ALT market in the UK

AKTIVE Market Report:
Initial Overview

Advancing Knowledge of Telecare for Independence and Vitality in later lifE

AKT**Y**VE

Technology Strategy Board
Driving Innovation

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2. Introduction

Market research and analysis are essential tools for anybody developing product or services for their market. Developments in the market for assisted living technologies in particular its digital care submarket are seen as potentially forming part of the solution to meet demand for care generated by an ageing population.

In order to encourage successful innovation in those markets, it is thus necessary to provide suitable market intelligence which can help key stakeholders to make decisions about innovation.

This market report is an initial overview looking at the state of the assisted living market in the UK.

2.1. OBJECTIVES

Inventya Ltd. are partners in the AKTIVE project, Advancing Knowledge of Telecare for Independence and Vitality in later LifE, which is one of the Assisted Living Innovation Platform projects running between June 2011 until May 2014.

This initial market overview was conducted by Inventya Ltd. during January – May 2012 with the aim of achieving the following objectives:

- Inform the academic research team about the state of the ALT market in the UK

- Create an understanding of barriers to the commercialisation of ALTs

- Identify topics for further market research

This report will serve as a baseline for developing additional market intelligence materials, which include industry white papers to be published in December 2013 and April 2014 as well as a comprehensive market research report. These materials will be available through the AKTIVE website and the findings will be passed on to the industry through interactive workshops during a two-day conference organised by the AKTIVE team in April 2014.

2.2. METHODOLOGY

This paper was prepared by Inventya Ltd. The information presented here has been collected from both primary and secondary sources.

Initially, key assumptions about the assisted living market in the UK were identified through secondary research and used to construct the industry surveys and interviews.

Secondary sources

- National Statistics

- Government and EU reports

- AAL reports

- Market Reports

- Other studies

These surveys were sent to clinicians, representatives from local authorities and manufacturers of assisted living technologies. Some of these were also additionally interviewed.

Primary sources

- 15 Health Professionals specialising in geriatrics

- 10 Local Authority representatives

- Community Equipment Services (ICES) representatives

- 9 Manufacturers of ALTs

- 2 Retailers

- Others (housing consultant, academics)

The scope of assisted living technology providers covered by this initial research was widespread.

Further AKTIVE market research will focus on information communication technologies, specifically telecare and technologies supporting people prone to falls or suffering from dementia.

2.3. DEFINITIONS

Assisted Living Technologies (ALTs) can be used as an umbrella term for various subcategories of products, and defined as: *Any device or system that allows an individual to perform a task that they would otherwise be unable to do, or increases the ease and safety with which the task can be performed.* They can be found in different markets, not necessarily purely for 'medical' devices.

The diagram below illustrates a simplified view of the breakdown among ALT markets: Digital Healthcare, Smart Home; and ALT product categories: Standalone products and devices.
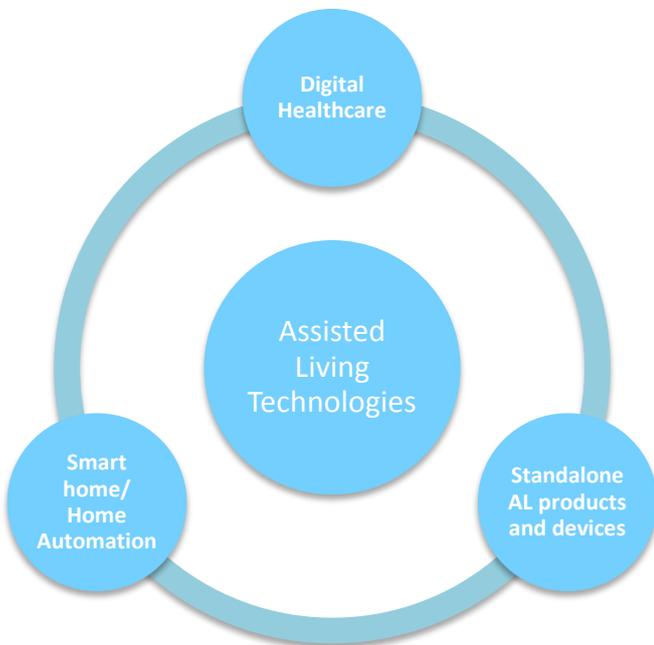

Figure 1: Caterogizing ALT markets

The diagram above (Figure 1) does not represent a full range of markets penetrated by assisted living technologies but it shows markets in which assisted living technologies have substantial presence.

What are the differences?

Both digital healhcare and smart home markets are based on information communication technologies which have the capability to communicate with other devices or can facilitate communication between two or more people.

The standalone assisted living (AL) products and devices category includes products such as various simple daily living aids or furniture. These type of product are hugely important in making the lives of people easier and giving them independence by simplifying some of the tasks they perform. However, they are not classed as digital intelligent devices and thus would not qualify to be part of the digital healthcare or smart home category.

Wide range of devices in all three of these categories are classed as '*assisted living technologies*'.

Assisted Living Technologies (ALTs)

In the widest sense, Assisted Living Technologies could be classified as any type of **product which helps an individual to live, act, or work more independently.** However, a car helps one to be more independent, is it an assisted living technology? To further define what would be classified as an ALT, in order to differentiate these devices from any general assistive devices such as a car, the following definitions offer some clarification

A definition taken from the Global Assistive Technologies Encyclopaedia, describes Assisted Living Technologies as:

> *"A generic term that refers to assistive, adaptive, and rehabilitative devices for people with disabilities and includes the process used in selecting, locating and using them. Assistive technologies include mechanical, electronic, and microprocessor – based equipment, non-mechanical and non-electronic aids, specialised instructional materials, services, and strategies that people with disabilities can use either to a) assist them in learning, b) make the environment more accessible, c) enable them to compete in the workplace, d) enhance their independence, or e) otherwise improve their quality of life."*

This definition refers to individuals who can benefit from the use of assisted living technologies as people who have a disability.

The World Health Organisation defines disability as:

"Disabilities is an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives."

Considering definitions of Assisted Living Technologies in a global sense, the U.S. Department of Commerce[1] suggests that these products are *"defined broadly as encompassing any kind of process, system, or equipment that maintains or improves the capabilities of people affected by disabilities of any kind-physical or cognitive"*. These definitions narrow down somewhat the initial scope which these technologies cover, from technologies designed for '**anybody who wishes to live more independently'** towards technologies designed for '**people who by definition have developed needs for it'**.

Digital health care or digital care?

While the buzz word in the industry is mainly digital healthcare or health technology, this term does not intuitively include social care where digital developments have been taking place as well.

Social care and health care are interlinked but while for the latter the primary focus is the safety and overall wellbeing of citizens, for health care the primary focus is the physical and mental condition of citizens.

A move towards digital care is on the agenda of many western countries looking for ways to meet the growing demand for healthcare services with restricted budgets. This drives the development of products and services which connect people and care professionals remotely.

Digital care consists of the following areas: Telemedicine, Telecare, Telehealth and Mobile Care. Although separate, these areas are interlinked. For example telehealth data can support telemedicine or mobile care incorporates all three areas where care technology can be used on the move. See the following definitions for more details about digital care terminology adopted by AKTIVE market research team.

Telecare/Telemonitoring

▶ *The provision of a monitoring service to an individual to enhance their safety and security and provide access to assistance.[2]*

▶ *Real-time monitoring of non-medical data such as general behaviour patterns, falls, emergencies and the provisioning of social care directly to the user, in their homes with support from information and communication technology (ICT)*

Telemedicine (Telerehabilitation)

▶ *Use of telecommunication and information technology to provide clinical healthcare at distance*

▶ *The use of medical information exchanged from one site to another via electronic communications to improve patients' health status. This typically involves remote consultations with specialists to support care delivery, as well as health education and the transfer of medical data.[3]*

Telehealth

▶ *The remote exchange of physiological data between a patient at home and medical staff at hospital to assist in diagnosis and monitoring.[4]*

M- Health (M- Care, E-Care)

▶ *The use mobile devices harnessed to extend telecare and telehealth services on the move[5]*

It should be noted that this terminology is evolving which means that there is a wide range of definitions available. Some experts believe that this lack of agreement over what the correct terminology should be and the consequent differences in its usage are slowing down development of the market itself.

Smart home

Sometimes terms such as 'home automation' or 'domotics' are used interchangeably to refer to information and communication technology in homes where the components are communicating through a

local network. This network can also have the capability to communicate with the world outside.

These technologies have been around for a some time, what makes them smart is how the communication between these devices is integrated to fulfil various purposes such as safety, security, energy control systems or entertainment.

Smart home devices could be categorised under the 'assisted living technologies' umbrella since they can help an individual to live more independently by making their home environment easier to interact with and safer to live in.

Smart home applications are often adopted for reasons of ease and security but also energy efficiency. All three topics fit well with the ideals of ambient assisted living but they also fit well with the ideals of most people.

Could the word 'smart' be a suitable candidate for replacing the word 'assistive'? Smart home fits the definition of assistive technologies in its widest sense. It also reflects the direction towards which most people can lean, towards an intelligent environment which makes tasks easier for them. One does not need to have a disability or an impairment to find smart (assistive) technology useful.

Could using 'smart' terminology potentially help with removing the stigma around the use of the term 'assistive' which in itself contain an indication that somebody needs assistance or help? Instead people could be talking about 'smartness'.

Most people use technology to make certain tasks easier for them. To clean the dishes, some people use a dishwasher while others just hand wash them. Sometimes you have the choice to not use technology, sometimes it is perhaps the only way you can complete a task – with technology. Technology just helps one to expand their current capability.

When analysing markets, the terminology used is important in order to achieve clarity of what is being covered by the analysis. Topics such as future cities, internet of things as well as the already discussed smart home, telecare and telehealth, they all relate to 'assisted

living' and should not be considered as completely separate areas of developments.

3. Supply side: technology providers

3.1. SCOPE AND DIVERSITY

The definitions discussed in the previous section suggest that there is a variety of companies whose products could be considered to be part of the ALT market. Many technology providers which have an established business in healthcare such as Phillips, Bosh or General Electric are entering the ALT market and competing against the traditional specialist providers of assisted living products. **This is particularly evident** in the telecare and even more in telehealth markets or more generally in **digital care.**

The assisted living technologies group of products is spread across a range of general product categories. Examples of these categories are listed below:

- Smart home automation
- Safety and security
- Consumer electronics
- Mobility products
- Communication devices
- Medical assistive technology
- Telemonitoring/Telemedicine
- Simple living aids
- Adapted products

While social and healthcare professionals know of ALTs, they are not widely known to public. This has implications for introducing assisted living technologies to the consumer market.

From reviewing companies involved in developing technologies classed as assisted living technologies, it can be seen which categories of products have more players than others.

The mobility category, which includes products ranging from wheelchairs, stair lifts, bath lifts hand rails; prosthesis to simple walking sticks, has the largest

number of technology providers. The second largest categories include providers of specialist furniture together with organisations which develop products to compensate for common impairments e.g. hearing aids or vision aids.

In 2012 there were about 40 UK companies, found through this research, which could be classed as 'telecare manufacturers'. Their products range from GPS tracking devices, pendant alarms to door entry systems. In theory, as long as the system or sensor could be linked with some kind of a safety monitoring system then it could be classed as telecare.

3.2. PRODUCT DEVELOPMENT

UK Government initiatives have been encouraging the development of the assisted living market in the UK, mainly seeing it as a win-win-win alternative. By developing and mainstreaming products which support people in living more independently and which can also prevent or at least slow down health deterioration, the market is seen as a part of the solution to challenges posed by ageing UK demographics.

Not only can these technology solutions potentially save some social and healthcare costs but the businesses standing behind these products can also create jobs and hence stimulate economic growth.

It is expected that ainstreaming assisted living technologies widely across the UK would most likely result in preventing some social and healthcare costs. In order for this market situation to occur, these technologies need to be wanted and accepted (used) by their targeted end-users.

As ALTs have been traditionally targeted at organisational buyers, their aesthetic qualities have been often limited to the minimum requirements even their functionality was often not end-user focused. It is now widely accepted across the assisted living innovation platform that such design practices impact negatively on the end-user's acceptance and uptake of these technologies.

One of the objectives of this market research was to find out more about the current practices of assisted living

technologies manufacturers and to see how they deal with product development. Local authorities and medical professionals were also asked to contribute their views on this subject in relation to their role in the process.

Manufacturers

- Only 20% of manufacturers who took part in Inventya's survey engage end-users themselves in the research and development phase

Various sources suggest that the involvement of end-users in innovation is an essential part of product development. Getting end-users involved in the early stages of product development has been even more important in recent years. In the ICT industry, where telecare products belong, there is the risk that researchers and designers create something that only a few people need, want to use, or are able to use.[6]

As part of this research, technology providers were asked 'through what channels they receive information about their primary end-users' for the purposes of product development.

Surprisingly only slightly over 20% of manufacturers which took part in Inventya's survey engage end-users in the research and development phase; they do so both through focus groups and patient studies. Informal carers, on the other hand, are the second most frequently used source of information.

According to the research findings, health professionals have an input in over 80% of R&D projects and occupational therapists in about 60%. There was no significant difference between the R&D of products targeted at people suffering from dementia or products targeted at people who are prone to falls.

Other sources included: Feedback obtained from retailers, social media communication, and formal carers.

Local authorities

- Every representative from a local authority who participated in this research indicated that their authority collaborates with an assistive

technology provider on R&D and commercialisation of assisted living technologies or services.

Local authorities in the UK are key players in the assisted living market as they have access to end-users and have a decision making power over buying ALT solutions. They are at the centre of assessing user needs and recommending solutions to support their independent living based on this assessment. They have a social care responsibility and thus provide care to local residents who pass their Fair Access to Care Services (FACS) criteria. Social Care Institute for Excellence defines FACS as a national eligibility framework for allocating social care resources fairly, transparently and consistently.

Their role puts them in a position of figuring out how to best support people who are in need of care in their area. If they do not provide a service themselves they contract independent providers to deliver the work for them, which is increasingly the case for domiciliary services.

So what role do they play in ALT development? They were asked whether they collaborate with any of the following organisations in the development and commercialisation of assisted living technologies or services:

- PCT's
- Assisted Living Technology provider
- Community teams for older people
- Community alarm providers or monitoring centres
- Carer groups
- Voluntary organisations
- Other

Every representative from a local authority who participated in this research indicated that their authority collaborates with an assistive technology manufacturer on R&D and commercialisation of assisted living technologies or services.

However, not all local authorities indicated that they collaborate with PCT's on ALT products and services development. Community teams for older people were used by 80% of Local Authorities (LA's), while community alarm providers or monitoring centres were used the least out of the type of organisations presented above.

Clinicians

- All geriatric experts indicated that they collaborate with community teams for older people in the development and commercialisation of ALT services.

The research undertaken also aimed to find out more about the **involvement of geriatric experts** in the development of products and services which address the needs of their patients who are prone to falls or suffer from dementia.

In order to understand this in more detail, the following types of organisations were presented to clinicians and they were asked whether they collaborate with any of them in the development and commercialisation of ALT products or services:

- Local Authorities
- Community alarm providers or monitoring centres
- Telecare or assistive technology manufacturers/ providers
- Voluntary sector organisations (e.g. Age Concern, Alzheimer's Society)
- Carer groups
- Community teams for older people

Of the 10 health professionals who responded to this question, 50% collaborate with more than three of the above organisations. All respondents collaborate with community teams for older people, whereas only 20% of the respondents worked with manufacturers of assistive technologies on product development.

It should be noted that the list of options was not exhaustive and there was no option for 'other' or a 'comment box', however it could be concluded that clinicians are much more involved with service providers than with technology providers.

4. Supply side: service providers

Assisted living technologies often require additional service provision. This ranges from an assessment of needs, assessment of finances, installation, maintenance, infrastructure support, on-going remote support (Telecare & Telehealth), reassessment of needs as well as the usual customer support.

This section looks at the generic type of services provided as part of assisted living technologies delivery and who delivers these in England. The ALT delivery presented in the following section, represents the outline of ALT service environment. The individual subsections then offer more information about that particular aspect of delivery.

4.1. ALT DELIVERY CHAIN

When an individual living in England begins to struggle living independently they can refer themselves or be referred to adult social care services in their local council.

The following stages describe the process an individual usually would go through when acquiring an assistive technology product via public provision:

1. **Awareness:** realising and accepting that one needs assistance

2. **Initiative:** initiating first contact between the public service provider and end-user

3. **Assessment:** the evaluation and recognition of needs for assistive products

4. **Typology/Taxonomy**: identification of the most appropriate kinds of solutions, and recommendation for a type of assistive product

6. **Selection:** selection of assistive device(s)

7. **Financing/Procurement:** authorisation of the financing body

8. **Delivery:** delivery of the assistive device(s) involving the installation, personalisation and training for an end-user in their supporting environment (for example at home or work)

8. **Follow-up:** maintenance and monitoring of usage and appropriateness for the individual requirements of the end-user

Awareness

Awareness is a key factor in the adoption of assisted living technologies. People who fall know they have fallen whereas people with dementia may not have insight into the problems dementia causes them.

Awareness of risk is a real issue here. Most people who fall do not see themselves as "fallers"; only a minority seek out help in terms of alarms or other assistance – this is usually driven by a relative or a health professional. There is a lot of work to be done to raise awareness of falls being a major health risk with severe adverse outcomes in later life.

Without being aware that one is suffering from something for which help can be received, there is nobody to take initiative.

Dementia

- Many people in the UK live with undiagnosed dementia and it is likely that many of them are not aware that they are suffering from it thus are not likely to make the most of the support available to them.

Early diagnosis, especially for patients with dementia is important. With early diagnosis, they will receive the correct and in-time information about their condition and how it is likely to progress. This can help them to plan for the future, including staying independent for as long as possible and in their own home if possible.

However, currently the diagnosis of this condition is not very straightforward. In Wales alone, over 27 000 people are estimated to have undiagnosed dementia, according to Alzheimer's Society Wales[7]. People themselves are likely to be unaware of their condition[8].

According to the research conducted by the All-Party Parliamentary Group on Dementia (APPG), the contributing factors for low diagnosis rates are following:

- Public education: 10% of people with dementia, of those included in the research, never went to their GP with it. They reported it was because the attributed their memory problems to older age rather than a health problem.

- Primary care: It is seen as a barrier to diagnosis rather than gatekeeper. The National Audit Office monitored GP's attitudes towards early dementia diagnosis. They found GPs can be discouraged by the perception that there is not much support available for people with dementia. The number of GPs who agree that early diagnosis is beneficial increased from 66% reported in 2007 to 77% reported in 2010.

- Variability of memory services across regions.

- Provision of diagnostic services: It has been suggested that the waiting times can be very long.

- Lack of post-diagnosis support

According to NHS Choices[9], confirming a diagnosis of dementia can be difficult, particularly when the condition is in its early stages. Early dementia has common symptoms with other conditions and thus determining the cause can be challenging. The time it takes to do all the necessary tests and assessments can be anything from a few weeks up to a year.

According to the APPG report the average wait for an appointment in a memory clinic is three months, however there have been cases when it took up to a year. If you add the wait for a referral to such memory clinic, which can be delayed by the inability of a health professional to recognise this condition, the waiting time for people who suffer from dementia and need to be thoroughly assessed is rather lengthy.

Falls:

- Although people can be aware of their higher likelihood to fall, they might attribute these symptoms purely to older age and not seek 'expert opinion and assessment'.

Unlike dementia, falls should be considered a symptom rather than a diagnosis. Falls in older people are often caused by an underlying medical condition or simply because the ability of their body to correct their balance when they stumble is lowered. The primary role of assisted living technologies is not to treat an underlying condition but to assist people to deal with the symptoms of that condition.

The person suffering from falls is likely to understand that they are a bit more 'susceptible' to falls than they perhaps used to be when they were younger. It is often the case that these people start being afraid of falling again and can avoid activity which can further increase their chances of falling once they eventually have to move.

Although people can be aware of their higher likelihood to fall they might attribute these symptoms purely to older age and not seek 'expert opinion and assessment'.

The factors causing falls are almost always going to be intrinsic, however extrinsic factors can make the likelihood of a fall more likely or worsen the consequences. About a half of falls in older people are simple slips and trips, as occur at any age. Of the rest, about a quarter are due to fainting or feeling faint, and the remainder are due to a number of factors coming together, such as impaired vision and any one of many conditions that cause impaired gait and balance.

The focus of any assessment should be on the factors that increase the risk of future falls. In order to recommend the most suitable solution to prevent falls or help deal with the consequences, risk assessment of one's home environment usually takes place.

Local authorities and awareness

- Only one of the respondents mentioned that their LA currently works with health practitioners to help raise awareness of the support available.

Through the Local Authority (LA) survey, the research team wanted to gain an understanding of how assistive living services are promoted to potential users. The

results showed that on average there was no strong proactive approach in raising awareness among the general public, although some authorities did point out that they were preparing new ways to communicate with potential users.

After websites, dedicated information centres or one-stop shops were the most commonly used channels but only by 50% of respondents. Only one of the respondents mentioned that their LA currently works with health practitioners to help raise awareness of the support available and only two LA's reported distributing some form of leaflet or brochure. The other promotional channels used were as follows:

- *Talks, leaflets, open events, Demo rooms*

- *Signposting*

- *Posters, leaflets, via social work assessments, smart house.*

Considering current social care budget constraints, it is understandable that local authorities might be less pro-active in disseminating knowledge about ALTs.

About 30% of LA's in England are only able to meet 'critical' or 'substantial' needs. **Raising awareness might be associated with more demand for funded social care**. Thus the strategy at the moment seems to be more focused on trying to deal with those who are referred to them by health professionals or come from their own initiative rather than raising a widespread awareness. This poses the question; **whose responsibility should it be to raise awareness of these technologies?**

Initiative

The involvement of either the NHS or social care services depends very much on why an assessment is needed. If there is a medical need within the home environment, then more interaction with hospital staff, the STINT (Short Term Intervention Service) or Rapid response team (this name and their various responsibilities varie throughout the country) and district nurses is likely. Medical needs could range from a broken leg preventing mobility to palliative 'end of life' care. Both hospital staff and social services staff have a duty to report any patients who are potentially at risk in their home.

The STINT team along with council employed domiciliary care staff (sometimes referred to as 'reablement' carers) normally facilitate and enable independence for these individuals whilst they are recovering. If there is concern from an individual or their family that they need some in-home assistance, the social services can be contacted and a needs assessment[1011], will be undertaken. In some instances, paid carers can instigate a needs assessment if they feel that the service user requires extra care.

Social care preliminary assessments are undertaken through hospital or GP referral, and can also be requested by the service user or their family. The local authority specifically targets this population, with 72% of all social care services clients being older adults[12].

Assessment

- There are currently people in need of help with low and moderate needs who have limited access to support from government and for whom a consumer market could be the only way to fulfil their needs.

Social care assessments usually involve a discussion in the service user's home, which considers the kind of help needed in order to maintain the person's independence at home. These meetings consider; health and mobility; personal care; daily living tasks; unpaid carers; and emotional wellbeing/social activities attended. These assessments should be initiated by any professional involved in the care process if there is a sudden change in the service user's circumstances or if they have been admitted to hospital.

Assessors can also make use of telecare technology which can help them to assess one's situation. An example of such technology is an assessment tool from Justchecking which is currently used widely by Local Authorities across the UK when they assess people who are living at home and suffering from dementia.

Local Authorities are obliged to assess the needs of people in need of social care support or help. Using FACS (Fair Access to Care Services) criteria, their assessments determine the level of need and a test of means and assets is also used to determine who is eligible to receive support from the council. It does not

matter whether you meet the criteria or not in order to receive an assessment and advice.
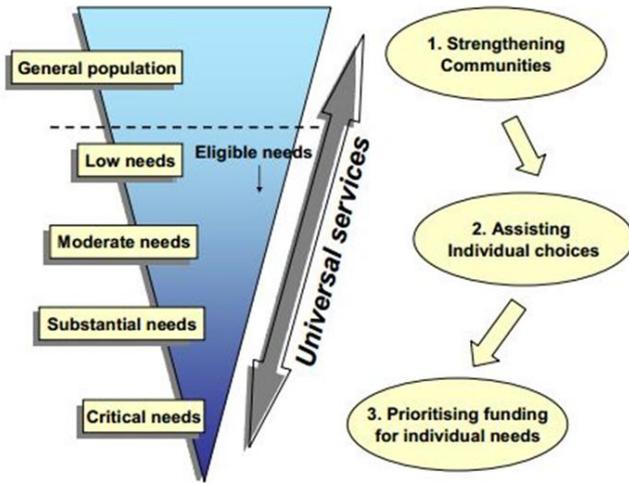

Figure 2: Department of Health: Needs eligibility

Levels of need set out by the Department of Health (as can be seen above in Figure 2) range from low to critical level[13].

At present, out of the 122 local authorities in England with social care responsibilities, 30% provide support only to people classified as having 'substantial' or 'critical' needs. This is of importance, as it suggests that there are currently people in need of help with low and moderate needs who have limited access to support from government and for whom a consumer market could be the only way to fulfil their needs.

According to the white paper for Social Care[14] published in July 2012, **the Government will invest £32.5 of start-up funding over 2 years from 2014/ 15 to support local authorities to develop better online information about local care and support options.**

Assessment providers

The UK government aims to give choice and control to people who carry out their assessments in the future. A framework is being prepared which will enable various independent service providers to carry out such assessments[15].

According to the Department of Health, of the population requiring some kind of assisted living equipment 60% are not served by the state. The

following are the reasons why these users do not receive such equipment[16]:

- They do not meet their Local Authority FACS Criteria

- There is a lack of funds within their Local Authorities

- They are unaware they can get equipment from the State

- They are not willing to go through social services for equipment

- They are not willing to wait for the Local Authority to assess their needs

- They do not want institutional looking equipment in their home

- They are unwilling to accept they have a need

For these people it is important that the market develops so that they will be able to obtain the right equipment without the traditional state assessment methods used in social care.

The Better Living Assessment service[17], for example, provided by Years Ahead and delivered by occupational therapists is designed for anyone who feels their everyday independence, comfort or safety is compromised. Apart from non-state advice one can also access so-called 'self-assessment tools' which are already available online or in some locations such as libraries, independent living sector, or social enterprise.

Some of these alternative options are free of charge for users but some services do charge a fee for an assessment.

Self-assessment

- There are other self-assessment tools available online such as AskSara or ADL SmartCare which can help the user come up with basic solutions to their difficulties surrounding independent living.

A UK company, called ADL SmartCare, provides a solution which helps to tackle some of the issues related

to assessment such as waiting times and cost of assessment. A key aspect of their solution is to allow older people themselves or their carers to find products they need in their own time, without having to discuss their needs with a third party.

This aspect of their solution returns the choice to the 'customer'. Their business model is based on charging local authorities a fee for a range of solutions that a particular local authority chooses to implement in their area. Residents living in that area then have access to the personalised advice provided through the ADL website and a selection of providers from whom they can buy the recommended product.

There are other self-assessment tools available online such as AskSara which was developed by national charity the Disabled Living Foundation (DLF) to help people find solutions to their daily living problems.

Financing

One of the roles of assisted living technologies is to reduce the health risk an individual faces when their faculties become impaired. As such, these people then fall under the responsibility of social or health services whose role is to try to reduce this risk by providing relevant advice and support.

Apart from purely receiving advice and guidance, people can also choose to go through a financial and benefits assessment which, if eligible, will enable them to get some financial contribution towards the cost of recommended care. Depending on their financial situation (income, savings and regular financial commitments), the authority will work out how much one needs to contribute towards any care they need.

Delivery

- The experience of some occupational therapists participating in this research has been that if an individual has any form of decision space over which particular product to choose they are more likely to actually use it than if it was simply given to them without letting them consider other options.

Once an individual received a risk assessment and it has been decided what equipment will be suitable for him or her with the aim of minimising risks to their health, the equipment is handed over. This can be either done in a show-case or re-ablement centre if one is available or simply delivered to the individuals' location through an installer.

If there is a need for installation, social and health providers either have their own team of people to do the job or they outsource it to a specialist firm which can integrate the new system within the individual's home as well as provide technical maintenance support where needed.

4.2. REMOTE ON-GOING SUPPORT

The majority of telecare devices have embedded, as part of their value proposition, the provision of an on-going remote support in the form of a monitoring centre and response service. There are several factors influencing the nature of the response service, for example:

- Location of telecare user – living at home or in a specialist accommodation for older people?

- Telecare user preferences (choices might be limited)

- Is the telecare technology supporting only the older person in need of additional care or also their carer?

The response service can either be initiated by the user e.g. via a pendant alarm which is linked to a telecare monitoring centre (1st generation of telecare) or through the devices which can be programmed according to certain pre-selected criteria and in the event of a pre-specified situation initiate contact with appropriate response stakeholders (telecare monitoring centre, informal carer, both or other carers). This task is performed by devices from the second and third generation of telecare technologies.

People living in their own homes

Today, anybody can have telecare installed in their homes. While a monitoring centre response service can be provided to virtually any home with a telephone line,

many of the newer solutions rely on a broadband connection to deliver their full offering.

This poses some challenges as a significant proportion of the target group for telecare technology currently does not have access to broadband, thus those living in remote areas where this technology could be of most benefit might not even be able to gain access.

Other telecare solutions rely on mobile connection. The importance of appropriate and reliable data transfer networks, be it telephone, broadband or mobile, is what creates an opportunity for telecommunications providers to enter the market of telecare provision (as well as Telehealth). They have already established routes to both individuals and organisations which can serve as a baseline for their market entry.

People living in retirement accommodation

- There is now more focus on the provision of so called 'extra-care' accommodation which is flexible in terms of meeting the changing care needs of its older residents.

There are more than 2 million people over 65 in England who live in a specialist type of accommodation which is either social housing or retirement accommodation which has higher levels of care and support available.

Retirement accommodation providers strive to offer an environment which allows people to stay in their accommodation for as long as possible. There is now more focus on the provision of so called 'extra-care' accommodation which is flexible in terms of meeting the changing care needs of its older residents.

Residential and nursing care are seen as the last options for people in need of care support to consider as they provide the maximum level of care which makes them more expensive.

The level of telecare support in these establishments ranges from social alarms which are most common in social housing, to second and third generation telecare devices, the latter being the least common option at the moment. Response teams might be available on site or come from an external organisation.

5. Demand side: buyers versus end-users

Buyers are organisations which purchase assisted living technologies but they are not necessarily those who use them. These groups of organisations benefit in different ways from enabling people to live more independently with the use of ALTs. Some of them can achieve savings, some of them do it to deliver quality of care to their residents and to be able to keep desirable occupancy rates and others do it because it helps to make their job easier.

Please see below for the list of the types of organisational purchasers found in the UK:

- Clinical Commissioning Groups
- Commissioning Support Services
- Strategic Health Authorities
- Local Authorities
- Local and County Councils
- Private sector health and social care providers
- Public sector health and social care providers
- Third sector health and social care providers
- Domiciliary care providers
- Care homes
- Health Insurers
- House Builders

The benefits organisational buyers achieve when purchasing ALTs and the benefits a primary end-user or their informal carer achieves, differ. This can project on the stakeholders' willingness to pay a certain price or an inability to see enough value in the product being purchased.

Yes, the technology might do the job of 'keeping an individual safe', but what other effects does it have on the life of the person who is supposed to be using it? How does it fit into their lives?

The AKTIVE social research team is looking to shed some light on the answers to these questions. Their research is focused on understanding the impact telecare

technology can have on the everyday life and caring network of people who are over the age of 65 and who are prone to falls or/and suffering from memory problems.

5.1. WHO ARE THE BUYERS IN THE UK

One way to answer this question would be to ask every provider of ALTs who the buyers for their products were and estimate the proportion of purchases done by each group. During Inventya's research, 'buyers' were called – 'purchasers'. From the responses received, it was clear that there was some confusion as to what the terminology stands for.

While it was an interesting exercise to try and map the 'buyers' for particular assisted living technologies, the diversity of respondent manufacturers and the small sample do not allow us to make any significant generalisations about the distribution of purchasers across the UK. Below are the results obtained from AKTIVE market research.

Primary end-users

The products produced by research respondents, apart from two companies, have had primary end-users among its purchasers. In two cases, primary end-users were the main purchasers. One of the two companies was selling specialised underwear while the other was selling solutions for people with visual and learning disabilities.

The two organisations which did not sell their products to primary end-users were both companies selling telecare technology. It should be highlighted that there were other providers selling telecare technologies among the respondents and they did achieve direct primary end-user sales.

Friends and family

Selling to either primary end-users or their friends and family can be classed as selling to the 'consumer' market. Friends and family were among the purchasers in all but one case, where the provider only sold to retirement accommodation providers.

Again in two out of the seven instances for which data was obtained, this group of purchasers represented the highest proportion of sales. One of the providers was the same as in the case of the primary end-users, selling aids for people with visual and learning disabilities and the other one was a telecare manufacturer.

Social care and health care commissioners

Social care was only the main buyer for one of the research respondents, selling principally incontinence products, while health care commissioners were not the key buyer for any of the research respondents.

Housing Associations, Care Homes

This group of purchasers was the main target group for three respondents, but they have also not been targeted at all by other three providers. All three technology providers, whose main market were retirement accommodation organisations, sell telecare technologies.

Other

Research participants were not provided with an exhaustive list of potential target markets which is why two providers indicated selling their products to 'other' groups of stakeholders.

5.2. ROUTES TO END-USERS

The route to end-users describes how a product gets from the technology provider to the end-user. The information provided in this section is somewhat simplified, in that it does not mention the distribution channels which could be the link between the type of organisations listed below.

The objective was to present this information about routes to market from the end-user perspective rather than analysing the distribution channels.

Social and health care

The following models are used in England to deliver assisted living technologies to people who are assessed by social or health care professionals.

'Integrated Community Equipment Services' (ICES) are available throughout the UK and provide assistive equipment such as wheelchairs through the NHS, Local Authority and so called 'third sector' (charities, non-for profit organisations, etc.). They usually receive a referral or 'prescription' from an assessor and supply the product to the end-users.

These services vary depending on location, and operate to serve those eligible for 'statutory provision', meaning that users receive this free due to UK NHS service provision legislation. These differences create inequalities in the availability of ALTs. There is currently not a national approach to minimum standards across ICES and it is the responsibility of local areas to develop their own standards. There have been some recent initiatives acting to further personalise services.

The retail model, which was developed by the Department of Health in 2010, is a model for selling Simple Aids to Daily Living (SADLS) through Transforming Community Equipment Services (TCES) national catalogue. This program enables local authorities and NHS organisations (those who choose to adopt the model) to make simple equipment available on prescription through accredited retailers.

Retail

- 80% respondents of this research had purchasers among individuals not just organisations.

The retail route to market arises when products are purchased by individuals via an organisation specialising in selling products which are usually from different suppliers. In this research, they are referred to as Business to Consumer (B2C) channels to market.

Only two technology providers, out of 10, who responded to the question asking them to state their top 3 B2C sales channels, were selling Business to Business (B2B) only, which means that 80% respondents of this research had purchasers among individuals, not just organisations.

All technology providers in this research provide some information about their technology online but the most common form of selling to individuals is via the telephone which was the case for six out of eight respondents followed by mail order in the case of three respondents.

Only one respondent indicated selling their assisted living product in large retail stores (a hearing aids provider), and one through specialist assisted living store. Two providers indicated using charitable organisation as their channel to consumers. Other listed consumer channels such as department stores, home shopping channels, high street electrical retailers, online electrical retailers, and Amazon were not utilized by research respondents at all.

Although the participants in this research did not sell their technology through some of the usual consumer channels at the time of the survey, the market research team looked into this further to better understand whether other providers of assisted living technologies are doing so.

Where can an individual purchaser buy Assisted Living Technologies in the UK?

Assisted living technologies can be purchased from almost anywhere. You can buy them in specialist stores, large retail stores, DIY stores, pharmacy or you can have them delivered to you after purchasing them online.

The range of options to buy from is wide, however they do not all offer the same range of products or expert advice. In fact, the differences in the range of products sold are huge which can be quite confusing for a shopper to understand where to go and find what they need.

Specialist stores

Specialist stores are those organisations only selling assisted living technologies and other related items. Although these stores can be physical, many specialist stores are selling also or only online. One can buy assisted living products from over 200 online retailers (this includes non-ALT specialists) in the UK.

Companies such as Inclusive Technology provide all aspects of the customer service (from selling the

hardware and software to following this with a technical support service) which makes the process of buying and using assistive technologies less stressful. Technologies are also divided into type of special need or disability.

Similarly, a few other specialist stores advertise a bespoke service or a 'one stop shop' where needs can be assessed, resulting in a quotation for products, a delivery installation and familiarisation, followed by maintenance and support if needed.

In many cases, as with the above, there is an option to either buy online or have an assessment (which could be based at a store or at home). The charity AbilityNet which supports disabled and older people in accessing ICT, provides a free assessment, along with guidance at home or at a learning establishment as well as a range of paid for services.

Some independent specialist stores such as 'Inasyst' work in partnership with initiatives like the 'British Assistive Technology Association' or BATA and the 'Disabled Students Allowance Quality Assurance Group' or DSA-OAG , which provides a kind of quality assurance for these specialist stores as well as reinforcing the company as a genuine assisted living brand.

Being in partnership with organisations such as BATA can help enhance an independent retailer's reputation, as they provide impartial support.

Large retailers

Older people spent most of their disposable proportion of income on food. Large retailers with lower prices are a favourite destination for these shoppers. Their established customer base and retailers' ability to diversify their portfolio of products, led us to analyse the barriers to adopting more assisted living technologies in their stores more closely than others.

Accepting the definition of assisted living technologies in its widest sense, every retailer will have some kind of product which can help people live more independently available in their stores. Some retailers integrate these products in various other existing categories whereas others have a dedicated section for them.

For example Tesco offers a range of mobility products online in their 'Health & Beauty' category; however we do not know how many of these are sold in their stores.

In contrast Asda in August 2012 (according to an article in the Guardian[18]) did not have a dedicated section online for similar products. However in 2009, Asda was going to start putting living aids for older people in stores such as urine bottles, raised lavatory seats, walking sticks and others.

Their vision was to 'change people's perception of disability and eradicating the stigma that has surrounded mobility products'. Although there is no information available online about the 75 stores, where these products were going to be sold, their online product catalogue offers an indication that the sales of these products have not been expanded into other areas.

Home improvement stores & garden retailers

Retailers from this category most commonly sell products associated with home adaptation and increasingly with home automation. This is reflected in the type of assisted living technologies they have on offer. The commonly sold products by these retailers are grab rails, scooters & wheelchairs and environmental monitors (fire, gas, flood alarms).

Examples:

- In February 2011 Focus DIY launched a new Assisted Living range which targeted over 60s customers with products to make household tasks easier (kitchen items, personal care and home security). However, the success of this move could not be evaluated as Focus Group went into administration soon after, in May 2011.

- B&Q established a 'Can Do' range in the past which was offering solutions for independent living but they have discontinued the range as it can no longer be found in their catalogue.

- Halfords specialise in accessories associated with 'mobility' and they also sell online 'independent living' mobility aids such as

mobility scooters, mobility wheelchairs, walking aids and other living aids (August 2012).

- Homebase is offering some independent living aids through their 'Comfort and Bathing Aids' category with around 15 products on offer online, some wheelchairs and scooters (August 2012).

- Wilkinson has a 'Bathing Assistance & Mobility' range which can be found under both 'Bathroom' and 'Health & Beauty '(August 2012).

Pharmacies

Pharmacies are traditionally associated with healthcare and wellbeing which helps them to attract the right customers. Older people often have to pay a visit to a pharmacy anyway to pick up some medication. Therefore offering independent living products through their retail stores or through their website seems to be a sensible business move.

Examples:

- Retail pharmacy Boots have a dedicated 'mobility & daily living aids' section in their Pharmacy & Health category in which they offer over 800 products. They also actively raise awareness around healthy aging (August 2012).

- In 2010, Lloyds Pharmacy has acquired 80% of shareholding in Betterlife Healthcare which is a large UK online and mail order retailer of mobility and assisted living products. Lloyds Pharmacy is one of the expert subcontractors in a CO-MODAL (Consumer Models for Assisted Living) which is funded by Technology Strategy Board Assisted Living Innovation Platform (ALIP). Their participation in the project is an indication of their interest to be involved in the ALT market for older people. They also promote the Better Life Assessment service provided by Years Ahead, mentioned earlier.

- Cooperative Pharmacy, which is part of the Cooperative Group, has also a dedicated range for independent living which can be found in their Wellbeing category stocking about 30 products (August 2012).

Other

Although the technology providers participating in this research have not selected Amazon as one of their routes to market, there is a range of products available from retailers selling through Amazon. You can buy products ranging from blood pressure monitors, walking and other mobility aids or some devices contributing to home automation. Argos is also offering some mobility aids in their Health & Personal Care category (August 2012).

PROFILE OF PEOPLE OVER AGED OVER 65

Shopping preferences

Food and groceries have been highlighted as the main area of spending amongst over 65 year olds, followed by clothing, footwear and then personal care. Food and groceries have the fastest growth for this age group, followed by footwear and then health and beauty[19].

Research suggests that a growing over 65 population will mean increased demand across products such as medicine, vitamins and skincare.

Finances

- In 2010, over 65 year olds made a net contribution of £40 billion to the UK economy

In 2004, Europeans aged over 50 bought 80 per cent of all high-end cars as well as 80 per cent of leisure cruises.[20] Their wealth and numbers mean the older population represents the group with the largest purchasing power in the UK, according to Department for Work and Pensions (DWP) statistics. In 2009-2010, 18 per cent of pensioners in the UK (2.1 million) lived in households with incomes below 60 per cent of contemporary median net disposable household income

'Before Housing Costs' (BHC), and 16 per cent (1.8 million) 'After Housing Costs' (AHC).

According to DWP figures, **19% of people over 65 had no savings at all in 2009- 2010** and **26% of people over 65 had more than £20 000 in savings**. In terms of the living situation of those over 65, 57% live as part of a couple living alone, with over a third single and living alone (32%).

In terms of public and private spending patterns, it is difficult to know an exact figure due to individual budget schemes, however it is widely agreed that public spending is much lower when an individual remains in their own home compared to a care home. Generally as age increases, so does the percentage of people needing assistance with daily living tasks, with significantly more women self-funding homecare compared to men (it should be noted that there are more older women than older men).

According to a Gold Age Pensioners report in March 2011[21], in 2010 over 65 year olds made a net contribution of £40 billion to the UK economy through, amongst other contributions, taxes, spending power, provision of social care and the value of their volunteering. This net economic contribution is predicted to grow to £77 billion by 2030.

In 2007 the Commission for Social Care Inspection commissioned a discussion paper[22] and according to their statistics, 1, 068 000 people over 65 in the UK require community-based care or need to live in a care home. Of this population, 25% do not receive any funding from local authority and pay for their care with their own funds while another 20% of these people top-up their local authority funded care with private funds.

The English Longitudinal Survey of Ageing as well as Laing and Buisson, IPC estimates that the total size of the self-funded care market is significant. The total estimated contribution of people over 65 towards social care was around £5.9 billion in 2010 according to Forder[23] **which represents almost 50% of total social care spending for over 65's.**

Marketing

Important considerations for over 65 year olds when marketing towards this group are as follows:

- Over 65 year olds are most influenced by family when making a purchase. This may need to be an added consideration when marketing products to be appealing for both older people and also younger family members.

- The location of shops is important in terms of convenient access for over 65 year olds, as it has been highlighted that retailers within garden centres, coastal towns, tourist centres, and local high streets are gaining greater sales success from people of this age.

- Recent research has also recommended that an increasing number of over 65 year olds are shopping through alternative methods to the high street, such as online and through flagship stores.

- Individuals in need of ALT services are not a homogenous group, and vary greatly in terms of individual specific needs.

A perceived right for free access to care through the NHS in old age has been mentioned as a potential reason why such marketing could encounter difficulties.

According to a 2009 report[24] produced by Deloitte and commissioned by NESTA, twelve million people, roughly half the UK workforce is not saving for old age. As the report suggests, in 2006 **only 47 per cent of men and 38 per cent of women paid in to a private pension scheme.** This highlights an important issue for a 'consumer-led' assisted living sector; people expect to be taken care of once they retire.

6. Barriers and challenges to widespread ALT adoption by older people

- Some of the barriers encountered throughout this research are becoming quite well known among other reasons thanks to the work of ALIP and AAL research projects.

It has been suggested that assisted living technologies can help to improve the quality of life for older people especially by enabling them to stay in their own homes for longer as well as making the lives of carers easier.

With sufficient evidence that technology really plays a big part in the solution to an increasing pressure and fears that social and health care bill will not be able to cover the increase in the proportion of older population, we can then be sure that innovation in ALTs will accelerate. This is already happening as 'ageing and the elderly' become the trending topics for major media such as BBC, The Economist, The Guardian and others.

In order to aid the ALT market in its transformation into a self-sustained non-government driven innovation market, Inventya looked at the challenges and barriers various market stakeholders face during developing as well as delivering products and services to end-users in this sector.

Some of the challenges found were related to the existing technologies themselves e.g. their design, while some were related to the perceptions and attitudes of consumers. Others were related to the distribution channels and routes to market which included the system of public provision of these technologies.

CONSUMER PERCEPTION & ATTITUDES

- **General reluctance to use assisted living technology**: It is suggested that a key reason for low uptake of ALT solutions by older people is a general mistrust and reluctance to use or understand the technology. This is due to a number of reasons, mainly reluctance to change or adapt to a new lifestyle incorporating the technology, and with the uncomfortable feelings of fear and mistrust directed towards the technology means that older users in particular do not understand the full benefits afforded to them through its use.

  However this does not necessarily apply to technology in general. SeniorWatch survey from 2007[25] revealed that the majority of people over 50 years old disagreed with statements such as 'I'm too old to familiarize with computers and new technologies'. Over 60% of respondents agreed that

'manufacturers do not consider the interests of people of my age in designing information and communication technology products'. A similar number of people also indicated that they usually need help from someone else to set it up and show them how to use it.

So is the problem the 'reluctance of older users' or is it in the design of the technologies and services?

PRODUCT DESIGN AND INTEROPERABILITY

- **'Universal design' does not always satisfy needs?** The ALT solutions currently available may not always fit the need of the user, and therefore contribute towards rejection.

  For example, some of the technologies have been designed to be 'universal' and to be suitable for use in many situations. This is demonstrated in a report by Deloitte & AbilityNet (2011) where findings displayed overlap between the 'life environments' in the provisions available (for example: there are overlaps between products for both the disabled and the elderly).

- **Language barriers and policy differences across countries**: Stack et al (2009)[26] found that language was mentioned as an important barrier to sales for the European markets, as this is often also a fundamental part of the assisted living product.

- **No common standards for products or policy**: Regarding the market across Europe, there are various differences in internal structure and funding for providing a public service. Products may not

  adhere to the regulations of each country emphasising different policies.

  In an ideal environment for buyers of telecare technology, any such technology could work together with other telecare technology irrespective of which company manufactured it because as a result there is more choice for the buyer. It is generally believed that interoperability between ICT systems encourages innovation and speeds up its process, yet the standards used in digital care sector are fragmented.

Establishing common standards and adopting them are two different things. Although Continua Health Alliance was established in 2006 to help the digital care industry to find common standards, it will be a gradual process for the industry to get any close to the ideal environment mentioned earlier.

KNOWLEDGE DISSEMINATION

- **Lack of knowledge within the 'public' market**: Stack et al (2009) suggest that commonly not all ALT solutions are considered by national service providers, with a general lack of 'coherent social policy' for subsidising and reimbursing assistive technology products. Failing to understand any benefits for investing in the industry will inhibit the range and availability of ALT products which is an important barrier within the industry.

  This issue was apparent from talking to representatives from social care services in the UK as well. Although the social care services departments were interested in learning about the best value for money technologies available, being able to keep up with the latest developments and thus achieving this was not so easy, mainly due to time constraints.

- **Lack of knowledge within the 'consumer' market:** Assisted living technologies are still not a well-known term to the mass market. According to which? Magazine[27] only 13 per cent of respondents thought of them as a potential solution to their current or future needs when asked an open-ended question.

  Which? Magazine has researched the views of people over 45 years old about assisted living products. Interestingly, only 45 per cent of respondents were aware of where to buy these products in the UK. According to a Carers UK report[28], two thirds of carers who are not using telecare were not aware where to find it but only 6% said that they would not want telecare.

  According to the same survey, not knowing what one needs and what is available was rated as another important barrier to the purchase of assisted living products. This represents another additional cost to retailers who would have to deal with educating their customers not only on where to find the right products but also on what products are suitable for them.

- **Society interest:** Unless a friend or family member has a significant cognitive or physical impairment, most people are not fully aware of what technologies are available. Why should they? The number of people paying into occupational pension schemes has declined from 2009 to 2011 according to the Office for National Statistics[29], this suggests an attitude that individuals expect they will be cared for once they reach a retirement age and they might be in need of help.

  However, the Government is introducing compulsory pension saving via the National Employment Savings Trust (NEST) which means that employers will have to enrol most of their employees automatically onto the scheme and make minimum contributions for many of these workers.[30]

  NEST has conducted independent research among UK employers and employees to understand their readiness and plans for automatic enrolment, as well as their attitudes to NEST.[31]

- What the research revealed is that only one per cent of private sector employees who will be automatically enrolled into a company pension scheme consider a pension 'essential spend'.[32] Based on these results, NEST has launched a national campaign called 'Tomorrow is worth saving for' which aims to put pensions in the context of people's lives today by making them think about what a difference a pension could make to their later lives.

  The benefits of assisted living technologies have been proven through a number of demonstration interventions. Assisted living technologies can improve the well-being of individuals. This has been proven to the industry, but has it been accepted by the general public?

Creating awareness of an organisations' offering among older people has been on average classified as very challenging by technology providers participating in AKTIVE. The general public does not really understand what 'assistive living technologies' are, so the cost of raising awareness among them about a particular new technology can be significant, especially for a small business.

- **Issues with integrating research knowledge into industry**: In terms of the more advanced USA ALT market, research suggests that there have been difficulties in attracting funding and investment for ALTs and in developing new products due to a disconnection between research and industry.

In Europe, programmes such as Assisted Living Innovation Platform or the Ambient Assisted Living platform have been designed with a focus on the dissemination of research results, however more work still needs to be done to improve collaboration between industry and research in the area of assisted living to help develop and distribute suitable products and services.

The Department for Business, Innovation & Skills (BIS) produced a Retail strategy in October 2012 which acknowledges the lack of collaboration between retailers and research institutions who both work separately on research and development. They are currently trying to address this issue and have organised seminars in collaboration with TSB, research councils, the British Retail Consortium (BRC), the Association of Convenience Stores (ACS) and Local Enterprise Partnerships.

DISTRIBUTION CHANNELS & ROUTES TO MARKET

System of public provision

- **Conservative attitude:** Social and health care commissioning is the main route to market for a significant proportion of the assisted living technologies manufacturing sector. Since the public sector is the biggest purchaser of assisted living technologies for older people in the UK, some emerging manufacturers find it difficult to penetrate

the market without having a contract with or supplying social or health services. Below is one comment by a telecare manufacturer criticising the public sector for their conservative approach to new technology:

> *'Old age thinking within the public sector - currently telecare is crammed on top of an existing and out-dated process, and it needs to be ripped up and included right from the core of the assessment.'*

- **Difficulties in reaching older people who experience falls and those with cognitive impairments:** In the section describing the assisted living technology delivery chain, it was mentioned that many people suffering from cognitive impairments go undiagnosed and similarly people prone to falls might not necessarily be aware that they could be seeking help. Identifying within each individual the need for support is a key step in doing something about it. Perhaps some individuals who admit to themselves that they need help will not acknowledge it and act upon it, but others will.

Respondents from local authorities were asked to rate the following factors depending on whether they cause any difficulties in their assisted living service provision:

- **Difficulties in reaching older people who experience falls and those with cognitive impairments:** Out of the five aspects potentially causing difficulties, this aspect was clearly the leading challenge as indicated by respondents.

- **Staff training and qualifications:** There was a divide between authorities who considered this to be a very significant issue and authorities who did not think of it as significant at all. However, on average staff training and qualifications was rated as a challenging issue.

- **Experienced staff retention:** Among the respondent local authorities, there were only 2

who considered this to be an important issue affecting their operations.

- **Lack of coordination among service delivery players:** The majority of respondents opted for the middle ground when expressing their view on this aspect. However a couple of local authorities thought this was more of a challenge, pointing towards lack of integration of service provision between health and social care.

- **Telecommunications reliability:** Although on average this was not perceived as a factor causing any significant difficulties, there were two local authorities who did consider this factor to be an issue, affecting their assisted living service provision in a negative way.

Retail

- **Prohibitive prices**: The Pastor report (2008)[33] highlights this as a major issue for competing companies in the European ALT market. High ALT equipment prices resulting in lower overall sales volume has also been suggested by Stack et al (2009) as a factor affecting production costs.

  Of those surveyed, 19/30 very much agreed and 8/30 somewhat agreed that the cost and time needed to navigate different national service provider systems in Europe in order to ensure compliance was an issue in production of ALTs.

  The high cost of manufacturing a product results in less space for mark-up when selling to price sensitive customers. Although large retailers might be attracted by the vision of capturing the mature market's buying power by introducing more products for older people, due to the low mark-up relative to other products which could be sold on the shop floor and the higher risk associated with selling these products, they are wary to include more ALTs in their stores.

- **Lack of trust:** Unethical door to door sales techniques have damaged the image of retail. The target customers for assisted living products are often from vulnerable groups in the population who

in the past have been persuaded to buy products from door to door sellers which they did not necessarily need or which were overpriced.

Similarly some high-street stores' staff have been criticized for showing poor product knowledge when advising customers about buying their assisted living technologies in stores.

When buying a product online, a customer can in theory check out various sources of information before buying, but the uncertainty issue of what happens after the product arrives remains.

What if it is not suitable at all? How can I return it? While the younger generation might be familiar with the procedures of online shopping, for older people this might become a key issue which needs to be highlighted and explained clearly.

- **Digital gap:** The internet is a useful source of information for consumers who want to find out more about products before they buy. Online reviews and social media are a powerful source of knowledge as well as a means of searching for information using a search engine.

  - A remarkable 5.7 million of the UK's over 65s have never used internet before[34]. This is almost half the population of pensionable age. Statistics show that 6.4 million people over state pension age have some kind of disability[35] which is likely to be one of the contributing factors.

In 2002, SeniorWatch[36] survey revealed that the main reason for not using internet by people in the UK, who wished to use it but could not do so, was their lack of skill or knowledge to use it. The cost of internet usage was however the second main reason.

Risk versus payoff: The assisted living sector is a growing market. One of the ways to help increase demand for any product is to allow the buyer to see it and touch it. For high-street retailers this means making space on their shelves.

Shelf space allocation in retail stores is based on profit margins. Products that generate higher

margins get allocated more space and vice versa. The disadvantage of many assisted living products is their low mark-up. However saying this, telehealth products can now be seen on the shelves of large retailers in the UK, specifically their retail pharmacies.

- **Assessment of needs in retail:** According to an Office of Fair Trading report[37] (OFT), on average 7 out of 10 buyers of mobility aids purchased them without previous expert medical advice. The same research revealed that many purchasers did not base their product research on comparison with other products which means that their product knowledge is likely to be limited when making a purchase.

Medical professionals warn that buying unsuitable products could make one's condition worse. The medical profession is strongly in favour of analysing one's needs and finding the most suitable product for one's medical needs. They are concerned especially about the capabilities of high street retailers to give the best advice and what influence they have on public perception.

Retailers have been criticised in the past for not being able to offer adequate advice with the selection of ALT products they are offering on their premises.

According to research led by Which? Magazine, 39% of high street retailers lacked knowledge of these products compared with 100% product familiarity among staff in specialist shops. However, even the latter have received criticism as they failed to ask some important questions with regard to customers' needs.

When considering one of the main barriers mentioned by respondents to a survey conducted by Which? Magazine, the second most important barrier other than cost was 'unwillingness to be assessed'. This supports the notion that people want to make their own decisions and do not necessarily want to be told what is best for them.

Category awareness: One of the challenges facing retailers who want to adopt more assisted living technologies is to be able to make consumers associate their store/website with that kind of products. One of the retailers interviewed for this research mentioned, that raising awareness about this category of products among the desired target audience represents high cost for them.

ALT TECHNOLOGY PROVIDERS - INNOVATION CHALLENGES

Apart from general business challenges ALT technology providers face, there are challenging issues specific to this sector some of which were found during this research.

R&D Challenges

Capability to understand the technology: The cognitive or physical impairments which are the trigger for new product development can also be the inhibitors of productive R&D.

A person with diminished cognitive abilities might take longer to understand the technology being developed especially if the researcher does not have something to show and try out. Some older people also have hearing difficulties so questions and explanation may need to be repeated.

Resistance: In order to fully understand the needs of end-users, researchers have to cover topics which people might not always feel comfortable or ready to discuss. This can prevent the researcher from getting all the information needed for achieving the desired innovation and developing a product which will truly reflect the needs of its target market.

Some providers have encountered resistance from staff who are involved in providing services to end-users. Assisted living technologies are sometimes perceived as a threat to the employee's job.

Access to end-users: Especially for new and emerging providers, guidance on how to find and access their target audience would be beneficial. In some cases, when a product is targeted at a specific segment of

people, it can then be very challenging to find enough people to be part of successful R&D. What is more, finding a cost-effective way to get end-users involved so that smaller players can afford to do so could be valuable to the progress of innovation in the industry.

Commercialisation Challenges

Research around the barriers and challenges technology providers face in commercialising assisted living technologies is central to understanding where necessary tools should be developed to help support innovation in these areas. The range of challenges which could be considered part of the commercialisation process would be from the perspective of production, distribution, marketing, sales and customer support.

Through secondary research, the market research team identified some of the most commonly stated challenges providers of assisted living technologies have to tackle and asked the market for their opinion. They are:

- Understanding how elderly individuals make decisions on what to buy

- Creating awareness of our product among elderly customers

- Segmenting the elderly consumer market

- Difficulties in turning prospective customers into actual purchasers

- Understanding the needs of elderly customers who may suffer from falls or dementia

- Limited knowledge of where older people buy products

A limited number of providers shared their view on the listed challenges, but even from the limited data it is clear that most of the challenges appear in the marketing and sales areas.

In particular 'Creating awareness of our product among elderly customers' was rated as the biggest challenge out of the ones presented, followed by market segmentation and knowledge as to how the older generation makes their buying decisions.

It should be said that while one of the respondents who already has a well-established route to consumers did not find 'limited knowledge of where older people buy products' as challenging, the other providers whose sales were only between 0-30% through individual purchases, found this lack of knowledge to be a challenge.

During conversations with other industry stakeholders, certain topics were more dominant. For example some products were criticised for their '**utilitarian' look,** which can be stigmatising for product users thus making them less likely to want to use it. Therefore technology providers were asked what they think of their products' design 'like-ability' and whether they think customers perceive them as stigmatising.

Although the response rate for this particular question was the same as to the previous one (4 providers) their response was unified. They do not consider their products unattractive, or at least they do not admit it.

Respondents were asked if they agree or disagree with the following statements:

- End-users are aware of our products but consider them stigmatizing, unattractive

- We have a limited knowledge of what older customers might consider an attractive design

- Desired routes to market are difficult to establish

- Strong competition in the market prevents us from gaining more customers

- It is difficult to price certain assisted living products attractively for consumers to buy

- It is rather difficult to get a contract with public service organisation

- The need for accompanying services such as product installation, maintenance and repairs discourages retailers to sell them

Research respondents ought to have different views on some of the above issues, if only because their business models are different. For example one respondent,

whose business model is heavily based around service provision, strongly agreed with the following statement *the need for accompanying services such as product installation, maintenance and repairs discourages retailers to sell them,* while the other respondents whose technology was less dependent on on-going service provision disagreed with the statement.

There was a general consensus among the respondents that assisted living products can be difficult to price attractively for consumers. This could imply that some technology providers might struggle with reaching the necessary economies of scale which would bring the price of their product down and make it more attractive to consumers.

It should be noted that three out of the four providers who expressed their view on the following issue disagreed with the statement that *'Desired routes to market are difficult to establish'* but then two of the three organisations who disagreed with this, later agreed that *'It is rather difficult to get a contract with public service organisation'*. **This could imply that routes to market other than through public service organisations are easier to establish, according to respondent technology providers.**

Manufacturers agreed that strong competition in the ALT market limits their customer base. This statement should be considered in conjunction with the statement about the difficulty of getting a contract with a public service organisation. It is possible that when expressing their opinion on the above statements, respondents might have mainly considered the competition in public sector contracts rather than considering the market competitiveness as a whole. This assumption is also based on the notion that according to estimates from The Strategic Society Centre[38], 38% of individuals aged 60+ may be potential telecare users, which is about 4 million people in the UK.

One conclusion which could be made from these findings is that **assisted living technology providers consider their main target market to be an organisation rather than a 'consumer'.** With this attitude they are then likely to concentrate marketing efforts towards an organisation rather than a consumer

which might be a contributing factor to the lack of ALT awareness among their primary end-users (consumers). At this stage, it is unclear whether gaining a contract with a public organisation is seen as difficult because of strong competition in this target market or because of factors originating in the demand side.

Overall, the most challenging aspect of bringing a new product to market based on this research is manufacturers' ability to develop and sell a product at a price acceptable to the end-users. This becomes even more apparent in specific market segments where technological development is reaching a mature stage and the competition is intensified, such as with hearing aids.

7. State of the ALT supply & demand in the UK

One of the objectives of this market overview was to get a view from social and healthcare professionals as to what they think about the current state of assisted living technologies.

- Are they familiar with the latest technologies?
- Do they think they are effective at supporting people prone to falls or affected by cognitive decline?

Although these groups of stakeholders both deal with older people, their role through which they support older people differs considerably.

Social services departments in various regions across the UK need to cater for increasingly more people with social care needs while, at the same time, savings in the system need to be found.

Local authorities play an essential role in assisted living technologies' market development, as they have historically been the key service providers offering needs and financial assessment as well as first generation telecare services. They are constantly looking for new technologies and innovations in order to support these individuals at home and help them to maintain their independence.

This research showed that conversely to clinicians' opinions, 80% of LA representatives surveyed believed that existing technologies are effectively addressing the needs of individuals with dementia, with 100% believing that the needs of fall patients were well met.

However, **no respondents claimed that the ALTs were 'very effective'** in terms of meeting the care needs of these people.

In contrast, only 50% of respondent clinicians who are 'familiar' or 'very familiar' with ALTs find the current range available on the market to be 'effectively' to 'very effectively' meeting the needs of patients prone to falls.

- While medical experts were more negative than local authorities' representatives about the effectiveness of products available to support patients prone to falls, both groups of stakeholders agreed that there is a greater need for the development of technologies targeting cognitive impairments of older people.

Of the 46% **geriatric medical experts** who indicated to be 'fairly' or 'very' familiar with ALT products, 80% believed that the current range of **products aimed to support older people with cognitive impairments** is of 'average' effectiveness or 'somewhat ineffective', **with only 10% believing that the current offerings were 'somewhat effective'.** This can be compared to 64% of all responding clinicians, or in other words, those who were less familiar with the technology were more positive about it.

Research participants were asked to express their view on the changes needed which could help develop a healthy market. Their comments can be seen in the following section.

7.1. SUGGESTED CHANGES NEEDED IN THE MARKET

Below are some of the comments received from manufacturers:

- "The thinking of GPs, the thinking of social care workers, the purchasing of commissioners, the

implementation plan & support from telecare/telehealth providers."

- "More open platforms - less use of 'name of a technology provider' closed software platforms."

- "I think there needs to be more trust between supplier and end user - there are some unscrupulous suppliers who take advantage of vulnerable people. Treating people as individuals who all have differing needs and ensuring they are treated with fairness and dignity at all times."

- "Less focus by local authorities in issuing (almost by default) the community type alarm systems (i.e. pendants/wrist bands) when they are clearly not suitable for dementia sufferers. An independent report suggests (reference not quoted) more than 50% of those issued by local authorities are not used. What an astronomical waste of money for society. This is 30 year old technology but is like a comfy pair of slippers - one telecare manager shrugging her shoulders saying 'if we issue a button and they don't press it, we've done our bit and we're covered liability wise'!!!! If the local authorities could be more open and quicker to embrace new technologies more suited to those that can't raise the alarm themselves (either to fund on behalf of user or to recommend for self-purchase), this would greatly help suppliers raise awareness. Government backed campaigns should not allow those suppliers who already have a strangle-hold on the market to buy their way into incentives! This does not give a fair platform. "

Below are some of the comments received from local authorities:

- "Equipment that is compatible e.g. Tunstall sensors compatible to Tynetech etc."

- "Equipment developed to be more modern in look and feel."

- "Currently 60% of the market is for low needs which can be delivered by consumer products and services. The remaining 40% should be in the public sector. If public sector organisations can benefit from being able to offer some consumer products and services this can provide income to help maintain and

enhance public sector provision where required and provide a good managed transition into public service care pathways. By joined up service provision of health and social care it is possible to fully integrate services so that the individual on the care pathway gets the right products and services at the right time. For this to happen they need to be on a preventative lifeline monitoring service which triggers into other services as and when needed by such triggers as number of falls etc…"

- *"Better information."*

- *"Interoperability."*

- *"Inter-operability between equipment (The DALLAS project is looking into this). More free trial/ try before you buy options."*

- *"Wider range of choice of equipment through a range of suppliers under one contract."*

Local Authorities: What will be the main changes? What issues are you trying to address?

- *"More preventative services, more integrated services, a central information point with all information on all services for individuals and their carers seeking information and service support."*

- *"Speeding up the process from assessment to installation, providing a mobile response service, adding pro-active calling and increasing the number of people from under represented client groups using telecare."*

- *"Fully implementing telecare as part of social care assessments, developing the health and social care interface for AT staff training and development. Providing more choice and control for service users, reviewing telecare within dementia support with a view to promoting AT solutions."*

8. Conclusions & Further research

One of the main objectives of this initial market research was to provide an insight into the state of the market from its key stakeholders' perspective.

It was found that the perceptions surrounding the effectiveness of current assisted living technologies

available in the market differ widely but on average the technologies available to support people with cognitive impairments are considered less effective than those available for people with a higher likelihood of falling.

This report also illustrated the lack of awareness around assisted living technologies available not only at the end-user level but also at the social and healthcare professionals' level and suggests that this is contributing towards the challenging growth environment for assisted living products.

Saying that, this research suggests that healthcare professionals as well as social care professionals are used more widely as channels for obtaining information about primary end-users than the end-users themselves. This is likely to have an impact on the design specification of the assisted living technologies.

People with unmet needs, who do not qualify for social or healthcare support as well as those who are not interested in it, open up a consumer market for technology providers. Currently, the main route to end-user for assisted living technology manufacturers is still via public commissioning. Lack of awareness in the 'consumer market' about the type and purpose of technologies available as well as a certain level of stigma attached to some of them, makes it more difficult for consumer channels such as major retailers to sell these products to their existing customers. At present, specialist online retailers and pharmacies are the most active channels to consumers in the market.

Based on this market overview, Inventya has developed a range of suggestions for further research and conducted an additional survey among ALT manufacturers (mainly telecare) as to what they would perceive to be most useful to them. If you would like to know more about the on-going research, please contact AKTIVE market research team: **contact@aktive.org.uk.**

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Acknowledgements

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