WIRRAL'S ASSISTIVE TECHNOLOGY SERVICE

PROJECT EVALUATION

2007

1. Introduction

Wirral's Preventive Technology Plan was agreed by Cabinet in March 2006. It set out the policy background, definitions, the benefits of telecare, service models, a needs analysis, and the developmental issues facing Wirral in implementing telecare and telemedicine in Wirral. An expenditure plan and project implementation plan was also included.

The plan was developed and informed by a multi-agency steering group set up in 2005 which consisted of stakeholders from Department of Regeneration, Wirral Hospital Trust (WHT), Wirral Primary Care (WPCT), Wirral Partnership Homes (WPH), Merseyside Fire and Rescue Service (MFRS) and the Department of Adult Social Services. The Steering Group defined the outcomes anticipated for the project:-

***Outcomes*:**

- Reduce the need for residential/nursing care;
- Unlock resources and redirect them elsewhere in the system;
- Increase choice and independence for service users;
- Reduce the burden placed on carers and provide them with more personal freedom;
- Contribute to care and support for people with long term health conditions
- Reduce acute hospital admissions;
- Reduce accidents and falls in the home;
- Support hospital discharge and intermediate care;

2. Preventive Technology Expenditure Plan

'Building Telecare in England' (DH, 2005) stated that the Preventive Technology Grant should be used to increase the numbers of people who are supported to remain independent with telecare. It was expected that most of the beneficiaries would be older people. However, before advantage could be taken of telecare, local authorities needed to ensure that infrastructures are in place to deliver. These included:

Staff training and development
The supply and management of equipment
The supply of relevant 24 hour/seven day contact services
The supply of 24 hour/seven day care response services.

The grant was intended to pump prime these processes and changes in the delivery of mainstream services using the existing infrastructure such as community alarms service as the platform for telecare services. For this reason Wirral looked beyond the Preventive Technology Grant to the overall development of an Assistive Technology Service including telecare and telemedicine. The plan went beyond simply the purchasing of a range of equipment for the next two years to setting a framework for service development.

The projects expenditure plan demonstrated this by targeting at the purchase of:

2006/08	20 (Items of equipment)	-	Telemedicine Units
2006/08	268 (Items of equipment)	-	Telecare targeted at critical and substantial needs or health needs
2006/08	360 (Items of equipment)	-	Lower level prevention

The costs of this equipment also included the cost of the monitoring, installation and maintenance service.

Other infrastructure costs included:

2006/08	£90,000	-	Response service
2006/08	£155,000	-	Staffing (Specialist Technical Advisors)
2006/08	£6,000	-	Training/Awareness
2006/08	£10,060	-	Information/Advice and SMART House.

The plan was structured in this way not only to ensure that the infrastructure was put in place to also to establish the impact of telecare/telemedicine in the areas of:

- Impact and take up in prevention (low level need)
- Impact and take up in high level need
- Impact in relation to health care.

3. Telecare in Wirral

The project focussed on developing the four main components, recognised (nationally) as being the key areas to deliver a sound and effective telecare/telemedicine.

3.1 *Assessment*

The project board agreed that assessors/prescribers should be limited to a number of key professionals. These were:

Occupational Therapists – Wirral Hospital Trust, Community Therapy Service including intermediate care and the Wirral Enablement Discharge Service, Department of Adult Social Services (DASS)

Care Managers – DASS.

POPIN Staff – DASS

Support Link Officers – WPH

Fire Service Advocate - MFRS

In all 150 professionals have received full training, and a full resource pack which included:

1. Assessing for Assistive Technology
2. Guidelines/criteria for selecting equipment

3. Fair Access to Care criteria
4. Business process flow chart and guidance
5. Documentation.
6. Laminated chart of equipment
7. Case Study examples.

Each team has been provided with a two hour weekly surgery. Aside from providing individual advice and guidance Specialist Technical Advisors (STA's) have reviewed pending case loads and reviews to identify potential users of telecare.

All staff have been offered individual support either through a telephone contact or through individual face to face support.

The SMART house became available in June 2007, all DASS teams have visited as well as OT's in WHT, other agencies and the general public.

Initially the emphasis was on making the new service available to as many users as possible; there has therefore been no charge.

3.2 *Provision of Equipment*

The Preventive Technology Board agreed early on that a board range of equipment would be selected. The selection was made on the basis of professional experience of the main areas of need, consideration other authorities purchasing practice and consideration of what professionals could reasonably 'take on board' within the first two years of this service.

Equipment Selected:-

- Dispersed alarm unit – which generates an alert to the control centre.
- Bed occupancy sensor – which monitors a person's activity/inactivity monitoring. Supports falls prevention.
- Carer pager alert – alerts a carer that a person needs assistance.
- Chair occupancy sensor - activity/inactivity monitoring. Can support falls prevention.
- Door contacts – activity monitoring. Supports people at risk of wandering.
- Falls detector – supports people at risk of falling.
- Flood detector – supports people at risk of flooding their home due to leaving taps on.
- Passive infra red (PIR) – can monitor activity and inactivity. Risk of falls or wandering.
- Pressure mat - as (PIR).
- Property exit sensor – specifically for supporting people at risk of wandering out of the property. Works in conjunction with door contacts.
- Radio pull cord – alternative means of calling for help if pendant would not be suitable.
- Smoke detector – sends an alert through to the control centre. For people who would be unable to respond to a standard smoke alarm.
- Sounder call beacon – for person or carer who has a visual/hearing impairment and would not respond to normal activation of assistive technology.

- Visual call beacon – for person or carer who has hearing impairment which prevents them from responding to normal activation of equipment.
- X10 controllers – allows a light to turn on/off automatically. Support falls prevention.
- Telemedicine Monitors – allowing the monitoring of vital signs eg blood pressure, weight, oxygen saturation levels.

A pilot is also being conducted to explore the use of medication dispensers. This is a tablet dispenser which provides a visual and auditory alert to the person to remind them to take their medication. It makes managing medication simple, reduces the risk of errors, and can remove the burden of remembering which tablets to take and when. Progress in implement has been measured to due the need to consider the British Pharmacological Society's Guidelines and the practical dispensing issues Community Pharmacists. The pilot will provide a sound basis for developing a safe and robust medication dispensing service and the first of its type nationally.

Two options for procuring equipment have been used, both of which have been subject to European Procurement Directives:

Northern Housing Consortium
NHS Purchasing and Supply Agency

3.3 Monitoring/Installation/Response

For the duration of the project Wirral Partnership Homes have been the provider of the monitoring, and installation service. Initially an independent sector provider Goldsborough provided the response, with the contract being taken over in 2007 by Wirral Partnership Homes.

As part of their contract WPH was required to maintain records of all telecare calls and to supply the information regularly to the Department of Adult Social Services. The monitoring centre logged each call and provided basic information on how each call had been treated and provided feedback.

3.4 Review and Evaluation

All new users of assistive technology commissioned through the Department of Adult Social Services should be reviewed at the statutory points in the process i.e at 6 weeks and at 12 months. Additional reviews can take place at the request of the service user, carer or if the response service is trigger frequently or inappropriately.

Equipment commissioned through health remains an issue in that health service does not have a statutory duty to review, and although it is recognised as good practice, feedback from health service colleagues suggests that capacity mitigates against this. Specialist Technical advisors have picked up this role for the duration of the project. This will need to be reviewed as part of the future strategy.

3.5 Telemedicine

Wirral Telehealth Programme went live in June 2007. This programme has been set up to care for patients living with chronic conditions via those people

being case managed by the Community Matron team based at the Eastham clinic in the Wirral. Thus far Wirral AT team has funded (from the PTG grant) the purchase of 8 monitors and 1 central station. During the first three months Wirral partners will be evaluating the Telehealth Programme and review the outcomes in relation to tangible benefits in patient experience, health economics, early intervention, medication management, nursing resources in addition to cost benefits. It is also important to note that there will be an observation of and a written report with respect to partnership working in order to deliver whole system solutions.

3.5.1 Structure of the programme

The central triage station was set up at Eastham clinic with daily monitoring Monday through Friday (this involves planned care) as well as an out of hours cover including weekends that is being supported by the Wirral Intermediate Care Team (unplanned care). This has resulted in an excellent approach to the service leading to extra support for patient's, this structure will be reviewed during over a the three month period as the IMC team have agreed to the OOH/weekend cover for the duration of the pilot.

The IT team at the PCT has provided a significant amount of time and expertise to support the Telehealth Programme from set up, implementation as well as ongoing support.

The Community Matrons have overall responsibility of identifying patients from their case load and referring them to the Telehealth Champions, their responsibility is then to carry out the home & patient assessment, install, admission and daily review of the patients data. All the nurses so far have done an excellent job in addition to their current workload and recognition should be given to all parties concerned, both DASS/PCT and the IT team.

3.5.2 Future plans

Wirral PCT and the Assistive Technology Team have expressed an interest in developing the Telehealth Programme through to a second phase. This second phase will require a networking solution with architecture for multiple remote accesses; this means that a Wirral wide service can be implemented. If this structure were enabled there would be a significant and robust benefit to the health and social care professionals as well as the patients under their care.

4. Performance Management

Telecare services will contribute to the achievement of key national NHS and social care targets set out in National Standards, Local Action – Health and Social Care Standards and Planning Framework 2005/06 – 2007/08 including:

- **Priority II – Supporting People with Long Term Conditions**

  To improve health outcomes for people with long-term conditions by offering a personalized care plan for vulnerable people most at risk; and to reduce emergency bed days by 5% by 2008, through improved care in primary care and community settings for people with long term conditions

- **Priority IV – Patient and User Experience**

To improve the quality of life and independence of older people by supporting them to live in their own home where possible by:

- Increasing the proportion of older people being supported in their own home by 1% in 2007 and 2008
- Increasing the proportion of those supported to live at home to 34% of the total of those being supported at home or in residential care by 2008

Local Area Agreement (LAA) Stretch Targets and Supporting Indicators relevant to Telecare and Telemedicine

Heading

To reduce the number of emergency unscheduled acute hospital bed days occupied by older people aged 75+

Indicators by which performance will be measured

The number of emergency unscheduled acute hospital bed days occupied by people aged 75 or more in NHS hospitals in Wirral (excluding those admitted through fractured neck of femur).

The number of emergency unscheduled acute hospital bed days occupied by people aged 75 or more in NHS hospitals in Wirral** who are admitted through fractured neck of femur.

Heading

To increase the number of older people and carers identified as needing support and care that will enable them to maintain their independence and quality of life

Indicators by which performance will be measured

Number of informal carers receiving an assessment or review as a percentage of the total number of clients and carers receiving assessment or review, as measured by data used for PAF D42

Number of carers receiving a specific carers service as a percentage of clients receiving community based services, as measured by PAF C62

Number of older people helped to live at home per 1,000 population aged 65 and over, as measured by PAF C32 (No of new users 65+ of telecare services is a contributory indicator to C32)

PAF Indicators relevant to telecare (Performance Assessment Framework)

- C32 – (BV54)Older People helped to live at home (LPSA)
- D41 – Delayed Transfers
- D54a (BV56) Items of equipment delivered within 7 days
- D54b Items of equipment delivered within 7 days to older people
- D54c Items of equipment delivered within 7 day to adults

Targets specific to Telecare

- By December 2007, telecare is to be provided in 20% of homes where it is needed
- By December 2010, telecare is to be provided in all homes where it is needed
- By December 2007 telehealth to be available in all GP surgeries

5. National Evidence of the effectiveness of Telecare and Telemedicine

Since Telecare is a relatively recent development, current evidence on its effectiveness is limited to case study evaluations of specialist projects or trials. Most applications of Telecare have been in controlled environments with a limited number of people and few Telecare devices have been employed as part of a comprehensive mainstream Telecare service.[1]

Currently there are no large scale studies of Telecare using randomised control trials to assess the impact of Telecare on users and carers. However evidence is beginning to emerge from small-scale studies of pilot projects, market driven product evaluations and product development projects. Outlined below are 5 telecare/telemedicine project evaluations

North Cumbria Project – this project based on intermediate care services aimed at reducing hospital admission and facilitating discharge provided 739 individuals with a service.

The evaluation found that :

73% of telecare packages installed supported a transfer of care
12% have prevented admission to hospital
32% were to monitor people at risk from falling

Sandwell Project – estimated

48 out of 100 users were supported to remain at home

Northern Ireland Project – showed that

153 units were installed over a 15 month period, preventing 26% of users considering moving into more supported accommodation.

West Lothian Project - demonstrated that users remained in the community and delayed hospital transfers were reduced to 2.14% per 1000 populations compared to the national average of 3.48 per 1000.

Although the potential of Telecare to support the independence and well-being of older vulnerable people is established in a number of studies, its

[1] Integrating Community Equipment Services Topic Sheet: Telecare. http://www.icesdoh.org/article.asp?,

development remains characterised by isolated research activity, pilot studies and ad hoc schemes based around more mainstream community alarm services. The next stage in the development of Telecare Services is to become part of mainstream services to benefit a larger number of potential users. What is necessary is a needs-led and systems-based approach to the development of technologies for Telecare which is structured around stakeholder need and which can grow to accommodate changes in client need as well as to new technologies as they become available. Technology can then be matched to need to maximise resources[2]

The recent Wanless Social Care Review, 'Securing Good Care for Older People' (2006), acknowledged that there was a lack of rigorous data on the cost implications of telecare due to the nature of the current evidence based on small scale, short-term trials and evaluations, and even fewer attempts at modelling the potential cost effectiveness of the introduction of telecare on a larger scale. According to the Wanless Review, however, there is enough evidence to suggest that telecare services should shift into the mainstream, despite the difficulty in predicting the impact on costs.

6. Project Findings - Wirral

The Assistive Technology Service has agreed to produce a performance report on a monthly basis to the Preventive Technology Board, Divisional Leadership Team (Referral Assessment , Care Management) and the Strategic Partnership's Divisional Meeting
.

Referral for equipment

- *Referral activity from mainstream services is poor:*

- Telecare in Wirral is perceived as a low level prevention service and this is given as a reason for low referral activity, as a low level prevention service. This not supported by the evidence of the project findings. It is unclear why this perception is not held for other services eg. Day Care, Homecare, Respite Care or the provision of community equipment. Although these service all provide care there function is also preventative : ie reduce social isolation, monitor wellbeing of clients, provide information which contributes to assessment and review, reduces falls, supports carers stress, supports risk management. The only conclusion that can be drawn is the origins of the service ie. Linked to the pendant and community alarm system. Targets have now been set for individual teams, these will be increased incrementally.

- From the equipment commissioned so far it is clear that it is fulfilling a role in the management of complex cases.

- Care managers/OT's do not feel they have the time or capacity to commission telecare, siting the paperwork, visiting arrangements etc as being onerous

- 160 potential recipients of have been identified for telecare however these case

[2] Community alarms to Telecare: a system strategy for an integrated telehealth provision. Bradley, D. A. et al, 2002 Technology and Disability, vol. 14, no,2

remain unallocated, as the level of risk/need is not perceived a high enough. Allocation arrangements are determined by individual team managers.

- OT's within Intermediate Care have suggested that the client group they deal with in the main do not require assistive technology as they do not have longer term complex needs. They also cite capacity issues in relation to low distribution figures.

- Wirral Hospital Trust OT service is showing the highest level of distribution compared to other high level services however at this time they feel unable to set targets.

- Merseyside Fire and Rescue Service has identified at least 49 people who require smoke detectors. These referrals will be dealt with by their Fire Advocacy Officer.

Budget

Appendix 1(Table 1) sets out the budget outturn for 2006/07.

Table 2 provides details around the initial cost of installation including the first year monitoring and maintenance costs.

Table 3 provides the costs of ongoing monitoring costs per annum

Table 4 provides details of the full cost of telecare if the target of 504 new users is reached.

The table also shows the full cost of the telecare service if mainstream funding was provided for a further three years.

Table 5 provides a breakdown of the costs of 12 telemedicine units installed in 2007/08.

It is anticipated that a further 12 will be installed during 2007/08.

Performance Against Targets

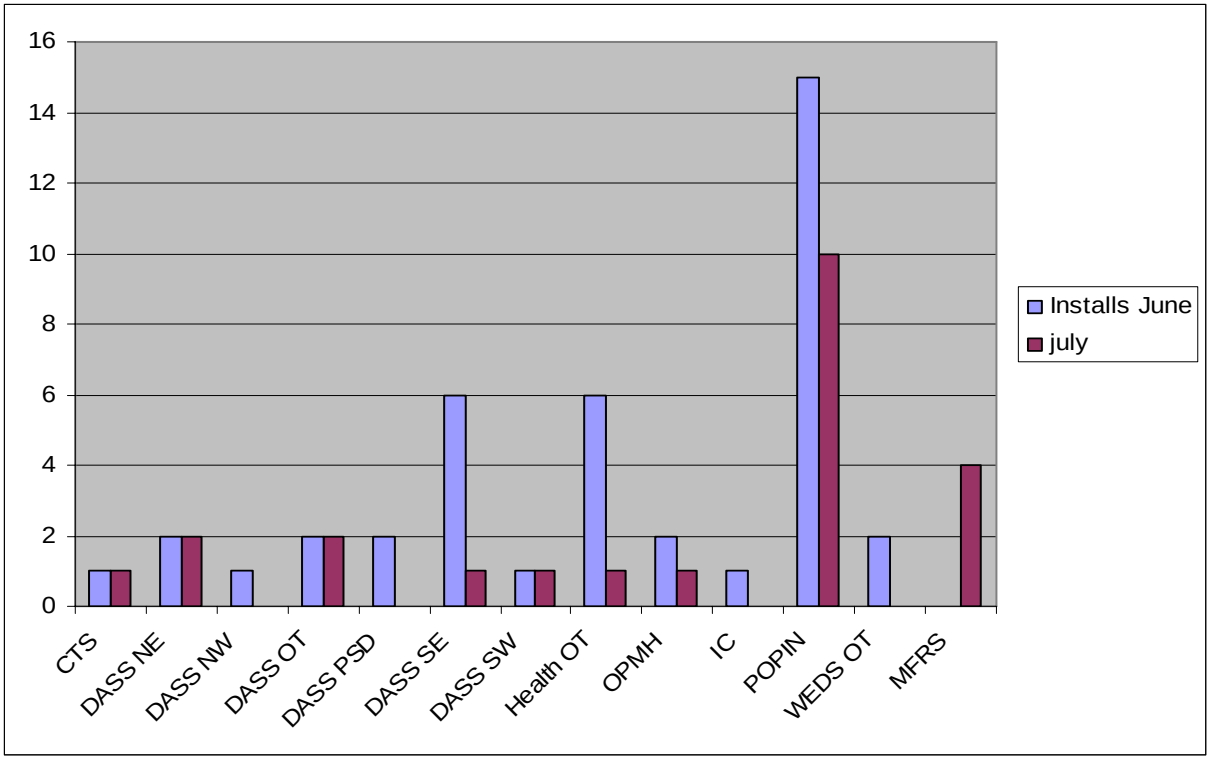
Installations

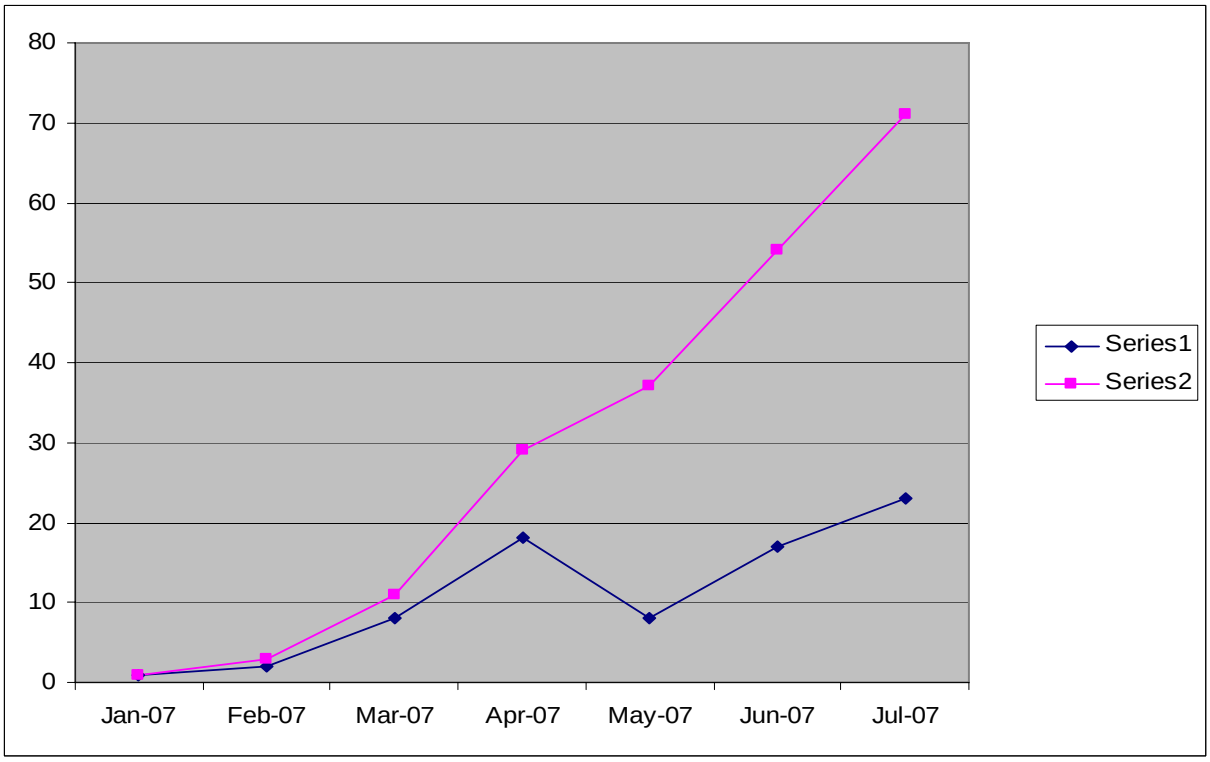
Current Installation information from Wirral Partnership Homes since January 2006 shows a total of 74 installations as of 31/07/07.

Installations for each team up to the end of July are set out in the graph below. The total only indicates information where the paperwork has been received from Wirral

Partnership Homes.

At week ending 31/07/07 WPH have received another 22 referrals for Assistive Technology. Fourteen of these have resulted in planned installations.





Series 1 is total installations per month

Series 2 is accumulative running total of installations to date.

Evaluation

Each assessor has been required to complete a project evaluation form indicating the likely outcomes for the service user and their carer if a telecare package had not been commissioned. The result so far show:

- Admission to residential care avoided - 12
- Admission to nursing care avoided - 5
- Increase in existing care package avoided - 3
- Implementation of new home care package avoided - 11
- Potential hospital admission - 11
- Increase in carer stress avoided - 30

7. Conclusion

Wirral's Preventive Technology Expenditure Plan and project plan was approved by Cabinet in March 2006. The plan set out three main aims:

- To offer telecare to people known to both Health and Social Services who could be provided with a different service solution that would provide a method of risk reduction, monitor wellbeing, support carers, and potential reduce the need for commissioning higher level services in the longer term eg residential care

- To introduce telehealth to people with long term conditions supported by community matrons

- To offer telecare to people who may not be in touch with 'traditional' health and social care services but who would benefit from an equipment solution.

In January 2007 all components/providers of the service were ready to 'go live'. These were:

- Commissioners/prescribers
- Monitoring
- Installation
- Response Service

By July 2007, 74 older people 65+ has been issued with a range of technology. A further 22 were awaiting installation. However, referrals from mainstream services remain low, and evidence suggests that ownership at a team manager level appears to have the greatest degree of influence on take up. Within DASS performance targets have now been set have at 5 installations per month.

Telemedicine is now being proactively implemented across the PCT with a further 12 telemedicine unit being installed in the Birkenhead and Wallasey area.

8. Future Strategy

In planning for the future of telecare/telemedicine services, it is important to understand Telecare and telemedicine in the wider context. Its foundations is the community alarm infrastructure, which has been in existence for many years and which already has thousands of customers in Wirral. The basic alarm consists simply of a lifeline, pendant and link community alarm centre.

Strategically, it will be of immense benefit to the citizens of Wirral if the Local Authority secures a high level multi-agency consensus on the future of Telecare and Telemedicine services.

This proposal seeks to develop a joined up strategy for the continued expansion and implementation of telecare and telemedicine services. The over reliance on micro-commissioners to refer for equipment, has limited the distribution of equipment. Therefore a more targeted approach should be developed over the next 3 years. This will take 5 routes:

1. Work with DASS Intake Team and contribute to the development self assessment documentation/ information to support people to commission their own equipment if they fall below 'Fair Access to Care' criteria

2. To continue to work with DASS, WHT and WPCT to support current commissioning/prescribing officer to establish telecare options as part of the care plan. This will include the expansion of training and commissioning/prescribing to care managers and community OT's for learning disabilities and mental health (See Appendix 2)

3. To take condition specific care pathways identifying a package of telecare/telemedicine appropriate to the condition at the appropriate point in the pathway. (See Appendix 3)

4. Identify patients on case loads of Community Matrons and match SWIFT (DASS data base) and target with Telecare/Telemedicine option.

5. Continue training ordering officer training of wardens within sheltered accommodation and further engagement of Registered Social Landlords and Supporting People in the development of the Assistive Technology Service.

The strategic/operational framework for implementing Telecare/Telemedicine will remain in place for three years subject to development in relation to 'Transforming Community Equipment Service'.

A re-tendering process for the monitoring, installation and response service will commence, with the new service in place by April 2008. Telehealth monitoring will continue in its current form for the next three years

9. Cost Effectiveness

The report has already highlighted the difficulties in fully assessing the potential of telecare and telemedicine in relation to cost effectiveness.

Wirral's project findings are already beginning to demonstrate locally the potential savings and improvements in quality for people who use telecare and their carers. Two cases studies are provided in Appendix 4 show 'real life examples.

Based on our understanding of the service so far it is possible to hypothesis in relation to potential efficiencies to the system.

Table 1

Telecare hypothesis							
Based on the assumption that 800 people will use the service pa							
Assume 10% will have this instead of 5 hours Home Care (partial package)							
Assume 10% will have this instead of 10 hours Home Care (complete package)							
Assume 10% will be prevented from hospital admission (2 weeks per year)							
Cost pa -->			**338,214**		***source JMcG***		
Saving -->							
= 800 x 10% x £65 x 52			270,400		saving to DASS		
= 800 x 10% x £130 x 52			540,800		saving to DASS		
= 800 x 10% x £5000 x 2			800,000		saving to PCT (notional)		
			1,611,200				
Total Saving to DASS			811,200		per year		
Therefore -->							
Invest to save budget £340,000 permanent							
Efficiency Plan Target = £470,000							

10. Investment Plan 2008/2011

Outlined below is the two year investment plan for telecare and telemedicine.

Total Telecare costs				
	Total number of users			
	504	600	700	800
	2007/8	2008/9	2009/10	2010/2011
	£	£	£	£
Staffing	105,000	105,000	105,000	105,000
Training	5,000	5,000	5,000	5,000
Marketing	3,000	3,000	3,000	3,000
SMART House	2,860	2,860	2,860	2,860
Response services	66,000	66,000	66,000	66,000
	181,860	181,860	181,860	181,860
Variable costs				
Equipment monitoring & maintenance	50,158	59,712	69,664	79,616
New equipment & installation	256,305	73,668	76,738	76,738
Total cost	488,323	315,240	328,262	338,214
Assumes 334 new packages in 2007/8 (total 504)				
Telemedicine	20	36	48	60
Telemedicine Units	55,000	28,800	21,600	21,600
Central IT station		£5,000	Nil	Nil

At this present time it is unclear whether the target will be achieved for 2007/08. However, the Department of Health has advised that any unspend grant can be carried over into 2008/09.

Investment for telecare and telemedicine is sought for both from both the Adult Social Services and Wirral Primary Care Trust as set out below with accompanying rational. This funding will cover a three year period ending 2011.

Department of Adult Social Services - £785,373
(Funding to support telecare)

Wirral Primary Care Trust - £268,343
(This includes funding for telemedicine monitors and one fifth of telecare provision issued through health services ie Hospital and Community Therapists)

Tendering for a block contract for the monitoring, installation, and response service will need to take place in October 2007. This will allow adequate time for awarding the contract and includes the transition timeframe if a new provider is commissioned. This

is particularly necessary as all current items of equipment will require reprogramming to the new system.

10. Decommissioning Risk Analysis

Although preparation is underway to embark on a re-tendering for the monitoring, installation, maintenance and response service which is currently provided by Wirral Partnership Homes. The process is dependent on agreement from the Department of Adult Social Services and Wirral Primary Care Trust's commitment to future funding and the mainstreaming of this service.

Permission will be sought from the Council Cabinet meeting to be held in October 2008. At this point Cabinet will need to be aware that funding is available.

There are a number of risks and issues which both the PCT and DASS will need to be aware of if funding is unavailable.

1. The service will need to be decommissioned from March 2008.

2. The Assistive Technology Team can resume their current posts within their respective organisations.

3. All commissioning of new telecare and telemedicine should cease from October 2007, this will avoid disappointment from new users who will subsequently need equipment removed in March 2008

4. All current equipment will need to be removed by March 2008. All packages of care will therefore require review to ensure that other appropriate services can be put in place if required.

5. Decommissioning of the SMART house will need to take place

6. The Preventive Technology Grant was put in place to support the pump priming of an assistive technology service, which includes the development of an infrastructure, development of business processes, product evaluations, development of business processes, training, marketing, distribution, development of partnerships.

If at any point in the future both organisations wish to review this decommissionining decision, it is unlikely that pump priming funding will be available in the future.

11. Recommendations

This report recommends the mainstreaming of the Assistive Technology Service which includes both the development of telecare and telemedicine.

Appendix 1

Preventative Technology

Table 1 - Outturn 2006/7

	£
Staff Costs	53,956
Car Allowances	1,043
Training	802
Printing/Advertising	3,436
Equipment	72,459
	131,696
Grant	221,040
Grant c/fwd	**89,344**
Grant funding 2007/8	
2006/7 c/fwd	89,344
2007/8	368,000
Total	**457,344**

Table 2 - Telecare equipment costs

per person	£
Installation cost	35.88
Average cost of Equipment	731.50
Monitoring cost	63.64
Maintenance (twice yearly visit)	35.88
Total Variable cost	**866.90**

Table 3 - Telecare costs

per person (ongoing)	£
Monitoring cost	63.64
Maintenance (twice yearly visit)	35.88
Total Variable cost	**99.52**

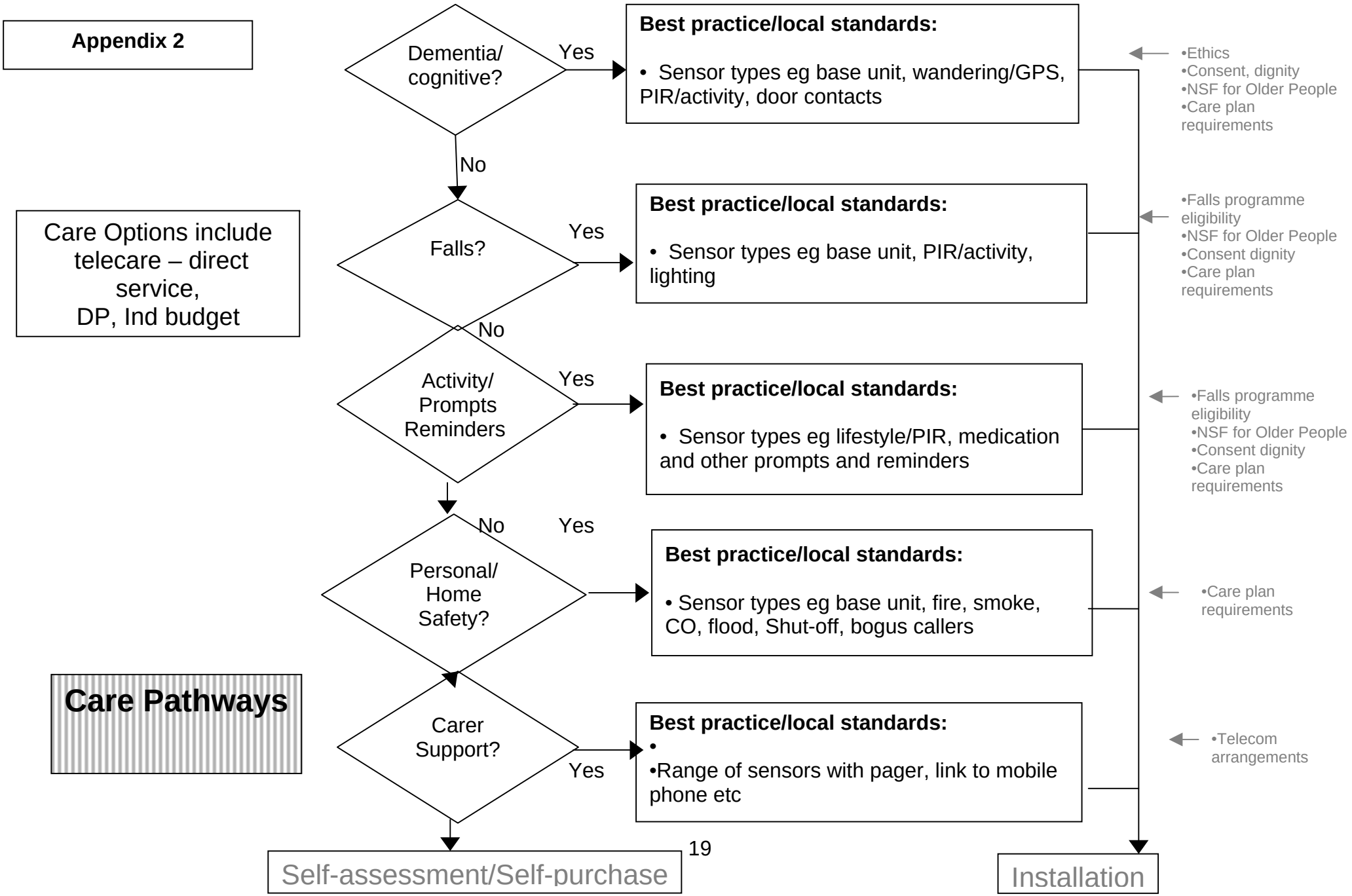
Table 4 - Total Telecare Cost

	Total number of users			
	504	**600**	**700**	**800**
	2007/8	**2008/9**	**2009/10**	**2010/2011**
	£	£	£	£
Staffing	105,000	105,000	105,000	105,000
Training	5,000	5,000	5,000	5,000
Marketing	3,000	3,000	3,000	3,000
SMART House	2,860	2,860	2,860	2,860
Response services	66,000	66,000	66,000	66,000
	181,860	181,860	181,860	181,860
Variable costs				
Equipment monitoring & maintenance	50,158	59,712	69,664	79,616
New equipment & installation	256,305	73,668	76,738	76,738
Total cost	**488,323**	**315,240**	**328,262**	**338,214**
Assumes 334 new packages in 2007/8 (total 504)				

Table 5 - Telemedicine

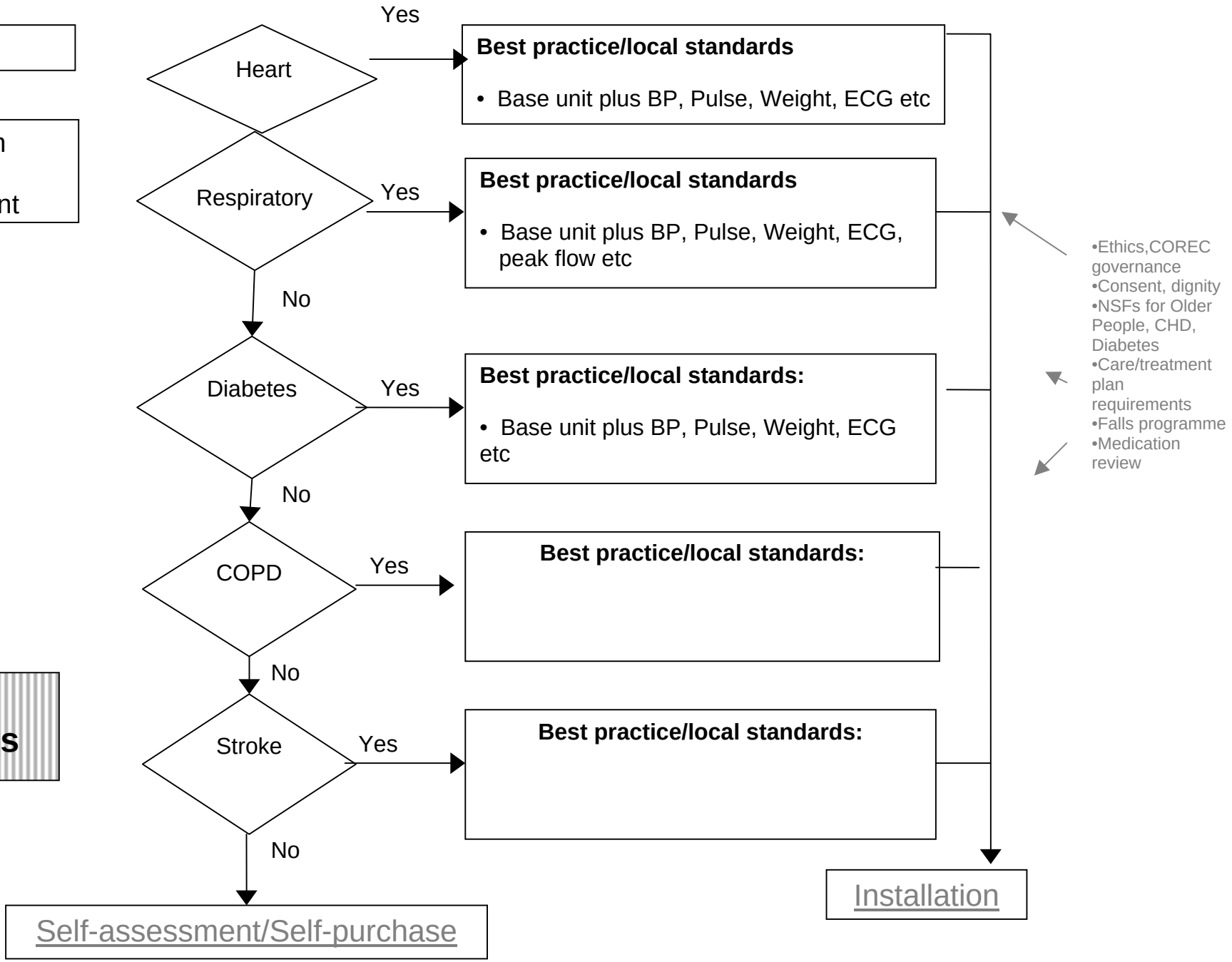
Equipment costs (12 units)	25,000
Cost per unit	2,083

Appendix 2


Dementia/ cognitive?
Yes
Best practice/local standards:
• Sensor types eg base unit, wandering/GPS, PIR/activity, door contacts
•Ethics
•Consent, dignity
•NSF for Older People
•Care plan requirements
No
Care Options include telecare – direct service, DP, Ind budget
Falls?
Yes
Best practice/local standards:
• Sensor types eg base unit, PIR/activity, lighting
•Falls programme eligibility
•NSF for Older People
•Consent dignity
•Care plan requirements
No
Activity/ Prompts Reminders
Yes
Best practice/local standards:
• Sensor types eg lifestyle/PIR, medication and other prompts and reminders
•Falls programme eligibility
•NSF for Older People
•Consent dignity
•Care plan requirements
No
Yes
Personal/ Home Safety?
Best practice/local standards:
• Sensor types eg base unit, fire, smoke, CO, flood, Shut-off, bogus callers
•Care plan requirements
Care Pathways
Carer Support?
Yes
Best practice/local standards:
•Range of sensors with pager, link to mobile phone etc
•Telecom arrangements
Self-assessment/Self-purchase
Installation

Appendix 3

Long Term Condition Management



Care Pathways

Appendix 4

Case Study A

Mrs A is 83 & lives alone and at the time assistive technology was launched she was in intermediate care.

She has moderately advanced Parkinson's disease and can be prone to urinary tract infections. The latter can at the time affect her memory & cognition.

She takes a variety of medication. When she was in intermediate care she was found to be independent and generally managing this.
However, when her Parkinson's medication starts to wear off her abilities including her mobility tend to deteriorate and she is at risk of falls.
Staff identified that the timings for one particular medication was critical to preventing this deterioration. This medication was required to be taken at 4 specific times each day. Keeping track of this throughout the day was inevitably very difficult - if not impossible without support.

The dispersed alarm unit required to operate other assistive technology devices can be set to prompt an individual to pick up a message at specific times, every day, as required. In this case it is used to remind Mrs A to take this one tablet. Should she not pick up her message an alert is sent to the control centre whose staff can check she is ok and arrange any further response accordingly.

Benefits:

1) Quality of life to the service user as abilities and medical condition optimised with associated reduction in potential to fall.

2) If Mrs A experiences a change in her cognition eg due to UTI, this will be identified quickly. Problems in coping cognitively with her medication prompt system will be immediately identified by the call centre and can be flagged up.

3) Traditional alternatives such as home care visits are not effective in supporting Mrs A in achieving the above aims, although 4 calls a day around the time required could be an alternative but not guaranteed to always be at the exact time she requires. Mrs A has a POC but this involves home care twice a day.

4) The OT commissioning this technology has identified the likely outcome without telecare is further admissions to hospital or nursing home care.

Cost comparison of ‘non telecare’ services compared to ‘installed telecare’ service to health and social services.

Potential care needed without telecare	Potential cost	Potential cost	Potential cost	Cost of Telecare package	Cost
Further hospital admission per week	£2,000 (approx)			Lifeline unit (4000 model)	£3.70
Nursing Home care per week		£450.00			
Increased care package x4 half hour calls per day for medication prompt			£24.00		
				Installation, monitoring and response	£2.50
				Homecare x2 half hour calls per day	£12.00
Total cost of care per week	£2,000 (approx)	£450.00	£168.00		£88.80
Total cost of care per year	£104,000 (approx)	£23,400	£8,736		£4,690.40

Case Study Mrs A

Mrs A is a 76 year lady with Parkinsons Disease she has poor mobility and has a history of falls. She lives alone in her own bungalow, her daughter lives nearby. Mrs A had a recent fall during the night and although she has a piper lifeline unit in place she was unable to reach it when she fell. Her daughter found her mother in the morning by which time she had been on the floor for several hours. She had sustained a fractured hip and complications had set in due to hypothermia and the development of pressure sores.

Mrs A was admitted to hospital as an emergency and was an in patient for three months. Her admission was complicated due to the health complications which had set in due to her experiencing a long lie on the floor following her fall. Mrs A had a hip replacement and a period of physiotherapy and occupational therapy.

Mrs A's daughter was very concerned about her mother's ability to manage when she returned home. Her main worry was if she fell at night again she would be on the floor for some time before help arrived.

Mrs A wanted to return to her own home but her confidence had been severely shaken by her experience. She was concerned about how she would manage, particularly if she fell at night again.

<u>Care required with Assistive Technology installed.</u>

The Social Worker recommended a fall detector which Mrs A wears during the day as she does not always remember to use her pendant. If she should fall it will send an alert through to the control centre who will answer the call within one minute and contact her daughter or emergency services as necessary. Therefore she will receive help very quickly, significantly reducing the risk of the complications which may occur as a result. A bed sensor has also being fitted which fits under the mattress. If Mrs A gets out of bed at night to go to the toilet and does not return within 15 minutes this will send an alert through to the control centre and summon the help required.

Outcome.

Both Mrs A and her daughter feel much less anxious with the assistive technology in place. At the moment Mrs A receives a call from a care agency once a day in the morning. Her daughter calls each evening and is reassured that if her mother should fall during the day or night she will be alerted to the situation quickly.

At the most recent review Mrs A was managing well at home with the minimal support and had not experienced any further hospital admissions.

<u>Care required without assistive technology.</u>

Without the Assistive Technology in place Mrs A would have required a larger care package to ensure her health and safety. If she should have experienced a long lie following another fall she may have been admitted to residential care.

Cost comparison of ‘non telecare’ services compared to ‘installed telecare’ service to health and social services.

Potential care needed without telecare	**Potential cost**	**Potential cost**	**Potential cost**	**Cost of Telecare package**	**Cost**
Further hospital admission per week	£2,000 Approx			Lifeline unit	£2.30
Residential care per week		£350.00		Fall detector	£2.00
Increased care package x3 half hour calls per day			£18.00	Bed sensor	£4.50
				Installation, monitoring and response	£2.50
				Homecare x1 half hour call per day	£6.00
Total cost of care per week	£2,000 Approx	£350.00	£126.00		£53.30
Total cost of care per year	£104,000 Approx	£18,200	£6,552		£2,771.60