HALTON
BOROUGH COUNCIL

Telecare Evaluation
20 January 2010

Contents

Section 1

1.0 Introduction

Telecare is a set of electronic sensors installed in a person's home. These include: temperature sensors, fall detectors, smoke alarms, motion detectors, a personal alarm pendant and a 24 hour 7 days a week emergency response service. When coupled with an appropriate support plan Telecare helps individuals to live more independently and safely at home. Once installed, it can reduce risk by providing reassurance that help will be summoned quickly if a problem occurs. Telecare in Halton comprises three components: an emergency response, environmental monitoring and lifestyle monitoring (see section 2.0).

Telecare has been operating successfully in Halton for over 3 years and as this document shows there is clear and substantial evidence that it is broadly welcome and is making a difference to individuals, their carers and to the delivery of health and social care as a whole. It is helping to improve people's independence and confidence by allowing them to remain at home longer. There is also clear evidence that it can relieve stress on informal carers and can improve clinical and care outcomes, by significantly delaying hospital and care home admissions. As a consequence, Telecare has resulted in substantial pre-admission savings of over £0.4 million in the period 2007-2009.) This figure is based on a current average cost of residential care in Halton of £456.00 per week.)

2.0 Telecare Technology Defined

Thanks to rapid developments within electronics, computing, engineering and telecommunications, over the past few years a number of new technologies have arisen. Many of these can be used to support or maintain independence at home and are commonly known as assistive technologies. Generally an Assistive Technology (AT) can be defined as any product, system or service that enables a person to:

- Improve their independence
- Improve their quality of life
- Increase their likelihood of being included and participating in society through recreational, educational and work-related activities.

The technology is manually activated by the person, by using an alarm button. Alternatively, activation can occur automatically when a home-based sensor's parameters have been exceeded. Accordingly, as a form of assistive technology, Telecare tends to be categorised into the following three distinct generations:

- ***First generation*** Telecare refers to user activated (push button, pendant or pull cord) alarm calls to a Control Centre where a call handler organises an appropriate response by contacting a neighbour, relative or friend who is acting as key holder.

- ***Second generation*** Telecare represents a step beyond the basic Community Alarm service with the addition of specific sensors such as smoke and flood detectors. Second generation also includes sensors that are designed to monitor the home environment, vital signs, physiological measures and lifestyle. They can collect and transmit information continuously about door opening, bathwater running, the use of electrical appliances and movement within and from the house. All Telecare at HBC is 2nd Generation.
- ***Third generation*** Telecare stems from improvements in wireless, audio-visual technology and the increasing availability of broadband. Together these enable virtual or actual tele-consultations between the service user and the appropriate health professional (doctor, nurse, support worker…etc). In this way it can significantly reduce the need for home-visits or hospital appointments. It can also lead to increasing opportunities for people (particularly those who are housebound) to visit libraries, shops and maintain regular contact with extended family and friends.

Telecare is the generic name for advanced community alarm services, which use the telephone network and associated assistive technology to provide a combination of environmental and lifestyle monitoring services to vulnerable people in the own homes. In this way, Telecare can be used as an additional aid to service users and responsible others by helping them to manage identified risks.

Within Halton, Telecare offers a personalised mix of environmental and lifestyle-monitoring sensors all of which can be added to a basic community alarm unit (Lifeline 400, Lifeline 4000+ and Lifeline Connect+). This unit comes with a call button (pendant) which can be worn by the individual who can then summon help from anywhere in the home or garden. Service users can also wear sensors capable of detecting if they have had a fall. If any of the sensors in the house or on the person detect an event they send a wireless signal to the base unit. This automatically dials through to the contact centre where an appropriate response is triggered. Hence, Halton currently offers a combination of 1st and 2nd generation devices, but is moving into the third.

The base unit is able to provide details 24-7 on screen at a control centre. Lifeline (both 400, 4000+ and Connect +) units have a powerful loudspeaker and sensitive microphone. These allow a hands-free two-way conversation between the service user and the control centre operator. If the alert is an emergency, or if the contact centre operator cannot contact the person at home, then the individual support plan protocol is triggered and the response activated by the Contact Centre and underpinned by the Warden Service.

3.0 Key National Drivers – Living Longer with Greater Expectations

As far back as 1999, the Royal Commission on Long Term Care predicted that the cost of providing long-term health and social care for older people in the UK would double to £12 billion per annum by 2025 and double again by

2050. Such projected costs were considered unsustainable using the then current approaches to older peoples care. They were also compounded by changes in the structure and expectations of society. These have led to:

- People living much longer into retirement. Over the next 50 years, the population of over 65s is expected to rise from the current 9.3 million to almost 17 million, with an estimated 90% of people wanting to live in their own home with whatever support is available to them.
- An increase in the number of people living alone and outside family networks.
- More expensive healthcare interventions, particularly for lengthy stays in hospital and care homes. By 2020, around 20.5 million people are expected to suffer from long-term conditions and the World Health Organisation predicts it will become the 'biggest killer. Hence, the number of individuals requiring community-based health and social care support will increase considerably.
- People and their families have much higher expectations regarding quality and choice in care delivery. As a consequence of this, a shift towards care in the wider community, patient empowerment and self-care is already well established.

(Data from E-Health Media Ltd, (2007))

These trends, coupled with an expected decrease in the numbers of informal carers and capacity strongly limits the system as costs continue to rise. All of this points to Telecare becoming a dominant influence as we progress towards 2020. Hence the role of councils such as Halton is to raise awareness by showing how the technology can: help mitigate risk while the person remains in their own home, improves their functionality and offers a level of prevention from physiological, environmental or lifestyle problems that are likely to occur, in the course of their daily lives (see also 9.0)

Over the past few years, the accepted approach has been two-fold: changing the way in which care is delivered with the emphasis on home-based care and making more use of enablement and assistive technology (ICT and communication in the form of Telecare and Telehealth) to assist in such care.

This assistive technology enables an individual living at home to: achieve a greater level of independence, enhance their quality of life and reduce their social isolation by helping them to participate in recreational activities with others.

Telecare services in the UK reflect the changes that have occurred as public resources have shifted from secondary to primary health care. Support services associated with community alarms have expanded to include more people with health care and medical support needs within the community. The result has been a convergence of health and social care. Cost and capacity are fundamental drivers here. Data in the 'Telecare Service Strategy for Wrexham' (2006) showed that community based care is more than £10,000 less per person per year, than the cheapest institutional care!

Telecare is currently undergoing intense expansion and considerable research. It's early beginnings some 20 years ago were as a first-generation product offering a personal response without intelligence. This has evolved into the second and third generation systems we have currently and which are being developed, that can automatically detect and generate alerts calls. During the next few years, the expectation is that Telecare will be available to all those who need it, be personalised and able to meet the important requirement of predicting acute situations before they actually occur.

4.0 The Political Context – National Regional and Agendas

The Department of Health's report on The Expert Patient (2001) stressed that the era of the patient as a passive recipient of care is being eroded by a new approach in which health professionals and those they are caring for are genuine partners in which the use
of home-based technology would enable the recipients of health care to monitor the progress of their disease.

Halton's Corporate Plan (2006-11) stresses the need for partnerships in service delivery and especially the importance of consulting with those who will be using the services offered. A joint commissioning framework and pooled budgets have been established with the PCT. All of these will enable service development to continue in such areas as mental health, learning and disability and older people services.

Halton's strategy for Older People places emphasis on a variety of objectives such as: enhancing the engagement and participation of older people, tackling ageism, age discrimination and age stereotyping. To achieve all of these, collaborative links between transport, sport and leisure, neighbourhood renewal, health care, education, citizenship and community engagement have been forged.

The overall image of the future in Halton is that individuals are involved and have a direct say in all community activity to the extent that all of Halton's services are triggered from the ground up, rather than from the traditional, more distant and less effective, top-down paternalism.

Within this picture Telecare and Telehealth are seen as crucial in supporting people's choices for the kind of social and health care they want at home. The government's recent 'Personalisation Agenda' was created to ensure the person is kept centre-stage in their own home, where they prefer to be and where medical evidence shows they recover better from illness, due to support from their own social and community network. Telecare and future developments in Telehealth are tailor made for this approach.

In Lord Darzi's (2008) review and 10-year vision of the future Health Service, he stressed that the NHS will not be confined to hospitals, health centres or GP surgeries. It will also be available on-line in people's homes. Also, where previously people were once confined to hospital, Wireless, Bluetooth and digital technologies will allow health to be monitored at home.

A key component in Darzi's vision was the role that good quality accessible housing, education, employment, local transport and recreational facilities play in the health and wellbeing of the population. Darzi's review highlights the following 5 key areas of which Telecare/Telehealth and housing are crucially important:

- Prevention
- Empowering service users
- Quality of care
- Integration of services
- Innovation

It is clear from Darzi's review and various visions for future health and social care across much of the developed world, that Telecare and Telehealth will have prominent roles to play. The challenge for commissioners and providers is to realise their importance and adopt them even when the evidence base to support them may be far from risk free!

5.0 Telecare In Halton – Partnership Agreements

The successful implementation and delivery of Telecare requires a 'whole systems' approach and it is vital that all partners are fully engaged at an early stage. Halton is a Unitary Authority and therefore the involvement of a number of departments including: housing and social services is necessary to deliver the Telecare agenda. Similarly, early engagement with the voluntary sector in their role of service user representatives is also required.

In addition, the Widnes Practice Based Commissioning (PBC) Consortium, Halton and St Helens Primary Care Trust (PCT) and HBC are currently commissioning a community based integrated care service known as the 'Virtual Ward.' This will actively support the most vulnerable individuals and those with long-term conditions at home, in order to reduce unnecessary hospital admissions.

An important component part of the Halton's Virtual Ward concept will be its planned use of Telehealth devices to support self-management and the close monitoring of physiological observations. Telecare could have a significant role monitoring such long-term conditions as: Hypertension, Chronic Obstructive Pulmonary Disease (COPD), Diabetes, Coronary Heart Disease (CHD) and Dementia. The incidences of all of these conditions in various Halton practices, significantly exceed the national average. The important outcome in this respect would be to reduce hospital lengths of stay among people with complex histories, due to emergency admissions.

Halton is also developing an 'Early Intervention / Prevention Strategy.' This will focus on individual dignity, independence and equality in order to reduce social isolation while enhancing reablement. An important component of this overall strategy will be assistive technology in the form of Telecare / Telehealth, the supporting people agenda and greater control through direct payments and individual budgets.

HBC are partnered with Age Concern. During the initial assessment the person is asked whether they would like an Age Concern Stay Safe Check. This is helpful as a means of identifying potential danger zones in the home that would carry a high risk of a fire or fall. They also provide additional advice. HBC arrange the Stay Safe Check and Age Concern carry it out.

6.0 Training

Training is central to the continued development of the current Telecare service. For all Community Warden staff it occurs on induction to the service or as new products are made available. Currently, training is delivered by the Telecare Implementation Officer and involves a PowerPoint presentation and product demonstration. Staff also have the opportunity to address any training issues as they arise and Wednesday each week is set-aside for this.

In addition, training has targeted other staff from health and social care, the independent and voluntary sectors. This also takes the form of a presentation and product demonstration. Such sessions usually last fro 2-3 hours to a half-day. The emphasis is to highlight how Telecare forms an integral part of a support plan. Currently 112 people (averaged over 17 dates in 2008-9) have received this training. These were staff from: Alzheimer's Society, the Supporting People Forum, Community Extra Care, Halton Multiple Sclerosis Group, Cheshire Fire Service, all sector groups and Private Reablement Providers.

Future training plans will be linked to the level of training required for staff who are directly involved in the assessment process. Such high-level training (see section 8.5) will be commissioned through the training section.

A 'Telecare Training Group' (TTG) has been set up led by Steve Kelly to drive forward the training agenda. This progresses the introduction of new Continuing Professional Development (CPD) training modules and actively promotes take-up of these new training opportunities by professional staff engaged in the assessment of those with potential long-term care needs.

The TTG also progresses the development of training courses to meet the needs of staff within the service and referrers who will use the service (Telecare handlers /responders and more generally those involved in equipment installation). The TTG also give advice to service users and their carers on how to use the equipment.

7.0 Concerns, Strengths and Weaknesses

There is an increasing body of research related to telecare. Those who are generally supportive see it as an important means of helping vulnerable individuals to maintain a level of independence. At the same time, Telecare offers a means of significantly reducing healthcare costs, by enabling vulnerable people to remain at home.

Those who are less supportive, view it as a cost-cutting substitute that is more about "replacing human contact rather than complementing it." Miskelly and Mickel (2009) also stress a number of factors that can act as a barrier to making Telecare happen - including finance, attitude, inefficient structures, inappropriate prescriptions, inadequate training and poor response services as major barriers to change. However, the government's recent Green Paper " Shaping The Future of Care Together" firmly positions Telecare within it's forward looking prevention strategy:

> "*We will continue to support Telecare so that people feel more confident about staying in their own home*."
> (p. 51)

Nonetheless, the very real and documented fear that an increase in Telecare can result in vulnerable people having fewer human contacts and feeling more isolated as a consequence, remains a cause for concern (Percival & Hanson, 2006). As they point out, a health professional making regular contacts can observe subtle changes in a person's condition – "little things that can be missed … that you can't quantify." Such contacts allow the less accessible emotional, psychological and motivational issues to be dealt with, in additional to the more usual practical tasks. Bowes and McColgan (2002, 2003) observed that people with Telecare reported feeling less safe and received fewer GP visits, than a comparative group without it. Such findings support Graham and Wood (2003) who concluded that digital technology and automated surveillance can encourage less human intervention and increase levels of anxiety.

A corollary of this frequently expressed by professionals is that local authority budget constraints could lead to staff being withdrawn, as Telecare becomes perceived as the less expensive option. However, as Percival and Hanson (2006) point out, rather than being a threat to the professional's livelihood adequately staffed backup services are necessary for effective Telecare provision. The challenge for professionals is to be able to respond within a 24-hour situation. In this respect, Lyall (2005) has pointed out that Telecare as a support tool is only as effective as the speed of response of appropriate services. In addition, specialist training would be required enabling staff to respond effectively in cases of falls and to the needs of people with sensory and cognitive impairments.

The Directorate is paying particular attention to the potential problem of isolation as a consequence of Telecare, and questions related to this are incorporated as part of the service user questionnaire used to monitor performance (see para.13, below).

8.0 Target Audiences for Telecare Services

Telecare is needs based and once it has been embedded into current health and social care systems, it acts, not as a replacement, but as an additional support to professional care staff. In particular, it can help to avoid a loss of

independence and reduce the frequency and likelihood of admission to hospital or residential care.

Within Halton, Telecare is used as an electronic means of supporting the following vulnerable individuals:

- Those recently discharged from hospital who can be assisted to live at home in order to avoid the need for re-hospitalisation.
- For older people living alone Telecare offers a means of passive risk-management that serves to increase self-esteem and individual confidence in relation to accidents and security.
- People with dementia – reminders and sensors to detect dangerous situations.
- People with a learning disability – provides opportunities to maximise independence through electronic aids and emergency detection.
- People with physical disabilities (including auditory and visual) – remote control devices with risk management to provide easier access to emergency services in the event of an accident.
- People with increased frailty

9.0 Procurement and Choice Issues

There is considerable interest and enthusiasm for Telecare within Halton. The current service is well integrated with other support services (section 2.5 shows the variety of service referrals). Further, a key aspect of the service is the relevant person's ability to choose the level of service that suits them best. This best fit approach is tailored to the individual's needs and aspirations and can be extended or reduced accordingly as the person's support plan changes.

NHS Purchasing and Supply Agency (PASA) negotiated a four year national framework agreement covering Telecare equipment, installation, maintenance, monitoring and response services in support of the Department of Health's vision to build a strong Telecare infrastructure. The agreement went live on 30 June 2006 and will runs until May 2010. Regular product and pricing reviews are undertaken to ensure that the suppliers continue to offer cost effective solutions.

The framework covers 1st and 2nd generation Telecare systems (including remote vital signs monitoring equipment). It enables the development of consortia, as a means of taking advantage of price bands in which major savings can be made without the need to undertake expensive and time-consuming tendering processes. Currently only the UK's largest Telecare suppliers (Tunstall and Initial) have been accepted onto the PASA framework.

Like many councils HBC has tended to opt for a single supplier (Tunstall). This has a number of significant advantages - it simplifies: stock control, installation procedures and training requirements. In addition, Tunstall are the current market leaders in R & D and technical support

However, as personalised budgets for health and social care become common-place, individuals are needs assessed and Telecare /Telehealth devices are more readily available, people will be likely to choose whatever appeals rather than just being HBC led. Essentially they have three options under Personalisation: (1) purchase their own equipment and come to HBC for a response; (2) Purchase the whole package from HBC; (3) Not come to HBC at all.

10.0 Financial Outcomes – The Halton Charging Policy

The three service levels are charged every 28 days (4 weeks) in arrears as follows:

Service Level 1 - £5.42 (weekly) - this is the Community Warden Service. The charge is applied from the connection date. This level of service consists of a base alarm unit, with a pendant and smoke alarm. Private individuals pay the full amount, whereas those who are eligible are funded by the Supporting People Team.' Weekly charges to housing associations and trusts vary from £3.09 to £3.17.

Service Level 2 - £6.49 (weekly) – this is the Telecare (Environmental Monitoring) Service. There is an initial 2-week assessment period that is charged as for Service Level 1. After assessment, the charge is weekly as above. In addition to the base unit, pendant and smoke alarm, two further environmental sensors may be fitted. Examples of these are: Extreme Heat or Cold, Flooding, Carbon Monoxide and natural gas.

Service Level 3 - £8.65 (weekly) – this is the Telecare (Lifestyle Monitoring) Service. There is an initial 2-week assessment period that is charged as for Service Level1. After this the charge is weekly as above. In addition to the Environmental monitoring offered in Service Level 2, this service also provides a selection of Lifestyle Monitoring sensors. These detect motion (or lack of it) e.g. if someone has stopped moving, fallen, has gone outside, is in bed or sitting in a chair, for a prolonged period when they would normally be active.

All three service level costs above can be maintained at moderate levels year-on-year due to partial recycling. Base units and sensors such as: smoke alarms, fall, movement, carbon monoxide and door entry detectors can all be used many times over.

11.0 Objectives, Assessment and Installation

Service Objectives:

- To provide 24 hour response to an alarm call.
- To provide reassurance to individuals using the service and carers.
- To contact emergency services such as ambulance, fire or police on behalf of the service user.

- To reduce admission to hospital, residential or nursing home care.
- To assist in the early discharge of people from hospital.
- To provide a quality, cost-effective service that matches the individual needs of each service user.

Strategy Objectives:

- Promote assistive technology as a means of supporting independent living.
- Raise public awareness of Telecare within Halton.
- Maximise the time people are able to manage their long-term conditions at home.
- Promote home safety and security.
- Develop partnership agreements to facilitate Telecare.
- Improve the social and medical support to vulnerable people in order to reduce social isolation.

Currently some 1600 people are using the emergency response (Lifeline service) and of these around 70 have additional Environmental and Lifestyle devices installed. The Telecare and Lifeline service team is based in Widnes. It consists of 14 Community Wardens (a further 2 are currently on secondment) who operate a shift pattern, a dedicated team support officer, a technical specialist (Telecare Implementation Officer), a Telecare Installation officer, a team manager and a principal manager. The installation officer position is a shared by two individuals in a partnership agreement with Age Concern.

The team's principal role is to provide a 24 hour 365 day a year Telecare alarm service that is split into the following three levels by the cumulative addition of extra monitoring devices:

1. A Community Warden Emergency Response
2. Telecare Service Environmental Monitoring
3. Telecare Service Lifestyle / Environmental Monitoring

All of the above services rely upon the Level 1 emergency service being in place.

Telecare equipment will automatically activate a sensor when a certain critical threshold (e.g. temperature) has been reached, or if movement is no longer detected.

Referrals for a Telecare assessment can come from a wide variety of sources including self referral, family, GPs, other health professionals, social work staff, housing staff police and other community workers who may come into contact with a vulnerable person who could benefit from the service. The service is also beneficial to:

- People with Clinical /medical conditions such as MS.

- People with epilepsy, heart conditions, diabetes, dementia.
- People with Hearing, visual, speech or learning disabilities.
- Those living alone or with another vulnerable person.
- Those living with a carer or carers where the service is essential to maintain care arrangements.
- Carers who require support to alleviate some of the difficulties they experience in caring for a dependent.
- Families where a child may be at risk due to the medical condition of their carers.
- Families where there is a history of domestic violence and the partner is vulnerable when living alone.

The service is available to anyone of any adult (aged 18+) who would like to feel safer, more protected and independent in their own home. Within HBC referrals to the service generally come from the following teams:

Rapid Access & Rehabilitation Service - RARS
Older Peoples Team Widnes - OPW
Older Peoples Team Runcorn - OPR
Physical & Sensory Disability Team - PSD
Adult Hospital Team - AHT
Community Psychiatric Nurse - CPN
Adults With Learning Disabilities - ALD
Extra Care
Oakmeadow
Community Warden Service - CWS
Falls Service
Reablement
Next of Kin / Self
Community Mental Health team
Community Matron Service

The Referral Pathway: The Telecare alarm service pathway is outlined visually in Appendix 10. When an assessment has been completed (via Team or self) and the need for Telecare becomes clear, then the service user is informed and appropriate options are discussed. A referral is made to the Contact Centre (CC) and the appropriate Referral Proforma is completed. At this point, relevant information is passed to the Team Administration, who then contact the referrer to arrange an assessment. At this meeting a lifestyle assessment is carried out, the type of service required is identified and appropriate parameters and responses are set. Consent for all responses is obtained and a contract agreed with the service user.

At this point the CWS passes all information to the Contact Centre staff. Normally the CC becomes the first professional point of contact for the SU. However, this is flexible and the SU may choose to have others in this role (generally family member, partners or close friends).

The CC continues to monitor the installed system 24/7. As the person's activity patterns become apparent, the CC will ensure response protocols are

adjusted appropriately. At the end of each of the first two weeks, both the CWS and the referrer will review the service to ensure it is meeting the appropriate need. If this is the case after discussion with the Service User and carers and agreement is reached, then after week two Telecare is continued.

Charges are applied according to which package (1,2,or 3) is adopted and the CWS take over as the key worker. The service is reviewed annually or after there has been a significant change in the person's care needs.

If at any point Telecare is no longer required CWS will remove the equipment. At this stage certain equipment will be identified as suitable for recycling as a means of off -setting future costs.

The Assessment Process and Installation

Halton Community Alarm Service Assessment Version 4 (revised Jan. '09) is the assessment tool (Appendix 1) currently used. The assessment is carried out in the person's home and details of: the type of dwelling (e.g. whether a sheltered flat, house, bungalow…etc), personal and financial information, form part of the assessment document. In addition, health needs such as any current illness and a detailed inventory of the care and support that is required, plus any equipment or individuals who are available to assist with specific tasks. It also includes: any help with medication, specific communication needs and details of visiting health professionals such as a Community Nurse and GP.

Details of all devices to be fitted are logged along with appropriate responses for each. If for any reason, agreed protocols cannot be met then the CWS must respond and notify next of kin should an event occur. At level 1 (Community Alarm) it is important to establish contact with the person. If this is not possible, CWs are despatched, next of kin are made aware of the situation (lack of contact or a smoke detector triggered) and the fire service contacted. At Levels 2 and 3 (Telecare) each sensor has an appropriate response. For example if the absence alarm for a bed sensor has been triggered, it is important to establish contact with the person as soon as possible. If voice contact is not possible, then the CWS will operate the appropriate response protocol.

Any additional response protocols agreed with the individual, or their next of kin…etc, are included along with a detailed physical description of the person, an agreement slip for a digital image to be taken to help identification if the person is found wandering.

12.0 Dealing With Risk

At any time the person or their representative can contact Telecare service to have their support plan updated. This reviews the risks and the interventions required to manage each in order to meet the person's needs (Appendix 2).

For all three service levels any appropriate response is always agreed with the service user / and or significant others. This is important, because Telecare is not a form of imposed surveillance, but incorporates a carefully agreed set of responses that enable previously identified risks to be managed efficiently and safely. Its overall aim is to highlight potential problems before they become crises. By targeting such difficulties quickly, the person will inevitably feel safer, knowing that the kind of assistance they require will soon be on its way.

13.0 Monitoring and Measuring Performance

The flowchart on page 16 shows how evidence on performance is collected, for either the Community Alarm Service or Telecare and by whom. Shortly after installation (typically 1 -2 weeks) all new users of Telecare are asked to provide comments on the effectiveness of the service they are receiving (Appendix 7). This is known as a 'post-installation review' and provides the user with an opportunity to individualise the system to meet their behaviour, need and level of activity.

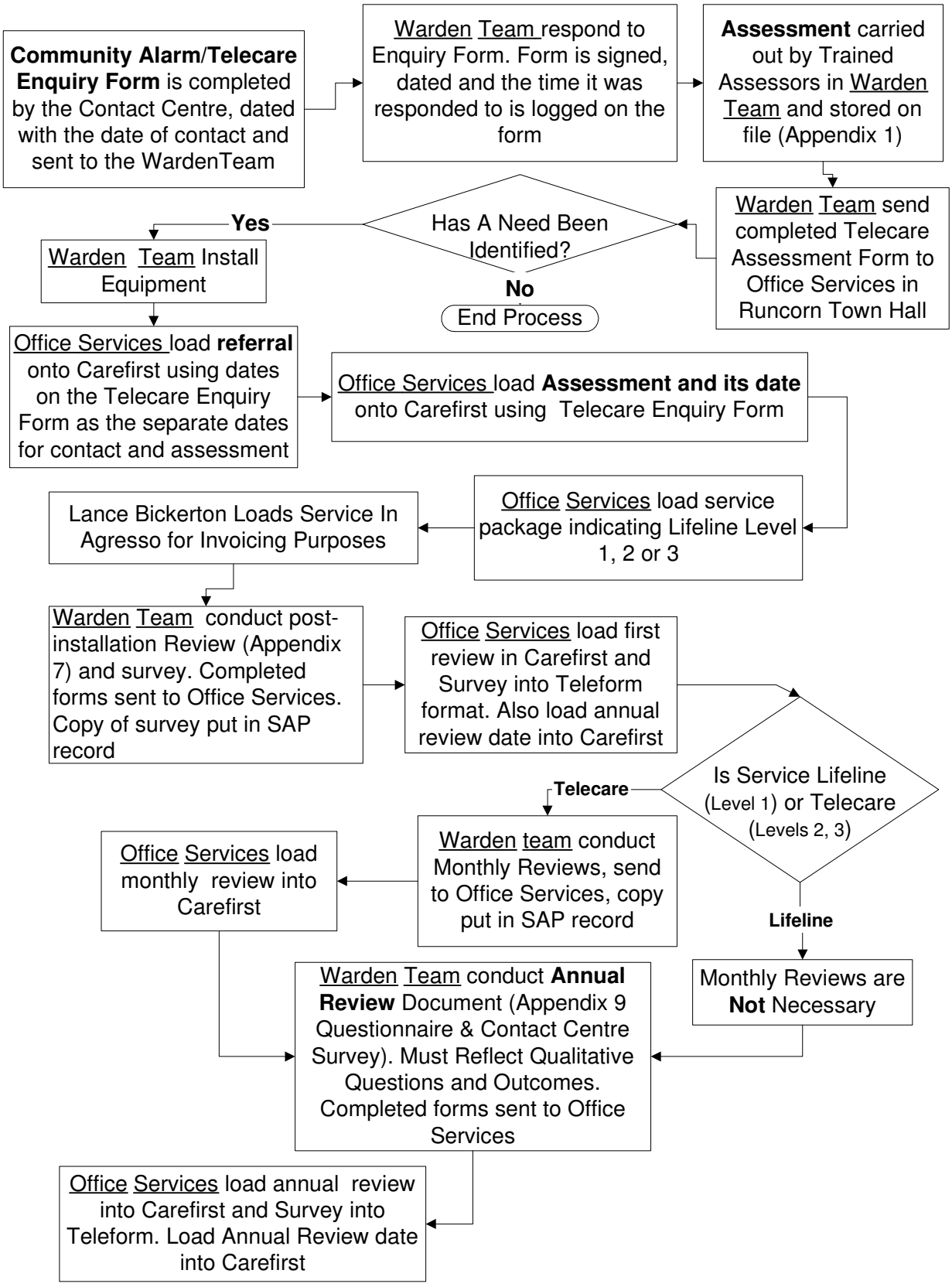
In addition, levels of satisfaction with the service are recorded on a monthly basis by the Community Warden team and all documentation placed in the SAP record. The Community Warden team also conduct an annual review of the service by questionnaire (Appendix 9). Data from this are uses to provide a qualitative analysis of the service, plus outcomes. Throughout (Installation review, monthly reviews (appendix 8) and annual review) the Community Warden team deals with any issues that are raised by Telecare users.
All installed Telecare equipment is evaluated and reviewed to ensure it meets a user's individual needs and their support plan outcomes. Statistical information on outcomes delivered is also collated. The flowchart below shows how and by whom evidence of outcomes is obtained.

The qualitative question set used at the initial and later annual review will be a separate document that reviewers take out with them. This will be forwarded to the IT systems Team in Runcorn Town Hall as this will enable outcome data to be collated and analysed using 'Teleform.' When this process is established there will be no further need for the Contact Centre to continue asking new Community Alarm Service /Telecare users to provide qualitative /outcome information.

The current Telecare Document (August 2009) can be consulted for the following:

- How the Commencement and Termination of the Telecare Service is notified to: the supporting People, Financial Services and Performance Monitoring Teams.
- The CareFirst procedure for connecting Telecare
- Annual Reviews on CareFirst
- How a Telecare account is closed by the Administrative Officer using the Aggresso System
- The CareFirst procedure for disconnecting Telecare

Flowchart Showing How Evidence for Lifeline (Level 1 Service) and Telecare (Level 2 or 3 Service) is Obtained.



14.0 Future Developments

In Halton, consultation is viewed as a central component in evaluating any of its services. This allows the service user to have a direct role in service planning, ensuring it is targeted accurately and meets all relevant needs.

Future consultation will involve monthly and annual reviews. The intention is that all consultation data will be accessible via CareFirst. Over time this will accumulate as a valuable service user resource, detailing personal profiles, specific individual Telecare preferences, problems and solutions. It is the intention that this database will inform all future development of Telecare within Halton.

The infrastructure for Telecare services includes the equipment needed to enable communications to be made rapidly and reliably between: sensors, disperse alarms, a monitoring centre and emergency responders. It also includes the methods employed to include access to appropriate services, assessments and provision of equipment.

The present Call Handling System at the HBC contact centre has been operating since February 2007. A new system upgrade (Tunstall PNC5) will be introduced to handle all calls from the autumn of 2009. This will slightly enhance the ability to take calls and will make it easier to pull off reports and provide more scope for the development of Telecare in Halton.

To date the main focus of Telecare has been on (1) home safety and security monitoring and (2) lifestyle monitoring and risk management, within a reactive mode approach where an alert triggers a response from an appropriate service. In general, the use of Telecare employs a small selection of standardised devices.

To meet future needs Telecare will have to be developed on a larger scale and involve many more sensors and devices. It must be capable of being personalised to individual user need, fully integrated into the care system and predictive in order to allow observation of longer-term trends and earlier intervention.

For example, future changes in demography and developments in policy will continue to transform the way services are delivered in Halton. As separate initiatives two aspects of Telecare are being proposed within the Halton business case: Telecare will be included as a component part of the standard social care assessment; those individuals who are over 85 will be entitled to free Telecare. In order to ensure quality social care, related primary care and support services to people, all those involved in providing the service, will need to work beyond their traditional organisational boundaries, structures and systems.

Future Training and service reporting needs to demonstrate that the structure of Telecare in Halton is meeting the needs of all its service users. It should emphasise the importance of delivering a quality service that is outcomes

focused. In this sense, any future qualitative analyses (annual reviews…etc) that are proposed, need to be able to demonstrate that:

- Individuals using the service are happy with its quality and accessibility (questions: 1 – 12 Appendix 9).
- Levels of individual self-management have increased (question 7: b, d, e)
- Positive changes in behaviour have occurred (questions (question 7: a, d, g).
- Fewer symptoms are being reported (c, f).

Increase the use of sophisticated Telecare platforms such as 'Community Alarm Service Connect+.' This makes it possible to monitor a set of additional sensors prior to raising a specific alarm. For example, a person may be out of bed at a time that is outside agreed parameters, but active elsewhere in the house as detected by PIR movement sensors. This would typically result in a delayed or cancelled alarm (if the person got back into bed). This type of passive alarm would reduce the number of unnecessary alarms and also allow the individual greater independence to behave in a way that is outside previously agreed conditions yet nonetheless perfectly normal.

Expand Halton's third area of focus ('vital signs monitoring') as a cost-effective means of monitoring remotely and assisting individuals to manage long-term conditions such as diabetes at home. The monitoring would be done via the PCT with HBC in a supportive role providing the necessary Telecare/ Telehealth units. This would also be a useful precursor to developments currently under way such as the Virtual Ward. In this respect, Widnes based GP surgeries are interested in piloting Telecare /Telehealth within the Virtual Ward concept. This will result in an increase in referrals for current Telecare sensors as well as a possible installation and technical support service for
Telehealth applications.

At an early stage in Telehealth planning the following would need to be looked at:

- Response protocols for any alarms triggered by the various Telehealth applications must be clearly set out.
- Storage, installation, de-installation, decontamination and maintenance procedures will need to be developed and put in place.
- There will be a need to train all call handlers and installers.

The implementation of Telehealth could significantly reduce the need for home-visits or hospital appointments. The technology fully developed has the potential to enable those who are housebound to have a virtual presence in libraries and shops and maintain contact with friends and relatives as well as professionals.

Keeping Track of Upgrades. Some service users move between different levels of the Lifeline, upgrading to a higher-level service when required and then later downgrading. Such movement cannot be tracked by the present data capture system, as the Community Alarm Service upgrading is not

separately recorded on CareFirst. For example, there are currently 25 individuals on the Level 2 package and 39 on Level 3 – many have been upgraded from Level 1, but exactly how many cannot be ascertained. Clearly, this difficulty needs to be looked at in any future monitoring and data capture procedures.

Currently there are a number of sheltered housing providers within the Borough who use their own Telecare systems. It is important to ensure that these are compatible with current and planned future systems in order to avoid duplication and potential confusion for the user. By establishing regular quarterly management meetings with sheltered housing providers, it will be possible to determine the level of compatibility and the potential for clear and effective response protocols. As growth area they would commission HBC as a response service.

Telecare is one component in a multi-agency health and social care approach. The principal aim is to provide the necessary professional back up to enable the individual to maintain their independence at home for as long as possible. The principal challenge for Halton in caring for its ageing population is to improve the care of long-term conditions. In order to take care of its frailer older people with continuing health problems, it must focus on better support for them at home (together with support for carers). It needs to develop early recognition and management (at home) of new or increasing health problems in order to avoid admission to an acute sector bed. It naturally follows that better communication across agencies would be beneficial (see 6.7).

Halton is currently January 2010) in the process of developing its Early Intervention / Prevention Strategy which will stress the importance of Individual dignity, independence and equality. The overall purpose of this strategy is to reduce the likelihood of social isolation while enhancing reablement. It is the intention that Telecare will offer a means of achieving this kind of personal control and dignity for those with long-term conditions, especially when combined with Halton's direct payments facility and individual budget s.

Also, the capacity and structure of the call-handling system needs to be flexible enough such that all data collected can be shared with appropriate others in a common format. To this end the Halton contact centre has already upgraded to the Tunstall PNC 5 Call Handling System. This will enable reports to be produced and shared more quickly.

As their needs change, individuals at home may benefit from some form of activity monitoring. This comes under the umbrella term Activity of Daily Living Monitoring (ADL) and can reduce the number of visits required from carers and GPs. Connect + carries out a 'Just Checking' which can work well with individuals who have Dementia. At present families may purchase this system privately, but Halton are looking at the implications of adopting such a system as it would allow those with dementia or memory loss to maintain their independence.

The system monitors the person's movements at home and produces a chart of their activity at intervals throughout the day and night. Thus this kind of system can provide reassurance to family /carers and professionals that an individual with early onset dementia can maintain their usual living pattern without undermining their independence of movement. Being able to target early-onset dementia in such a way might make adopting such a system more acceptable financially.

Telecare – A Glimpse of the Future in Halton. Telecare is already a success story in Halton, but in the immediate future:

- The hope is that it will be more widely understood and accepted by service users, carers, health and care professionals alike. Local members and political leaders will appreciate what it can do for their constituents and actively promote its use.
- All housing providers will be active partners in implementing care solutions based on Telecare and Halton's housing strategy will actively promote Telecare solutions for vulnerable people.
- The boundaries between health and care services will become far less rigid as the technology helps to redefine roles, options and more efficient working arrangements. These will be geared toward consultation reflecting the person's desire to remain independent and at home for as long as possible.

Looking further ahead:

- In the short-term through an established Personalisation Agenda service users and their carers will be able to request and purchase directly Telecare based services as part of a broader package involving elements of health care monitoring and response. Telecare and Telehealth (remote health care) will be widely recognised by individuals and their carers as the way to greater independence and quality of life.
- In the longer term all new homes both public and private will be fitted with the capacity for care and health services to be provided interactively via broadband from day one of occupation.
- In the short-term, remote condition monitoring from home for extended periods will be the norm.
- Those receiving care services in Halton within a care home or hospital environment, will in future be able to benefit from Telecare at home.

15.0 Summary

Telecare in Halton has three principal areas of focus:

1. Information, advice and support – being able to demonstrate that as a form of support it has had an impact on clinical or care outcomes for vulnerable people with specific conditions.
2. Safety and security monitoring – being able to demonstrate that Telecare has enabled vulnerable people to feel safer and more secure at home.

3. Vital signs monitoring – putting a case for funding Telehealth as a cost-effective means of monitoring and assisting individuals to manage their diabetes at home.

The last of these has an important role in future plans to expand the service and will be dealt with under 'Recommendations' and more fully in 'Future Service Propositions'. The first two are dealt with below.

Since its introduction in 2005, the number of individuals who have been referred for and subsequently had Telecare packages installed, has been increasing. The following table shows cumulative annual data from October '05 to November '09.

Cumulative Telecare Packages (Levels 2 & 3) Installed in Halton

	Oct '05 Mar '06	**Apr '06 Mar '07**	**Apr '07 Mar '08**	**Apr '08 Mar '09**	**Apr '09 Nov '09**	**Totals**
Active from previous yr.		22	48	46	72	
Referrals	25	102	111	131	83	**452**
Assessments	25	102	106	99	77	**409**
New Connections	25	95	74	76	40	**310**
Connection Removed	3	69	76	50	38	**236**
Active	**22**	**48**	**46**	**72**	**74**	

Falls and wandering issues have accounted for 76% (07/08) and 73% (08/09) respectively of these referrals (Appendix 6). There is also evidence to suggest an increasing trend year on year in the number of individuals connecting to a Level 2 or Level 3 Lifeline package as shown by the **Active** data. For example the number of 'Active' individuals for the full year Apr 09 to Mar 10 would be expected to increase to approximately 100.

The increase in the number of Telecare packages has impacted on the response element of the service. The following table aptly demonstrates this:

Callout Data For Telecare in Halton

	Apr '07 Mar '08	**Apr '08 Mar '09**	**Apr '09 Nov '09**
Total Active for period	122	122	112
Total Callout	920	1067	625
Monthly Av. (mean)	77	89	78

However, there are currently (09/10) almost 25% more people in receipt of Telecare than the previous year (08/09). Consequently, these data represent significant decrease in the number of callouts. This would seem to suggest that not only is the service becoming better known, but that confidence in its

ability to manage risk is also growing among those who wish to maintain their independence at home.

Further, the number of new service users aged 65 and over, that have already been provided or are scheduled to be provided with 1 or more items of Telecare level 2 0r 3 packages in their own homes (or an equivalent such as extra care /warden assisted housing) is expected to rise by some 8% (for adult social care alone) and 4% (Adult social care in partnership) during 09/10 (416 –450 and 7-10 respectively).

There are two important factors underlying this. First, people's general awareness of the service that is available has been greatly increased over the past two years. This has largely been due to: Halton Direct Link, the HBC website and word of mouth from current users, Community Wardens and health professionals. Secondly, as a consequence of people living longer, there is an underlying significant increase in the number of those developing dementia.

Such increasing levels of dementia year on year will undoubtedly result in annual increases on the number of future referrals received by the service and in the type of device selected by users and / or their carers. The majority of referrals have been for individuals with dementia and hence the most frequent devices installed are to detect falls and wandering.

Service users and their carers are becoming more aware of what the technology can achieve in terms of monitoring. Consequently, they have been more inclined to make use of environmental monitors such as heat, cold, water … detectors, as an additional safety blanket. To this effect there has been a 145% increase in environmental referrals, resulting in more of these being installed in the period 2008 - 2009.

When Telecare is coupled with an appropriate support plan an important outcome is that the individual is able to remain safely and independently at home for longer. Thus, safety and security monitoring is an important function of Telecare. As evidence for this, during the period 2007–2008, 17 service users eventually had to move into residential placements. However, prior to their residential move and thanks to the use of Telecare, 6 of these individuals remained at home for over a year and the remainder between one and 12 months. This represents a substantial pre-admission saving of approximately £240,000.

This suggests that people using the service with the right kind of equipment are able to be more independent. However, as the number of individuals connected to Telecare equipment increases, then so does the total number of activations and call-outs. One way of reducing this would be for Halton to make use of Virtual Sensor technology.

Telecare has been a success, not only within Halton as evidenced above, but also nationwide. More people in Halton are transferring upwards from the basic Level 1 service as they develop confidence in its ability to minimise risk

through its rapid response capability. This confidence is evidenced by the reduction in call-outs. In a sense, the past three years have been an experimental period: enabling the public to experience directly how supportive the technology can be and HBC to establish how daily living patterns can best be monitored, by whom, what new technology to employ and how the current structure needs to evolve to accommodate an expansion of the service and the future implementation of Telehealth /Telehealth.

16.0 Recommendations*:*

The following recommendations stem from discussions with colleagues from: the Warden's Team (who lead on Telecare), Finance & Support Team (currently logging Telecare onto CareFirst), and Business / Policy Support (service quality). Service user comments have also been incorporated into the overall document.

At present logging of referrals and assessments is being carried out by one individual from the Finance and Support Team. This situation is recognised as not ideal and is likely to become less satisfactory as Telecare expands as a service and Telehealth becomes available. However, due to capacity limitations this situation is unlikely to change in the immediate future.

A Telecare Training Group (TTG) will inform the new Telecare/ Telehealth agenda. All relevant staff will receive the new Telecare training as part of their normal continuing Professional Development. This would help improve awareness among staff of the current and future importance of Telecare. When capacity allows, training and procedures will be developed to enable the Warden's team to log all referrals and assessments.
The TTG could also drive forward the development and introduction of new training opportunities for all professional staff with the responsibility of assessing individuals with long-term needs. The use of 'Telecare Champions' within other referral teams would enable such teams to keep abreast of new Telecare developments and training opportunities.

The TTG will also continue to develop training courses to meet the needs of Telecare handlers /responders and more generally those involved in equipment installation and advice to service users and their carers on how to use the equipment.

Implement improved quality and performance measures as a means of evaluating the overall effectiveness of Lifeline, Telecare and Telehealth (when operational). These will take the form of: post-installation bedding-in checks/reviews to ensure operating parameters are appropriate, followed by monthly reviews in the case of Telecare and annual reviews in the case of both Lifeline and Telecare. This annual review will be structured as a teleform for automatic analysis.

Increase the use of more sophisticated Telecare platforms so as to allow delay or cancellation of alarms, depending upon the person's activity. This

would greatly reduce the level of false alarms while allowing people to move around their house in whatever way is normal for them.

Widnes Practice Based Commissioning (PBC) in partnership with Halton and St Helen's MHS Primary Care Trust (PCT) have put forward a business case for a community based integrated care service. Part of this would involve working in partnership with Halton Borough Council to deliver innovative solutions to support people at home with long-term conditions.

Such support would enable individuals, families, carers and professionals to communicate, coordinate and manage seamless care at home. This could include the use of Telecare devices as a means of supporting self-management and the close monitoring of physiological observations.

Any such future use of Telecare by the PBC would be advised by data from its current use in Halton. Hence HBC could supply relevant Telecare/Telehealth equipment that would support diabetes monitoring, where the monitoring is carried out by the PBC. Hence, it is important to ensure that the development of the 'Virtual Ward' concept, by the PBC will be closely linked to current and future developments in Telecare /Telehealth

There is a need to address system compatibility problems where Sheltered Housing providers have opted for different detectors from HBC. It is important in such circumstances to hold regular meetings with providers so that clear and unambiguous response protocols can be developed.

Currently there is no facility for tracking those individuals who opt to upgrade or downgrade their current Lifeline / Telecare system. This information is not currently recorded on CareFirst, but could be made available via monthly reviews for Telecare or at the post-installation inspections for Lifeline or Telecare by incorporating an appropriate question.

Virtual sensor technology is an important feature of the new Connect + base unit. This allows information to be combined from a number of sensors, thus enabling alarms to be delayed or cancelled, reducing the number of false alarms. For example, before an out of bed alarm is raised, the unit can be set to monitor other Telecare sensors that may be indicating that the user is active elsewhere in the house (they may have got up for a drink and will have triggered PIR sensors on the way to and in the kitchen). The unit can then react to this additional information by either delaying or cancelling the initial virtual out of bed alarm.

Enuresis is a common problem among older people. Telecare offers an enuresis sensor that Halton could offer as a new component in its Telecare service. The sensor provides a discreet and efficient means of detecting instances of enuresis the moment they occur. This enables carers to provide a higher level of service without the need for regular intrusion. This equipment is available and If there is a local demand then HBC will approach the PCT for future funding to expand into this new area of service.

There are currently some 1.75 million people in the UK who rely on Telecare. The Telecare Services Association (TSA) formed in 1995 represents service providers and those who commission Telecare services such as local government, housing associations, manufacturers, academics and others with a professional interest in Telecare. After taking part in a TSA consultation exercise in 2008, HBC is currently in the process of adopting the TSA Code of Practice. This TCOP covers the whole Telecare system from referral to response and identifies the importance of each component along the way (e.g. profiling, service set-up, monitoring…etc). By adopting the TCOP and the recommendations of the TSA's independent inspection body (Insight Certification), HBC will ensure that its Telecare service is offering the best practice to service users, providers and commissioners.

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