) states that Scotland sees the use of telehealth and telecare as playing a key role in delivering health and social services, delivering better care for all, integrating services more cost effectively and efficiently, and gradually becoming part of everyday life. Similarly *Caring Together: The Carers Strategy for Scotland 2010-2015* also seeks to extend the use and impact of telecare throughout Scotland.

The SCTT is leading the development of Scotland's new national strategy for Telehealth and Telecare which will be published in summer 2012. The new strategy will seek to develop and adopt innovative technology-driven services which support NHSScotland's aim that by 2020:

- Everyone is able to live longer healthier lives at home, or in a homely setting
- Scotland will have a healthcare system with integrated health and social care, a focus on prevention, anticipation and supported self management
- When hospital treatment is required, and cannot be provided in a community setting, day case treatment will be the norm
- Whatever the setting, care will be provided to the highest standards of quality and safety, with the person at the centre of all decisions
- There will be a focus on ensuring that people get back into their home or community environment as soon as appropriate, with minimal risk of re-admission.

3.3. Wales

The White Paper: *Sustainable Social Service for Wales* (Welsh Government 2011) is driving forward the development of early intervention and preventative services. The Social Services Bill will give Welsh Ministers powers to make regulations or issue guidance requiring local authorities to demonstrate how they are discharging their

wellbeing duties for people in need through implementation of prevention and early intervention strategies. This will be coupled with powers to strengthen partnership working across local authority functions, for example between local authorities and Local Health Boards, in order to drive the creation of more integrated models of service provision. Sustainable Social Services places re-ablement at the heart of the Welsh approach and introduces a requirement for re-ablement services to be provided across Wales planned and commissioned on a regional basis. These services will be led jointly by social services and the NHS and telecare and telehealth are seen as contributing to these service models.

The White Paper states clearly that *"the systems we have in place today need to take full advantage of new technology"*. It outlines priorities for the incorporation of technology in social care, which includes supporting the development of new models of service delivery. Telecare is identified as one such service model, which can play an important part in providing support to people at risk of losing independence. The White Paper also sets out expectations on those responsible for regional commissioning and delivery of telecare to resolve ongoing issues such as service user costs, and integration with community equipment and telehealth services.

Locally, a number of areas have produced a strategy for telecare in the area. This typically includes a summary of current practice, a vision and priorities for future work, partnership working, links to AT or telehealth, user involvement and ethics. The development of local telecare services was supported by the Telecare Capital Grant which helped to establish telecare services in all 22 counties and exceeded the goal of supporting 10,000 people to access telecare services. While the direct funding has now came to an end, the legacy of the work remains and now approximately 20,000 people access telecare services in Wales and a number of recommendations from the evaluation are under consideration, for example, the integration of management information.

3.4. Northern Ireland

The significance of technology is evident in Northern Irish policy. For example, *A Healthier Future: A 20 year vision for health and wellbeing in Northern Ireland 2005-2025* (DHSSPSNI 2004) identified the growing significance of technology across a range of services, including social and health care, making the case for developing telecare and telehealth to support independence. The Regional Innovation Strategy Action Plan 2008-2011 set out plans for an agreed strategy by March 2009 for the introduction of new technologies to health and social care by 2012. The McKinsey Report (2010) *Reshaping the System: Implications for Northern Ireland's Health and Social Care Services of the 2010 Spending Review* also outlined the importance of developing technology both to support professionals (e.g. integrated records), but also to improve self-care and illness management at home. In addition, the Minister for Employment and Learning (NIAES 2011) has highlighted the area of technology to help deliver health and social care as a future skills priority area.

Specific health and social care policy also reflects the importance of technology in service delivery. In December 2011, the Minister for Health, Social Services and

Public Safety announced a review to provide a strategic assessment to inform the shape of future services. *Transforming Your Care: A review of health and social care in Northern Ireland* (DHSPPNI 2011) identified increasing pressure on the health and social care system through a growing and ageing population, poorer health and growth in chronic conditions exacerbated by instability in the health and social care system. The review recommended principles for change, which incorporated promoting independence and personalisation of care, a focus on prevention and importantly maximising the use of technology (p5).

This commitment is being taken forward by the Centre for Connected Health and Social Care which has a remit to promote improvement in care through the use of technology and to fast-track new products and innovation in the health and social care system in Northern Ireland. The work of the centre is driven by *Developing a Connected Health and Care Strategy for Northern Ireland Health and Social Care Services* (DHSSPSNI 2008). According to the strategy, connected health and social care includes remote monitoring, telemedicine and telecare where telecare provides support to remain independent at home. Support for professional and multi-disciplinary networks is a key part of the work.

4. UK Initiatives supporting AT

In addition to policy, a number of initiatives support the further development of new technologies to support the agendas described above.

4.1. England

Assisted Living Innovation Platform (ALIP) [3]

Funded through the Department of Business, Innovation and Skills, the Technology Strategy Board ALIP has the following strands:

1. *Independence Matters*: a joint design led collaboration between the TSB and the Design Council to support creation of new design and technology-led solutions developed in the social context of the lives of older people.
2. *Standards and interoperability*: to raise awareness about and participation in standards involved in delivery of ALTs and ALSs to maximise interoperability.
3. *Ambient Assisted Living*: through funding of research and innovation projects, the aim is to explore new ways of inclusion of user needs into relevant products and services for a consolidated European market.
4. *Assisted Living Toolbox*: to explore the possibilities of using cloud technology as an open platform for new tools to be added that related to assisted living services. The toolbox would include telecare and telehealth.
5. *Research funding*: two strands linked to the uptake of ALT focusing on economic and business models, and social and behavioural aspects. Of interest the Mainstreaming Assistive Living Technologies (MALT) which aims

[3] https://connect.innovateuk.org/web/assisted-living-innovation-platform-alip

to develop business models from socio-technical systems perspective and a second which examines older people and healthcare staff's fears about new technology

6. *Telecare Learning and Improvement Network*[4]: a national network supporting local service redesign through the application of telehealth and telecare to aid the delivery of social care, health and housing support services for older people and those with additional support needs
7. *DALLAS*: (Delivering Assisted Living Lifestyles at Scale) with funding of £37 million[5] over four initiative (i-Focus, Year Zero, The Feelgood Factory and Living it Up). The aim of DALLAS is to demonstrate how innovative technologies and services can be used to promote wellbeing and provide top quality health and care, enabling people to live independently and to expect a better future. Working with existing statutory health care provision the new schemes will encourage individuals to own the management of their health and lifestyles, but with support from the wider community, health professionals and their families. The work will run until Summer 2015.

Whole System Demonstrator (WSD)

Between 2008 and 2010, the DH invested £31million in the WSD to explore integrated health and social care working supported by advances in AT such as telecare and telehealth. Three sites hosted the pilot: Newham, Cornwall and Kent, each exploring a different delivery method. Initial and positive results from the randomized control trial are now being published but relate specifically to telehealth. Findings from the telecare arm are due for publication in 2012.

3 Million Lives[6]

Following the results of the WSD, the DH announced the launch of *3 million lives*. The campaign is aimed at improving the lives of at least 3 million people over the next five years through the use of telehealth and telecare services. The objectives are for DH and industry to work together over the next 5 years to develop the market and remove barriers; to create an environment to support uptake of telehealth and telecare; for industry to work with social care, NHS and other stakeholder to simplify procurement and commissioning procedures; to push the UK position in this market and finally to promote the benefits that telecare and telehealth can provide.

Skills for Care

Skills for Care have embarked on a programme of work to develop workforce initiatives around ALT and ALSs. There are three stages to the work: research phase (case studies and employer survey); framework and resource development stage. The work is due for completion at the end of the financial year 2012/13.

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[4] www.telecarelin.org.uk

[5] Combination of government funding (including Scotland) and additional financial contributions from the consortia involved.

[6] www.3millionlives.co.uk

Other initiatives identified to support AT in England include:

- *TCES National Catalogue of Equipment for Independent Daily Living*[7]: set up by the DH to support local authorities and NHS partners working with the TCES retail model. Sites can be used to find nationally agreed specifications for equipment and accredited retailers. Low adoption from the field to date (20 local authorities/NHS partners).
- *Assistive Technologies framework*[8]: the Government Procurement Service is responsible for centralised procurement for central Government departments. The *Assistive Technologies Framework* provides public sector organisations with access to the use of electronic devices to monitor and improve health, safety and quality of life with benefits of efficiency, standardization, quality and value for money. Training and education are offered as part of the standard agreement.
- *Care Services Efficiency Delivery*: the programme is now closed but the website remains operational that offers a suite of practical tools to help evaluate existing telecare services, build strategy and business cases for expansion and managing performance. Workforce development sits within the *Telecare Strategy Self-Assessment Framework.*

4.2. Scotland

Scottish Assisted Living Programme (SALP)

The Scottish Government's Health and Social Care Directorate has asked NHS 24/SCTT to lead the Scottish Assisted living Programme (SALP) in Scotland. A national programme board has been established to take forward the co-creation, development and facilitation of SALP. The Board had 4 main areas of focus are:

- Centres of Excellence
- Reshaping Care/Change Fund
- European Opportunities e.g. European Innovation Platforms/Knowledge Info Centres (KICs)
- DALLAS – UK-wide competition led by Technology Strategy Board.

DALLAS

As one of the successful "seeds" of the UK wide Technology Strategy Board's DALLAS competition, the 'Living It Up' Project aims to provide improvements in health, well being and lifestyles for over 55,000 people living in 5 geographic areas across Scotland over a 3 year period, and to support economic benefits.

Telehealth and Telecare Learning Network

The establishment of an integrated Telehealth and Telecare Learning Network in November 2011 provides a forum for interested stakeholders to discuss and learn about challenges, lessons and future developments in telehealth and telecare. Regular monthly webcasts are now broadcast to highlight activities and advances in telecare and telehealth, along with national networking events held at least twice a year.

[7] www.national-catalogue.org/smartassist/nationalcatalogue
[8] http://gps.cabinetoffice.gov.uk/

Framework agreement for the procurement of telecare equipment

A Scotland-wide framework agreement for telecare and other services has been developed by Scotland Excel in collaboration with 32 Local Authorities, Hanover and Bield Housing Associations and the Scottish Government's Joint Improvement Team. This aims to provide cost efficiencies of approximately £300,000 p.a. and improvements in interoperability between different supplier's equipment. The framework was published in January 2012, with impacts to be measured over 2012/13.

NHS Education for Scotland's Telehealthcare Community Portal[9]

The NHS Education for Scotland's Telehealthcare Community portal contains a wealth of information and resources that can be downloaded and used for awareness raising and training purposes. This includes a range of audio-visual resources including digital stories and user / carer films which promote the benefits of assistive technology and positive outcomes for service users and their carers.

4.3. Wales

As part of their role in supporting the sustainable social service programme the Social Services Improvement Agency (SSIA) will identify good practice examples of integrated assisted living services and ensure that these are shared across Wales. A Telecare and Telehealth Learning and Improvement Network (LIN) has been established to fulfill this ambition. The LIN has both a networking function and an information function as demonstrated through the information hub online. The network meets 3-4 times a year to share good practice and update knowledge. This network comprises representation from each local authority and local health board in Wales and is multi-disciplinary as it comprises delegates from social care, healthcare, and housing services. The information hub online allows access to current thinking around the provision of telecare including good practice, evidence for telecare, local strategies, operational documents and links to work in other countries.

The work is also supported by an 'All Wales' subscription to Telecare Equipment Prescription Guidance[10] (EPG) announced in 2011. The Telecare EPG is an online resource tool that provides independent and impartial expert-validated prescription guidance for telecare and related electronic assistive technologies. It is more than just an equipment catalogue as it guides service professionals to select the most appropriate equipment to meet the wide-ranging needs of individual service users. Subscription to the service enables all 22 local authorities and seven local health boards and respective telecare service delivery partners to benefit from access to a large database of equipment, associated decision support tools and product group comparison reports.

[9] www.knowledge.scot.nhs.uk/telehealthcare/learning-network/telehealth-and-telecare-learning-network-(2012).aspx

[10] www.telecare-epg.co.uk

The guide has been developed by T-Cubed[11] in partnership with the Centre for Usable Home Technology (CUHTec) at the University of York. Alongside the guide, T-Cubed have developed bespoke Telecare prescription training courses and associated resource manuals and guidance for staff. In addition, they offer training to tie in with the Telecare EPG.

4.4. Northern Ireland

In 2011 the Public Health Agency awarded a 6-year contract for remote telemonitoring service for Northern Ireland. The 'end to end' managed service is being delivered by the TF3 consortium (Tunstall, S3 Group and The Fold[12]) who have responsiblity for providing service requirements, a joined up service and solutions and appropriate technology over the course of the contract. The service elements include clinical triage, service desk support, online clinician portal, patient portal, referral to discharge, clinical activity and service level reporting, ICT infrastructure and service integration. Training, train the trainer courses, coaching and education is an important aspect of initiation and ongoing service delivery. This is part of the contract rather than delivered or directed by commissioners or skills sector partners. While the focus to date has been on remote monitoring, the aim for the coming months is to consolidate telecare provision across the 5 trusts under the single contract.

Two research projects in Northern Ireland have been funded by ALIP:

- Project "Virtex" is led by Tunstall in partnership with DigiTV, Housing 21 and Sheffield Universtiy and aims to develop the telehealthcare technology platform to establish a virtual community of connected clients and carers
- Project "Nocturnal" is led by Fold in partnership with the University of Ulster and aims to develop telehealthcare technology to provide therapeutic support and guidance during the hours of darkness for people in the early stages of dementia.

5. Service delivery models for AT

There are a number of elements involved in service delivery, for example charging policy which vary across countries and local authorities however, this section will focus on high level models of delivery that have a direct and significant impact on the workforce and associated workforce development.

A number of identifiable 'touch point' tasks are associated with the delivery of AT services, of most relevance, the delivery of telecare services via local authorities[13] (LAs). The table below sets out the most prevalent approaches associated with different tasks.

[11] T-cubed is an independent consultancy that offers strategic and operational support to telecare services and commissioning bodies in the UK to plan, design and implement telecare services.
[12] The Fold is a housing association in Northern Ireland working in partnership with the Northern Ireland Housing Executive, the Department for Social Development and Health and Social Care Trusts.
[13] Note: self-funding is becoming more common and many may well access AT services without having contact with social services.

Task	Options
Commissioning	1. Fully in house model of service delivery where staff are employed by the LA to deliver end to end telecare services. Different approaches include specific job roles for each task vs an individual being trained to complete full range of tasks 2. Mixed model where certain tasks, typically referral and assessment is filtered through LA or health care staff but installation and call centre functions are outsourced 3. Fully external model where an outside provider offers and end to end telecare service (e.g. Northern Ireland)
Referral	Referrals to a service can be accepted through a number of routes and within different local authorities this will vary (as do implications of this for workforce) • Public and self referrals • Social care and health professional referrals • Associated service referrals (e.g. housing, police, fire service) Referrals for a fully commissioned external service will be handled by the contractor, others service may have a mix of approaches to either in house or contracted staff.
Assessment (including ethical and consent issues)	1. Assessors as prescribers: fully integrated model where telecare does not require a referral onto a specialist service but is part of the assessment process carried out by in house social care staff. These 'generic' assessors are able to 'prescribe' a package to suit the context and user needs. 2. Two tier approach to assessment: assessment by 'generic' staff is signed off by specialist team or more complex cases referred onto specialist team (typically in house teams) 3. Expert telecare assessors: receive initial referrals and take over to conduct specialist telecare assessment with individuals (in house or external contractors) 4. Expert installers: potential for a bigger role in assessing and prescribing packages of equipment (in house specialist teams or external contractors)
Installation	1. In house installation engineers trained to install range of equipment 2. Externally managed installation service 3. Support for service users, families and carers to use the service/technology
Monitoring and response	1. Call centre and community responses services managed internally 2. Call centre and / or community response services commissioned

	to third party.
Review	There are different approaches to service review: • Short-term review 4-6 weeks after installation to sort teething problems or remove if no longer required (in house or externally commissioned) • Longer-term review which can be commissioned out as part of other services or conducted internally by social care and health staff or specialist telecare team.

There are arguments for adopting different approaches to delivery of services. For example, some argue that a specialist telecare team leads to higher quality of 'prescriptions' which are more likely to improve outcomes for service users. However, this can be a more costly delivery mode and can lead to a deskilling of the assessor workforce. On the other hand, including AT into mainstream assessment normalizes the use of equipment and has potential to increase penetration of equipment.

The implications for the workforce need to be considered carefully as there is no single approach to delivery across the UK, and indeed variation within as well as between countries. As a result, there are a number of different job roles involved in the delivery of AT services, and it might be more helpful to think about it in terms of tasks and subsequently associated skills and competencies required, as these will remain regardless of the sector, or job role of the individual conducting these tasks. This has broader implications as well in terms of marketing learning and development because not only will relevant commissioners and leads for learning and development within local authority need to be targeted, but external contractor will need to be aware of any developments in this area.

6. UK assistive technology workforce development strategies

There is at present no UK-wide workforce development strategy in relation to AT. A more strategic approach to workforce development has the potential to:

- provide a career pathway and flexibility for professionals
- facilitate better integration of technologies in mainstream practice
- enable greater integration across different professions for service delivery
- provide a framework for monitoring, regulating and commissioning workforce competence across different organisations
- offer greater assurances for users, carers and families in terms of service delivery and provision of holistic care package
- ensure skilled assessors and trained staff are providing the best service possible with consideration of ethics, interoperability, health and safety, 'fit' of package, cross communication etc.

This section will examine what is available to support this across the four countries.

6.1. England

While there is support through policies and initiatives for AT, telehealth and telecare, currently there is no national level strategy, agreed competency framework or specific National Occupational Standards for workforce development in England specific to this area. There are a number of broader strategies, frameworks and guides that are relevant but the general approach appears to be fragmented.

Strategies

Currently no national level workforce development strategy exists in England specifically for AT, although there are a number of documents that include this area of work within a broader workforce agenda. The *Adult Social Care Workforce Strategy, vision for adult social care* (DH 2009) outlines the workforce development implications of *Putting People First* and provides a framework to support change in the care sector. The strategy offers ongoing promotion of the use of technology to support self-care recognising the need for the workforce to adapt to using new technology and delivery mechanisms. In particular, it highlights the need for dialogue between practitioners and suppliers to drive innovation of new products and services to meet individuals' needs. In addition, the strategy sets out the role of the workforce in promoting understanding of technology to individuals.

Capable, Confident, Skilled: A workforce development strategy for people working, supporting and caring in adult social care (SfC 2011) echoes national policy in supporting AT for prevention, early intervention and in providing innovative solutions for better outcomes. There is strong assertion of the need to ascertain the impact of technology on service provision and workforce development paired with recognition that strong leadership is needed to drive through necessary changes. The document focuses on workforce development in particular highlights the effective use of technology supported by:

- abilities to assess benefits of technology to promote autonomy
- appropriate guidance to enable people access to information, choose and use AT when needed
- social networking to support leader and providers use web-based applications to engage with public and communities.

Competency frameworks or proposed frameworks

A number of frameworks have been identified through this work including:

- *Assistive Technology Workforce Development* (FAST 2006) sets out potential core competencies
- *Telecare Strategy Self-Assessment Framework*[14] makes recommendations for workforce development for various roles

[14] www.csed.dh.gov.uk/_library/Resources/CSED/CSEDProduct/Telecare/CSED_Telecare_Strategy_SelfAssessment.1_25_Jan.doc last accessed 25 May 2012.

- *Trusted Assessor Programme* sets out a clear and structured approach to assessing individual needs by highlighting required competencies for different stages
- *National Occupational Standards* some feel have potential to influence quality in delivery of AT, either through a dedicated suite or through references in existing suites
- *Local frameworks* a small number of local authorities have developed workforce frameworks to help build skills (e.g. Coventry and Warwickshire, West Midlands)
- *Associated professionals guides* other related professions have engaged with this area (e.g. *International Competencies for Telenursing, Environmental Control Clinician Competencies, Quality Assessment Framework for Home Improvement Agencies*)

Guides

There are existing guides for professionals in this area, for example, the *Common Core Principles to Support Self Care: a guide to support implementation* (SfC & SfH 2008). The guide set out underlying principles to support service reform, promote choice, control, independence and participation for people who use health and social care services. One of the principles focuses on the use of technology and states that workers should ensure appropriate equipment and devices are discussed, and to support individuals to access, and use the technology available. It goes on to describe indicative behaviours for a trained workforce who should be:

1. aware of equipment, technology and devices (ET&D) that can impact on ability to live independently
2. able to explore with individuals what ET&D would be useful
3. able to make self care tools, monitoring equipment and AT available along with necessary support for use
4. willing to develop links with relevant professionals/organisations to understand what services are available locally
5. capable of offering appropriate guidance to allow individuals access to information relating to ET&D when needed
6. trained to support individuals to obtain and maintain ET&D
7. skilled to work with families, carers and others in the use of ET&D.

6.2. Scotland

As part of a comprehensive approach to workforce development, *Telehealthcare in Scotland: An Education and Training Strategy 2010-12* (JIT 2010) was published. This framework for action sets out a two-prong approach to integrate telehealth and telecare into pre-qualification education and ongoing CPD, in addition to promoting awareness raising and education of end users, including informal carers. Key action areas identified were:

- a continuing national programme of engagement and awareness raising with all key stakeholders;
- development of underpinning *Competency Frameworks for Telehealthcare Support Staff and Professionals*
- contributing to the review of National Occupational Standards (NOS) to ensure that telehealth and telecare were considered;
- working with Higher Education Institutions to embed telehealth and telecare within the undergraduate curriculum for health, social care and housing programmes;
- working with regulatory bodies and Higher Education Institutions (HEIs) to develop a range of new accredited and accessible training opportunities for the existing health, social care and housing workforce within all sectors;
- exploring funding opportunities, including European funding, to support the delivery of workforce development activities;
- the development of different delivery mechanisms to address the needs of a 21st century workforce e.g. interactive online training tools, etc which can be accessed via NHS Education for Scotland's Knowledge Network[15]
- supporting knowledge transfer and shared learning via the Telehealth and Telecare Learning Network which delivers monthly webcasts and networking events.

The strategy has moved forward, in particular with the development of underpinning competency frameworks and accredited awards (the Professional Development Award in Telehealthcare has been accepted for inclusion in the SCQF/QCF at Level 6). The award has been designed to help candidates develop their skills in an emerging field of practice and an opportunity to gain formal recognition of their knowledge.

Finally the Dementia Skilled Practice Level which highlights as part of broader skills in the area, the need to understand telehealthcare and AT, how they link to support independence and quality of life, knowledge of how to safely use telehealthcare and AT.

6.3. Wales

Like England, there is no specific AT workforce strategy in place currently in Wales. However, the move to assisted living services in Wales is supported by *Wales Telecare and Electronic Assistive Technology Service Framework: A guide to service development* which is currently being produced by the Welsh government to assist local areas set up services to a consistent and high standard. The framework is split into four parts: scene setting; technical and practical issues concerned with service development; telecare in different settings with different populations and finally the

[15] www.knowledge.scot.nhs.uk/telehealthcare/learning-network.

quality agenda including workforce and business development. The framework is due for publication this year.

In addition, work is underway to consider the specific training considerations associated with telecare and telehealth. This work is being led by the Welsh Government and is considering:

- Different groups who might need training (commissioners, senior mangers, care managers, health and social care professionals, housing staff, call centre staff)
- Levels of training (awareness raising, assessment training, technical training, response training)
- Format of training (modular).

6.4. Northern Ireland

In Northern Ireland, the situation is slightly different in that the single contract for delivery includes workforce development. Therefore there is less emphasis on a strategic approach for this element as it is bound with the broader strategic approach for delivery.

6.5. UK-wide

The Academy of Medical Royal Colleges has recently published the *e-Health Competency Framework: Defining the Role of the Expert Clinician* has just been published (June 2011). It recognises that traditional clinical training does not always equip practitioners with skills and knowledge to understand how e-Health can be used to improve outcomes for patients, clinicians and organisations. The framework sets out these skills, knowledge and behaviours required by clinicians working a local, regional or national level. Specifically for telehealthcare competencies include the need to understand how telehealth can improve access to specialist treatment and support regional models of service delivery, and to have the skills to recognise the role of telecare in helping individuals to stay independent at home and the support it can give carers (p53).

Finally, a number of materials have been developed which apply across the UK:

- Telecare Services Association (TSA) *Code of Practice*[16] which outlines the referral to response model and associated standards and modular training (see below for detail).
- *TeleSCoPE* a European Commission project to develop a code of practice for telehealth which is now available in draft form for evaluation[17]
- The British Healthcare Trade Association published *BHTA Code of Practice for the healthcare and assistive technology products and services industry*

[16] www.telecare.org.uk/standards/telecare-code-of-practice

[17] www.scribd.com/doc/91202674/Telescope-Code-Draft-Apr-2012

(2009)[18] to support members of the BHTA Assistive Technology Practitioner Society.

7. Education, training and development approaches

There is variation between the four countries in terms of the approach to learning and development in this area dictated by the presence or lack of a strategic approach to workforce development as described above. For example, in England and Wales there is no strategy, competency framework or other nationally recognised guiding document currently to direct learning. However there are a number of courses and training materials available on a local basis to those who are particularly interested in developing knowledge.

In Scotland, there is a national strategy for workforce development, with underpinning competency frameworks for support staff and professionals working with telecare and telehealth (see appendix 2 for more detail).

Unlike other parts of the UK, there is a co-ordinated training approach in Northern Ireland under the terms of the single contract. There are various strands to workforce development including hardware training, assessment training,

Nonetheless, there are a number of approaches that can be taken in practical terms to develop the workforce and these are relevant, although will vary in degree of use, across the four countries.

Approach	**Examples of practice (see appendix 1 for more detail)**
Academic courses	• Masters: University of Coventry offers a masters in AT • Undergraduate: University of Coventry offers a foundation course in AT available as distance course combined work-based learning • Undergraduate Modules: University of Hull modules for telehealth and telecare (available virtually)
Certificates	• BTEC Professional Certificate in Healthcare and AT (Level 4) • Certificate in Telecare Services (Level 3) • ICT, Enabling Technology and Disabling Conditions (Level 3 OCN) • Certificate in Supporting Users of AT (Level 2)
SCQF/QCF Units	• Professional Development Award in Telehealthcare (Level 6) • Support the Use of AT (Level 5) • Support Individuals in the Use of AT (Level 4) • Support individuals in the Use of AT (Level 3 Wales and Northern Ireland) • Contribute to Supporting Individuals in the Use of AT (Level 2)

[18] www.bhta.net/resources/1/Code-of-Practice/BHTA-Code-of-Practice.pdf

Professional courses	• Coventry University *Assistive Technology Learning Tool* • Trusted Assessor Programme (TAP) based in *Competence Framework for Trusted Assessors* • Trusted Assessor based on 11 ONC modules • Trusted Technician based on 5 ONC modules • Trusted Product Advisor based on 2 ONC modules
Manufacturer training	• Tunstall Telehealthcare Training Tool (TTT)
Short courses	• Virtual College *An introduction to telecare and telehealth* • CUHTec *Using telecare to reduce the costs and increase the effectiveness of re-ablement and intermediate care* and *AT and telecare for learning disability services* • University of Coventry series • York St John *Application of telecare and AT in falls prevention and management* • Dementia Services Development Centre *Assistive Technology* • TSA training to support the Code of Practice, particular long term conditions etc
Professional support	• Telecare Learning Improvement Networks (England and Wales) • Telehealth and Telecare Learning Network (Scotland) • Telehealthcare Community Portal (Scotland) • Telecare Equipment Prescription Guide (developed by CUHTec) • Online resources • Journals and publications • Consultancy support • Smart homes and equipment demonstration centres
Good practice guides	• TSA have a series of good practice guides available to support workforce development of members (e.g. supporting medication adherence with telecare, using GPS location to manage safe walking) • Telehealthcare Practice Guides (Scotland) produced by Scottish Government and University of Stirling on falls management, dementia, learning disability, sensory impairment, mental health and physical disability

8. Recommendations for consideration

8.1. Workforce development framework / strategy

The willingness to engage, desire to work together and policy support for moving forward in this area is a cornerstone for the development of a UK-wide strategy in

this area. However, this scoping study has highlighted a number of issues or areas that require further consideration or work as the project develops (in no particular order):

1. The four countries are in different places with regard to AT, in terms of supporting strategies and workforce plans and models of service delivery. Thought should be given to how best to work with the current situation not only to build on learning where countries are further ahead, but also to ensure the strategy has meaning, relevance and impact across all UK countries.
2. While many local authorities are now involved in delivering AT services, current knowledge would indicate a reliance upon 1st generation technology with moves into using 2nd and 3rd generation technology becoming more common[19]. The employer survey has the potential to tell us more about the extent of services beyond this, however, the strategy needs to reflect both the reality of this current situation as well as consider the workforce implications of moving forward to include 3rd generation technology in the longer term.
3. There are a number of existing documents and frameworks in this area, which begin to identify tasks, competencies and associated skills and learning required to deliver services. It would be useful to build on these existing documents and start to extract and map out the commonalities between existing resources in order to identify remaining gaps.
4. Given the pace of change in technology and social care, alongside the ongoing pressure for integration, it is worth considering the importance of tasks rather than job roles (which will be both different across the countries, but also likely to change in the future) as they offer more commonality and certainty.
5. The integration agenda is moving forward in all 4 countries and how this impacts on the learning and development needs of social care staff in particular relation to AT needs to be considered, especially where there is clear overlap between health and social care staff, e.g. discharge from hospital, prevention work etc.
6. The scope of the strategy should be carefully set out. For example, while housing hasn't been discussed in much detail above, there are clear links between housing and the delivery of AT. The work in Northern Ireland highlights the role of housing in the delivery of telecare and there is potential for strong links with housing through this agenda. However, there also needs to be a clear and specified audience for the strategy in order to make it practical and useful.

[19] 1st generation includes equipment and devices refers to user activated alarms that trigger a response from a call centre, carer etc.
2nd generation progresses to sensors and detectors which can monitor the home environment, vital signs, physiological measure and lifestyle and collect and transmit information continuously
3rd generation reflects improving and increasing broadband, wireless and AV technology and introduces information, visits, social contact etc virtually

7. Self-funders are an emerging group and with the increased access to technology through smart phone applications etc, a group which may also have learning and development needs. How and where self-funders fit into a national strategy needs to be considered. Options to work with the voluntary sector to reflect or lead this strand of work offer some potential to ensure the strategy is reflecting this broader sector.
8. While there is a similar policy drive behind the work in AT, the language and emphasis in the four countries differs as outlined above. The strategy needs to consider how to position the work to reflect the different language used but present a co-ordinated picture of moving forward.
9. As already mentioned, the work needs to build not replace existing work in developing the workforce to deliver AT services. In addition, work to embed AT into existing qualifications and CPD is a key consideration. By embedding for example into Level 2 Diploma in Health and Social Care (England), awareness will increase; AT becomes a more 'normal' part of care packages etc.
10. Finally, in order for staff to maximize the impact of AT with service users, there needs to be a level of confidence within the workforce around technology more generally. The strategy has potential to address not only specific learning needs around the tasks involved in the delivery of AT but also the confidence needed to advocate and assist with the technology itself.

8.2. Employer survey

The final part of this report sets out potential areas for inclusion in the planned employer survey. The aim of the survey is to develop understanding of service delivery in order to inform workforce development plans. The survey objectives are to:

- Confirm and add to knowledge of service delivery models
- Ascertain the extent to which AT is combined into existing job roles and developed new ones
- Confirm current approach to education and training
- Identify current learning and development gaps and ways forward to help fill them.

Reflecting these objectives and learning since the proposal was written, the suggested areas for further investigation through the employer survey are outlined in the table below.

Theme	Suggested questions
Workforce demographics	To map the spread of the survey and range of participants a set of closed questions about: • Sector currently employed in (local authority, PCT, other statutory, PVI etc) • Current job role (social worker, support worker, installer, nursing staff, technician etc)

	• If specialist telecare team member open question about route into AT service
Delivery of AT service[20]	Reflecting tasks outlined above a series of closed questions about: • Service commissioning • Referrals process • Assessment • Installation • Monitoring and response • Review
Integration with other services for AT services only	A series of closed questions looking at: • Integrated delivery of services • Partnership working • Links with services outside social care
Level of services offered	Information on the extent to which investment has been made in technology are required to assess fully where workforce development effort has to be place to make most impact. However, rather than list equipment, the survey could focus on thinking about the use of 1st, 2nd and 3rd generation equipment and devices
Staff views of AT	• Perceived benefits • Ongoing concerns
Role in service delivery	• Role in delivery of AT services • Length of time involved in delivery of AT services • Self assessed level of awareness and knowledge about AT
Learning and development	A set of closed questions to establish learning and development support offered specifically around AT • Induction • Of and on the job training • Frequency and access • Mandatory or voluntary • Content • Usefulness (scale?) • Quality of opportunity
Perceived shortfalls	A set of questions to identify perceived gaps in current knowledge, which could be supported by learning and development opportunities: • Knowledge of skills gaps • Suggestions to address gaps • Level of learning required • Learning and development formats

[20] It might be that this question is limited to commissioners or service managers only

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Appendices

Appendix 1: Learning and development approaches

Academic courses

There are at least four different aspects to further education encompassing assistive technology, telecare and telehealth depending on your perspective: health and social care courses, occupational therapy, design, engineering and computing science. This report focuses on health and social care, more detail on other disciplines can be found on the FAST website if required [21].

Provision for pre and post-registration curricula are limited, and it is difficult to fully establish provision across higher education institutes and colleges as the work is fragmented. However, a number of courses were identified at different levels as detailed below:

- Masters: University of Coventry offers a masters in Assistive Technology
- Undergraduate: University of Coventry offers a foundation course in AT (available as distance and work-based learning)
- Course modules: University of Hull offers a 20 credit telehealth and telecare module either at degree or masters level which can be part BSc Health and Professional Studies, BSc Critical Care, MSc Health Professional Studies
- Course module: University of Sheffield modules for undergraduate medical students
- Certificates:
    - Professional Development Award in Telehealthcare (SCQF/QCF Level 6)
    - BTEC Professional Certificate in Healthcare and AT
    - BTEC Advanced Award in Provision of Community Equipment
    - Certificate in Supporting Users of AT[22] (offered through City & Guilds)
    - Certificate in Telecare Services
- ONC: ICT, Enabling Technology and Disabling Conditions

Professional Qualifications

The Trusted Assessor Programme was developed based on the Trusted Assessor Framework by Ballinger and Winchcombe (2005) described above. It is an overarching programme encompassing different roles but based on the same common competency framework and includes: Trusted Assessors, Trusted Technicians, Trusted product Advisor/Community Equipment Dispensers, Trusted Drivers/Fitters. A number of areas are embracing this programme as it dovetails and provides a framework from which to operate. It would be interesting to find out more about how far use of this programme reaches.

[21] See http://fast.isledev.co.uk/services/degree.php for details of courses in computing, design and engineering

[22] Currently under review as licence expires end August 2011

Individual Modules or Units of Training

In addition to pre qualification and professional courses, there are a number of modules or units that are available to post qualification professionals and practitioners which contribute to other qualifications:

- Contribute to Supporting Individuals in the Use of AT (contributes to Diploma in HSC at Level 2)
- Support Individuals in the Use of AT (Level 4)
- Support the Use of AT (Level 5)
- Assistive Technology Learning Tool
- Module in e-systems (contributes to degree programme)
- Technology to support independence (Level 4)
- Assistive Technology Unit (unclear where this fits into broader framework
- RCN Telehealth module.

Training courses

From discussion, it would appear there are different training courses providers:

- employers
- academics
- suppliers or manufacturer
- third sector organisations.

In addition, telecare and telehealth can feature as a part of broader training (e.g. training to work with people with dementia). This information is not detailed in this report.

In-house employer training

There are a number of points at which employers can offer in-house training on AT, telecare and telehealth. Induction training is the first point at which the information can be introduced and there was some evidence that this is happening to a limited degree. It would be useful to follow this up in future work. After induction, there were some examples of employers using in house teams to deliver different aspects of training including:

- awareness raising and introduction to equipment on offer
- assessor training
- installation training
- review training
- risk assessment.

For example, Birmingham Community Healthcare offers a range of one of training days in this area for example, introduction to environmental control, care pathways, introduction to AAC etc. Barnsley Council also has a specialist telecare team who are responsible for delivery of training to social care assessors and installers. Their training was backed up by a strong protocol and process for assessors to include as part of holistic assessment.

In Durham, increasingly tight resources have encouraged the training department in Durham County Council to think of alternatives to complement face-to-face training.

The development of the e-library (www.durhamelectroniclibrary.org.uk) has been one route in which staff are supported to access materials and information relating to different areas including telecare. The 'moodle' (centrally supported virtual learning environment) covers a range of topics including telecare. In addition, an e-module for remote learning is being developed for use in the locality.

In Yorkshire and Humber, 12 local authorities have formed a learning consortium, one strand of which is the AT learning platform. Employees can register and access online training around AT, telecare and telehealth covering an introduction to the area, information on the range of AT equipment, telecare, telehealth and re-ablement, and case study materials to support learning.

Academic training courses

In addition to the limited number of courses and modules identified, some universities offer short courses to tackle specific issues:

- York St John offer a course on the application of telecare and AT on falls prevention and management
- University of Coventry offer courses on the *Assistive Technology Learning Tool* and an introduction to AT to support people at home
- CUHTec based at the University of York offer a series of short courses in addition to operating a regional telecare forum (see below for more detail), which also contributes to CPD.

Supplier training

A number of examples of supplier training were identified and again further work would be able to identify the extent to which employers rely on external training from this source. A number of reasons for engaging supplier training were given:

- low cost and often part of the agreed contract (see for example information above on national procurement framework)
- only training available locally
- specific training reflecting products and employee needs
- training available quickly and easily.

In addition, training was often not a priority for employers, particularly those who commissioned a managed service whereby staff employed to deliver the service were already trained in the specifics to do the job.

However, a number of criticisms levelled at supplier training in particular the specific focus on own brand technology, lack of appropriate context i.e. little information on ethics or consent associated with AT, telecare or telehealth, little on governance or inclusion of users in decision-making

It is worth noting that Tunstall have developed the Tunstall Telehealthcare Training Tool (TTT) which was mentioned throughout the course of the research. It is aimed at enhancing and refreshing knowledge of professionals working in telehealth and telecare. The tool guides users through a series of assessment scenarios based on

risks to independence through role-play and virtual simulation of real life examples. Feedback is offered at each stage to improve learning outcomes.

The WSD sites used supplier training as an initial step to workforce development (WSD Q&A booklet). Following initial training, those trained were able to take the learning back and roll out in-house (including deployment, training for users and back-office systems). In addition, there was individual training for users, including relevant questions.

Commercial and third sector organisations

Virtual College

The Virtual College has developed an e-learning module *An introduction to Telecare and Telehealth*[23] in collaboration with the University of Hull, Sheffield Hallam University and the Health Innovation and Education Cluster (NHS) in Yorkshire and Humber. The module is RCN accredited and contributes 2-3 hours toward CPD and provides a foundation in the area for support staff, health and social care professionals, service managers and commissioners, service users and carers. The partnership will launch *An Introduction to Behaviour Change* as a follow up module in June. Related modules in falls prevention and self care are also available through the college.

The HIEC has also produced a range of organizational resources to increase awareness and build capacity and capability in the use of new service models incorporating telehealth. Workbooks and a toolkit with case studies support the course.

After Ruby

A small consultancy specialising in Assistive Living and Telehealthcare for NHS and local authority audiences. They have recently been contracted by the University of Southampton and Wessex HIEC to deliver direct educational content to managerial and clinical audiences on Telehealth and Telecare encompassing service models, business cases, clinical quality, ethics and other core elements to the organization and delivery of an effective high quality Telehealthcare service.

T-Cubed

T-Cubed is a telecare consultancy that provides strategic and operational support to telecare services and commissioning bodies in the UK to help with design, planning and implementation of personalised telecare services. In partnership with CUHTec at the University of York developed the Telecare EPG which is available online and described in more detail below. They offer bespoke Telecare Prescription Training courses in addition to courses to tie in with the Telecare EPG.

CAPP

[23] www.virtual-college.co.uk/products/telecare-telehealth.aspx

Care Performance Partners (CaPP) are a small-scale consultancy with an expertise in telecare. In particular, they offer an assessment of telecare services with the aim of producing evidence to plan growth and target services, estimate efficiency gains, and extend the value of telecare in prevention, re-ablement and for people with long term conditions. Training to support the work is available to build knowledge of telecare to embed it into support packages either through bespoke training for organisations or work with care managers to illustrate potential for telecare (see www.capp-ltd.co.uk for more information).

Choose Independence
Choose Independence is a consultancy with expertise in telecare and telehealth. In addition to a range of strategic and development support, they offer training for staff and telecare champions.

Centre of Excellence for Telehealth and Assisted Living
Provides support for healthcare professionals with support to organize telehealth and assisted living services. The centre is developing packages that combine service models with assessed technology to present workable telehealth services based around specific clinical needs.

TSA
The TSA offer a range of training to members: support for the Code of Practice (either for those members looking to accredit or are already accredited and want to maintain this status) including courses on telecare profiling, handling difficult calls etc; a series of courses starting in Autumn 2012 that will introduce long term conditions like dementia, to staff; and customer focused courses on how to improve business.

Train the trainers' courses
Assist UK offers a short York St John University accredited course which trains people with experience of AT and community equipment to deliver the 'Trusted Assessor Programme'. The focus is upon skills and knowledge development to enable the trainer to organise, manage, run and assess TAP courses. Learning outcomes include critical appraisal skills to present the TAP framework, evaluation of own assessment and training skills, ability to apply learning and teaching strategies required to be an effective trainer and skills to organise and manage the TAP course.

DLF offer a 2-day training course to help organisations develop their Trusted Assessor Training. The course is CPD-accredited by the CPD Certification Service and is available to professionals working in the community equipment field who are involved in either delivering or developing training. The course aims to help participants:

- Design and organise a programme to deliver training for Trusted Assessors
- Consider the needs of potential students
- Apply a range of methods and techniques for teaching and learning
- Consider assessment of students during and at the end of the learning process.

Additional learning routes

Professional associations and networks

A number of professional associations operate both in the UK and Europe. The aims of the associations vary but include:

- *British Healthcare Trades Association Assistive Technology Practitioners Society*: There are four levels of registration (pre-reg, basic, advanced and specialist) based on initial training and ongoing CPD to demonstrate confidence and competence in different areas. All members sign up to a code of professional practice and membership indicates a level of competence, and potentially instils confidence in users
- *Telecare Services Association* (TSA): The TSA is a representative body for telecare in the UK. It aims to support the industry and highlight benefits of telecare to consumers. With over 350 members, the TSA has a voice with government and devolved authorities and is involved in policy developments across the UK. In addition, they have developed a CoP for providers
- *Association for the Advancement of Assistive Technology in Europe* (AAATE): An interdisciplinary pan-European association bringing together members from the fields of research, development, manufacture, supply, provision and policy. The association aims to increase awareness of AT, promote research and development, facilitate knowledge exchange and disseminate information about AT
- *International Society of Telemedicine and e-Health*: The society aims to facilitate international dissemination of knowledge and experience in telemedicine and e-Health by providing access to experts, supporting developing countries, supporting telemedicine and e-Health activities worldwide
- *Foundation of Assistive Technology (FAST)*: FAST is an advocacy organisation with a remit of working with different sectors to raise awareness of AT, to document research and design in the area to inform partners, to provide analysis of research and development trends and act as a central hub for the sector to promote good practice and address cross-sector barriers, to involve users in design of technology
- *Telecare Advisory Network*: This network was brought together by the DH and the Care Services Improvement Partnership and involved key organisations from the world of telecare with the exception of equipment suppliers. Representation included local authorities, academics, government etc. However funding has ceases but there is hope the funding might be picked up elsewhere to re-establish the network
- *Whole Systems Demonstrator Action Network (WSDAN)*: WSDAN is linked to the WSD pilots and aims to combine research, educational and experiential learning opportunities to progress the impact of telecare and telehealth. Interested parties are connected via a website, networking events and research and development activities

- *Champions Networks*: Some areas operate a champions network (e.g. Kent, Scotland) which offers a chance for practitioners who are often from different professions but linked by geography to connect and share practice and learning**.**

Online forums and updates

A number of network organisations exist in addition to professional bodies including:

- *ALIP*: The Assisted Living Innovation Platform (ALIP) is engaged in delivery a wide ranging programme to enable the ageing population and those with long-term health conditions to live with greater independence. One aspect of the work is the transfer and sharing of knowledge between industry sectors, health and care professionals and users
- *Telecare Aware*: provides news and information to people interested in telecare and telehealth. The purpose is to help suppliers and service providers keep up to date with what each other are doing. The service is independent and offers information from a wide range of sources
- *WSDAN:* in addition to activities described above, regular updates and e-news emails keep practitioners up to date on current telehealth and telecare activities
- *CUHTEC Regional Telecare Forum*: The forum provides an opportunity for members to get together and exchange ideas and experiences with an emphasis on sharing best practice. It contributes to CPD via University of York
- *International Council of Nursing-Telenursing Network*: The network is to support, educate and collaborate with nurses who have an interest in telenursing and to promote the involvement of nurses in the development and use of telehealth technologies with the goal of improving timeliness, quality and access to a broad range of services for individuals, carers and communities.
- *Telecare LINs*: In England and Wales, telecare learning improvement networks operate to share good practice and offer learning opportunities to members. In Scotland the equivalent is Telehealthcare - The Knowledge Network

Smart Homes and Equipment Demonstration Centres

Some areas have invested in developing demonstration centres, often including smart homes for both public and professional training. The idea is to raise awareness and knowledge of AT, telecare and telehealth through interaction. For example, the Disability Living Foundation offers users and professionals the opportunity of trying out equipment under the guidance of a qualified assessor. The Demonstration Centre (based in London) has over 1000 items on display and includes a SmartHome developed in partnership with Westminster City Council, Westminster PCT and City West Homes which displays the latest equipment available to help older people live at home. In Portsmouth, the Vanguard Centre offers an opportunity to test sensory and telecare equipment before purchase.

e-learning

As outlined above, e-learning is an alternative route for education and training in this area. The Virtual College offer one module in telecare and telehealth. Yorkshire and Humber Learning Platform have taken a broader approach and offer a learning module on assistive technology. In Leicester, they to have developed an online module for certification of competencies around AT.

Online resources

In addition to e-learning, there are a few sites that offer access to information about the range and functionality of AT, telecare, telehealth in an attempt to inform professionals and users alike.

www.telecare-epg.co.uk/

Telecare EPG is an online resource tool that provides "independent and impartial expert-validated" prescription guidance for telecare and related electronic assistive technologies. The site guides service professionals to help them select the most appropriate equipment to meet individual needs of service users. Guidance is supplemented with product reviews, comparison reports, articles and tutorials on technology of relevance. The site was developed and is maintained by T-Cubed in partnership with CUHTec. Telecare EPG is relevant for those with responsibility for prescribing equipment, managers with responsibility for developing equipment inventories, services providers and installers. For each piece of equipment featured, the following guidance is provided:

- a basic description of the product
- indicators and contra indicators to consider when establishing suitability or otherwise of equipment
- key points to consider when performing assessment in order that equipment may be set up and installed correctly
- relevant technical information (e.g. battery life, stand alone or linked to telecare system)
- links to manufacturers details together with alternative supplier details
- a list of related equipment that might be considered as alternative.

As stated above, Wales have taken an 'all Wales' subscription to the Telecare EPG.

www.try-it.ie

This website offers access to a 'library' of electronic assistive technologies (EAT) which enables staff and service users of member organisations to borrow devices to enhance client assessment or for professional training. The initiative is designed to:

- Increase awareness of and access to suitable technological solutions to support independence
- Increase efficiency and effectiveness of related services.

Operated by the Disability Living Foundation (DFL) the Living Made Easy website (www.livingmadeeasy.org.uk) provides practical advice on daily living equipment including information on communication equipment, home and safety devices, mobility and walking, personal care, telecare and telehealth. In addition to information, the site offers information on local providers, AT forum for open

discussion and links to a second site giving more detailed information on specific pieces of equipment (www.asksara.org.uk).

askSARA provides an online help and advice service for members of the public or professionals. The website covers three main areas:

- Health (medication management, hearing, memory, walking and falls etc)
- Home (fixtures and fittings, different rooms in house etc)
- Daily activities (preparing meals, eating, drinking, help in emergencies, household chores etc)

The website takes users through a series of questions to generate a report of recommended actions for consideration to improve independent living. A number of areas in England have licensed askSARA for their area and reports can be customised to reflect local services. These areas include:

- Bath and North East Somerset Council
- Blackpool Council
- Cornwall Council
- Croydon Council
- Essex County Council
- Hampshire County Council
- Haringey Council
- Isle of Wight
- Knowsley Council
- London Borough of Hounslow
- Plymouth City Council
- Somerset County Council

AT Dementia (www.atdementia.org.uk) brings together information about AT and other products that can support independence and quality of life for people with dementia. The site is aimed at both professionals and wider public and aims to point people in the right direction for advice and information. The site is tied into askSARA and provides a direct link though to the product guide described above.

Avolution

MedilinkWM is an industry association which provides support to companies selling products and services within the medical technologies, biotechnology market and pharmaceutical sectors. MedilinkWM have devised a website (www.avolution.co.uk) dedicated to the assisted living market. The site focuses on the role of technology in intelligent healthcare, on supporting independent living, and those with long-term health conditions. Within the site there is a technology finder which is reported as being an 'independent, unbiased, comprehensive' product comparison website which has been developed by health and social care commissioners to help with the selection of assisted living technologies for service users. The site is directed a those responsible for prescribing 'packages' of care and features:

- Telecare products - fall detectors, panic buttons, wandering alarms
- Telehealth products - vital signs monitoring

- Assistive technologies - environmental control, communication aids, home automation.

http://yhhiec.org.uk/yhtoolkit_content/Home_Home_Part1.html
HIEC and the Long Term Conditions Board developed the *Yorkshire and Humber Telehealth Toolkit*. It is aimed at providing business development, commissioning and procurement guidance to organisation wanting to develop telehealth and telecare services. Currently it is available online and covers:

- overview of telehealth
- video case studies
- telehealth service models for tele-coaching, tele-monitoring and tele-consultation
- success factors for deployment including governance, change management, interoperability and evaluation
- other telehealth toolkits and resources
- telehealth service documents for Yorkshire and the Humber.

www.northwestjip.co.uk/reablement-home/ict
As part of re-ablement strategy for the North West JIP, AT and training featured. Cross-referencing with training of re-ablement staff so that they have an understanding of the equipment used within the service and its capabilities
For professionals involved at the front-end of re-ablement e.g. within a single point of access (SPA) or in an integrated discharge team, this means the development or adaptation of systems to:

- receive referrals for re-ablement
- undertake screening and record the outcomes of that screening
- make referrals for service provision to service provider(s)
- report upon re-ablement and associated screening.

Other websites giving targeting the general public, although useful and accessible to professionals and practitioners include:

- All About Equipment (www.allaboutequipment.org.uk) a partnership website involving FAST, Assist UK, DLF and Ricability which offers information on assistive technology for users
- askTARA (www.asktara.org.uk) developed in partnership with Improvement and Efficiency West Midlands and the Joint Improvement Partnership. The website provides information about services and products for independent living including local information on where to purchase equipment, costs and user reviews
- In Durham their learning environment includes AT and telecare and directs professionals working in the area to other useful resources to improve their knowledge and understanding of the area.

Journals and Publications
A number of journals and publications are available in the area. The main ones relating to workforce development include:

- *AT Today:* a new magazine published by BHTA which aims to bring readers the latest global developments in the world of AT
- *Assistive Technologies:* is a magazine that brings together the latest news, insight and product information to clinicians, therapists and equipment suppliers with an interest in helping people with disabilities lead a more independent and mobile life. It covers rehabilitation, orthotics, prosthetics and orthopaedics as well as treatment in specialist fields of OT, physiotherapy and mobile engineering.
- *Journal of Assistive Technologies*: debates definitions and concepts within assistive technologies, and addresses ethics, policy, legislation and issues for day-to-day practice. Articles focus on how people use assistive and enabling technologies, rather than solely on the technology itself, and raise awareness of available technologies
- *Disability & Rehabilitation: Assistive Technology:* an international journal which provides information on disability and rehabilitation science, including practise and policy aspects of the rehabilitation process. Assistive Technology is specific to technological developments which enhance the rehabilitation process and outcomes. The papers contained in the journal mainly focus on assistive technology.
- *Augmentative and Alternative Communication*: the official journal of the International Society for Augmentative and Alternative Communication (ISAAC). AAC publishes original articles with direct application to the communication needs of persons with severe speech and/or communication impairments for whom augmentative and alternative communication techniques and systems may be of assistance. AAC is peer reviewed.
- *Technology and Disability:* communicates knowledge about AT devices and services, within the context of the lives of end users and family members. The journal covers research and development, education and training, services and policy activities and consumer experiences.

Written resources

In the social care sector *Telecare Training Resources* are being developed by North Yorkshire County Council. These will be launched in late November.

The Yorkshire and Humber HIEC have developed *Telemonitoring for Long Term Conditions: a workbook for implementing new service models.* It sets out the evidence base and benefits of telemonitoring, a framework detailing how telemonitoring will impact on services, a practical step by step guide to implementation and a checklist of key strategic and operational questions critical to ensuring maximum benefits are realised.

The NHS Education for Scotland's Telehealthcare Community portal contains a wealth of information and resources that can be downloaded and used for awareness raising and training purposes. This includes a range of audio-visual resources including digital stories and user / carer films which promote the benefits of assistive technology and positive outcomes for service users and their carers.

Appendix 2: Training framework from *Telehealthcare in Scotland: An education and training strategy*

Stakeholder Group	Description
Elected Members, Board Members, senior strategic and operational managers	In health, social care and housing services (public, private and voluntary sector providers)
Assessors	GPs, nursing professionals, allied health professionals, social workers, housing staff
Equipment installers	Support workers, home carers, technicians
Call handlers	Support workers
Responders	Support workers, home carers, unpaid carers, volunteers
Service users	Service users of all ages
Carers	Carers of all ages

The types of training required for these groups include:

Training type	Stakeholder group
Awareness raising	All stakeholders
Telehealthcare installations and programming	Staff involved in installations, equipment maintenance, asset management
Assessment and prescription (of packages)	GPs, SSA assessors (in health, social care and housing), care managers, etc
Call handing and reporting	Call handling staff
Response	Responders, emergency services, re-ablement teams, etc.

The formats of training delivery required are:

Training format	Description
Induction training	Based on nationally agreed core content, locally delivered and non-accredited;
Vocational skills training	Various delivery methods and accredited, i.e. validated by the Scottish Qualifications Authority (SQA)3
Continuing professional development	Various delivery methods and SQA accredited;
Topic specific training	E.g. use of technology in dementia care, etc. various delivery methods and accredited, where possible