



# At Home with AT (Assistive Technology)



*An evaluation of the practical and ethical implications of  
assistive technology and devices to support people with  
dementia and their carers*

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## **1. Introduction**

The overall objective of At Home with AT (Assistive Technology) was to explore the potential of existing low-key technological devices which are readily available, to support people with dementia and their carers in their own homes. The key objectives were to:

1. Investigate the application of assistive devices that are available on the open market to support people with dementia in their own homes
2. Explore the issues surrounding assistive technology and its use with health and social care professionals
3. Explore the issues surrounding assistive technology and its use with people with dementia and their carers
4. Investigate the issues for suppliers and installers in supplying and maintaining assistive technology
5. Monitor the installation of assistive devices in a sample of homes
6. Consider the ethical implications of assistive technology
7. Evaluate the support provided by assistive devices to people with dementia and their carers
8. To develop practice guidance for health and social care professionals
9. To develop guidance for contractors and suppliers

### **1.1 Research Location**

The research took place within three areas, Dorset, Bournemouth and Poole. The localities were chosen to reflect the different conditions that exist in a small, discrete unitary authority and a large, rural county. This allowed information to be gathered from urban and rural areas, two tier and unitary localities and for information to be drawn from health, housing, independent sector and social care staff.

## **2. Methodology**

This was an exploratory and descriptive study using qualitative research methods.

Using this approach the potential of existing low-key technological devices to support people with dementia and their carers in their own homes, was evaluated by capturing the human story behind the use of assistive technology from the point of view of all the key players; people with dementia and their families and friends, professional care staff, local contractors and suppliers.

### **2.1 Data Collection**

The study used focus groups and semi-structured interviews, and self-completion questionnaires as a means of data collection. (See Interim Report on project, available from Dementia Voice)

## **2.2 Phase II of the study**

The following instruments were constructed for use in Phase II of the research: -

### **2.2.1 Semi-Structured Interview Schedule**

A semi-structured interview schedule was constructed to guide a conversation with the person with dementia and their carer in an attempt to establish the following: -

- How easy the device has been to use
- Frequency of use
- Benefits of using the device
- Negative things about using the device
- Has the device provided support (for both the person with dementia and their carer)

### **2.2.2 Self Completion Questionnaire**

A self-completion questionnaire containing both open and closed questions was constructed for distribution to referring health and social care professionals for their evaluation of the device.

(See Appendix I)

## **2.3 Recruitment of participants**

Prospective participants were referred to the research project by health and social care professionals working within the three local authority areas. The following criteria were used to select potential participants: -

The person has a diagnosis of dementia or has significant cognitive impairment or memory difficulties **and/or**  
the person is in receipt of dementia services **and**  
the person has no recent history of psychiatric morbidity **and**  
the person is not involved in other research or Drug Trials **and**  
the person has a carer who is in regular contact **and**  
the person has the ability to give consent to participate in the research.

Details of potential participants who met these criteria were passed to the project with their permission.

### **2.3.1 Informed Consent**

Informed consent was an ongoing process throughout the study. Consent was sought at each stage of the research process and participants were given the opportunity to withdraw from the research at any stage during the course of the project. (See Appendix II)

## **2.4 Data Analysis**

Quantitative data was analysed using SPSS. Analysis included descriptive statistics, such as frequencies and cross tabulations. Qualitative data was thematically analysed.

### 3 The Research Process – Phase II

#### 3.1 Focus Groups

Four focus groups were held with a range of health and care professionals from the participating local authorities. Three focus groups were held with carers, one of which also included people with dementia and one focus group was held with people with dementia.

#### 3.2 Semi-Structured Interviews

Semi-structured interviews were carried out with a member of staff from a DIY store and two members of staff working for separate Home Improvement Agencies (HIA's) operating in Dorset.

#### 3.3 Devices chosen for assessment

A range of devices available for purchase on the open market were identified from a wide variety of sources, including DIY stores, mail order catalogues and internet websites. The selected devices provide; either a safety function, an alarm function, or a reminder function.

Table 1. Devices chosen for At Home with AT

Device Functions	Types of Devices	Usage	Support
Safety	Lighting	Night-Time Lighting A simple plug in light with PIR which comes on at dusk and goes off at dawn or can be set so that it is operated by movement	Reduce falls at night, assist orientation, reduce anxiety.
Safety	Flood Prevention	Magi Plug Bath plug that prevents flooding by letting excess water out of the bath	Reduce worries, provide carer support
Door Alarm	Warning	A wire free door alarm, contacts fitted on a door send a signal to an alarm unit when the door is opened. Indicates to a carer when a person has left a room, part of a building or gone outside of the building	To provide carer support and reduce worries.
Reminder	Memo Minder	Message recorder /player operated by battery/AC adaptor used to provide simple reminders. Chosen message is triggered automatically by movement.	Facilitate time orientation, support memory and reduce worries.



Reminder	Locator Device	A battery operated device that helps to find commonly misplaced items e.g. keys. Key tag beeps when the corresponding button on the locator device is pressed	Reduce worries and time spent looking for lost objects.
Reminder	Medication reminder	A battery driven medicine reminder that alarms at pre-set times. It reminds the person to take the drugs and provides the correct drugs in correct doses.	Reduce worries of forgetting to take medication.
Reminder	Telephone with pre-programmable buttons	Allows user to make a call by pressing a button next to the name of the person they wish to speak to.	Reduce anxiety and prevent social isolation.

### 3.4 Recruitment and time schedule for the trialling of the device

A number of sources were used to recruit participants including memory clinics, social services, community mental health teams, primary mental health teams, voluntary agencies, sheltered housing providers and day centres.

Contact with participants is summarised as follows:

1. Consent process and selection of device
2. Visit/Telephone call 1 week + post commencement of the trial
3. Home visit and interview with the person with dementia and carer (N.B. not all carers participated in the interview process) 1 month + post commencement of the trial

Participants who trialled the device for one month + are regarded as having completed the trial.

## 4. Results

### 4.1 Focus Groups

#### 4.1.2 Understanding of the terms 'assistive technology' and 'assistive devices'

The majority of carers and people with dementia spoke in very broad terms about their understanding of the terms 'assistive technology' and 'assistive devices'. Therefore clear and simple definitions did not emerge from the focus groups with the carers and people with dementia, and this perhaps reflects the complexity of the area for them.

Some were unfamiliar with the terms, '**personally myself I haven't got a clue I don't know what it means at all**' (Female Carer)

The term 'technology' was interpreted to mean something that was likely to be **'high tech'** (Male ex-carer), **'electronic'** (Female Carer) involving the use of **'computer type things'** (Person with dementia).

A minority of carers indicated that 'assistive devices' were devices that were used as **'as aids to daily living'** (Female Carer) **to sort of help people that have got different troubles'** (Female Carer)

Some carers and people with dementia indicated that they perceived 'assistive technology' as something that would be used in an institutional setting, **'used in a big hospital'** (male carer) by a professional, such as **'Doctors'** (Person with dementia) or **'various technicians'** (Person with dementia) rather than by an individual **'in their own home'**. (Female ex-carer).

Health and social care professionals were more familiar with the terms 'assistive technology' and 'assistive devices', identifying them as aids that would provide support.

#### **4.1.3 Sourcing Assistive Devices.**

Carers, people with dementia and health and social care professionals were able to make suggestions as to where they would source assistive technology and assistive devices.

They suggested a variety of avenues that they might try ranging from statutory services, electrical stores, DIY stores, mobility shops, mail order catalogues, and the voluntary sector. However they indicated that there is no consistent source of information available to them.

Some carers indicated that they would seek advice on devices from health and care professionals; **'I would start with my social worker because she seems to be a mine of information'** (Female Carer). Others however were uncertain about health and social care professionals' ability to provide information about accessing devices; **'professionals should be on the ball with that but whether they are or not I am not sure'** (Female Carer).

Many social care professionals thought that whether or not they were able to successfully locate a device to solve a particular problem depended on luck or being able to locate a colleague who had solved a similar problem. They indicated that there is no **'consistent source'** (Social Worker) of information available to them and said that locating devices is **'hit and miss'** (Social Care Professional).

#### 4.1.4 Does Technology have a Role to Play in Supporting People with Dementia

Health and social care professionals, people with dementia and carers were able to provide examples of devices that could support people with dementia and their carers. This included :-

- night-lights to support orientation at night as '**sometimes when people wake up at night it takes them a little while to unscramble**' (Person with Dementia).
- clocks with day and date facilities to support time orientation
- strategies to prompt medication, such as a '**son who has programmed his father's mobile phone to bleep or text him to remind him to take his medication**' (Health Care Professional).
- photographs used as pictorial prompts, '**the wife had taken Polaroid photographs of what was inside each drawer and cupboard so there were photographs on each door**' (Occupational Therapist)

However some professionals had reservations about the amount of support devices would provide to a person with dementia, '**it depends on how early on in the dementia it is introduced if it is in the early stages it would probably be taken on board more easily; in the later stages it is highly unlikely people would be able to learn what the thing is and either ignore it or be absolutely focused on it the whole time or annoyed by it**'. (Social Worker)

The ability of the person with dementia to interact with a device was also questioned, '**I think some pieces of equipment require a certain level of direction with a person and obviously if that person has got some sort of deficit in terms of their cognitive functioning or something like that then that's going to compromise the effect**'. (Care Manager)

They however acknowledged that that it would have a role to play in '**supporting the carer or keeping the person safe**'. (Health care professional)

Some carers also voiced concerns about the role of technology to support people with dementia but others felt that it would depend on individual differences, '**everybody thinks of Alzheimer's but there are so many types [of dementia] and each has different symptoms so therefore what will work for some won't work for others so it is an individual thing**' (Ex carer female) '**you could never make a rule could you and say if you do this you will find that it is successful because everyone's different**'. (Female Carer)

#### 4.1.5 Solving problems using technology

In an attempt to ascertain whether people consider technology as a potential solution when they are trying to solve a problem a hypothetical situation was presented to the focus groups. (Appendix III refers)

Health and social care professionals suggested that **'in the early stages you could use signs to say remember to turn the cooker off'** (OT) or **'just a simple note [saying] 'remember to turn the cooker off'** (HCA). However if this intervention failed the most likely solution to be adopted would be the disconnection of the cooker, **'the cooker would be switched off and he would get meals delivered'** (Social Worker) **'the cooker is disconnected and meals on wheels are organised'**. (Care Manager)

Professionals acknowledged that this solution has a negative effect for the person with dementia, **'every kitchen has a cooker in it, it is part of our culture so removing it is a big thing'** (Care Manager) **'and those sort of things happen which are ultimately taking things away from the individual'** (Social Worker). The preferred solution would be, **'in an ideal world someone with him at lunchtime to work with him'**. (Social Worker)

Carers and people with dementia also indicated that they felt it was important to support him to continue to cook **'quality of life we are talking about aren't we maintaining quality of life'** (Ex-carer) **'somebody could come round and check on him'**. (Person with Dementia)

One fear was that the perceived risk might result in the person having to leave their home, **'move him'**. (Person with Dementia)

Both groups made suggestions on how the problem might be solved using existing technological devices. This included the use of smoke alarms, fire blankets, cooker guards and safer forms of heating such as storage heaters and oil filled radiators.

The use of a timer on the cooker was also suggested but there was uncertainty as to whether a specific timer was manufactured for use with electric cookers.

#### 4.1.6 Installation of assistive technology

The following were identified as potential sources of installers of technology:-

- Home Improvement Agencies
- Family
- Electricians
- Plumbers
- Gas Fitters

Carers and people with dementia however identified the following problems connected with finding people to carry out work :-

**'Apparently it is rather a long term job to get plumbers'** (Carer)

**'Sometimes it is hard because they don't want to know small jobs'** (Person with Dementia)

**[we used] 'Yellow Pages to look for a plumber, loads of plumbers twenty four hour service and when you phone them up all you get is an answer phone'** (Person with Dementia)

The following issues were identified in relation to carrying out work in the homes of people with dementia:-

**'You have to be aware of the vulnerability of the clients'** (Care Manager)

**'People can change their mind or not be sure what is going on so they need reminding so it's easier to have an additional person to be there when the workman arrives'** (Care Manager)

**'People with cognitive impairment will let anyone into the house they never ask to see your identity when you visit them you have to keep reminding them'** (Occupational Therapist)

**'You have to explain to them [the workman] what the problem is [dementia] and very often they don't understand because they don't know what it is'** (Female Carer)

#### **4.1.7 Ethical Dilemmas**

In an attempt to ascertain how people make decisions relating to 'whose choice it is to use technology' an ethical dilemma was presented to the focus groups for consideration. (Appendix IV refers)

Health and social care professionals said that the most important factor for them in making a decision would be identifying the '**actual**' level of risk to the person with memory loss as opposed to the '**perceived**' level of risk.

**'I think you need to look at the risk, how often is she wandering, does she return by herself, is she appropriately dressed when she goes out - those sort of things'** (Community Psychiatric Nurse)

**'Family sometimes feel guilty and over react to danger'** (Occupational Therapist)

**'People are naturally paternalistic about people but you just tell them that you know what the risks are and you have minimised them'** (Care Manager)

Professionals identified that they would address the following issues before they considered fitting an alarm.

**'The reason that she is getting up at night may be that she is disorientated so that needs to be addressed'** (Care Professional)

**'Looking at her day routine is she being stimulated enough or is she sleeping during the day so that she is awake at night'** (Care Manager)

**‘Why is she waking up at night and going out? Does her medication need to be looked at?’** (Community Psychiatric Nurse)

They also suggested that they would look for alternative solutions to the problem.

**‘You could look at alternatives. There could be something else like a little note on the door or something’** (Care Manager)

**‘Maybe it would be just a matter of fixing a talking clock to the door then she might realise that it is the middle of the night and not the middle of the day’** (Care Professional)

**‘Some sort of tracking device would be helpful’** (Home Care Assistant)

Some people suggested that providing an example of how the device worked might support the person with dementia to make an informed choice as to whether or not to have the alarm fitted.

**‘Perhaps she doesn’t really understand what it is all about perhaps if she could be taken to somebody who has got one to give her an insight’** (Female carer)

**‘See if she would be agreeable to trying it for a week on a trial basis with a clear understanding that it would be removed unless she actually says well I would like it to stay so she’s actually got the choice. She is more able to make an informed choice that way because she’s actually had some idea of what it is like’** (Care Manager)

Persuasion was also discussed as a method of getting the person with memory loss to accept the installation of the alarm.

**‘Saying to her that all other options have been exhausted, people are worried and would you consider trying it to be able to stay in this flat’** (Care Manager)

**‘Sit down with her and try and discuss it further and say what (sic) beneficial it would be for her and give her family peace of mind’** (Home Care Assistant)

**‘She would have to be reasoned with. The daughter would really have to get on and say look mum unless you allow us to do this you will have to go into a home’** (Female ex-carer)

Opinions varied as to whose responsibility it would be to persuade the person with memory problems to accept installation of the alarm.

**'It would be better to use the family to try and persuade her I certainly wouldn't want to be enforcing something like that on her'** (Care Professional)

**'The ideal situation for you is to find out who she trusts whether its her doctor or a neighbour or someone like that. Let them try and persuade her - someone she will listen to'** (Male ex-carer)

Some carers felt that if the perceived level of risk necessitated it they would resort to fitting the alarm without the knowledge of the person with memory loss.

**'I mean I can't see why they couldn't have the alarm put in - take her out for the day somewhere and have the alarm put in and she wouldn't know anything about it'** (Female Carer)

**'I think if all else fails you have to have it fitted where they can't see it'** (Female ex carer)

**'You are being underhand but you have to do it'** (Female Carer)

**If she is not aware that it is there then that would be okay** (Female Carer)

Concern for the amount of stress that neighbours might experience was also responsible for the decision of some carers to fit the alarm.

**'Anything could happen. It's not fair on the neighbours'** (Female Carer)

**'Strain on the neighbours'** (Female Carer)

The question of human rights was also considered. Some felt that it would be **'going against her human rights'** (Occupational Therapist) **'I think it is an intrusion into her privacy really and I don't think we have any right to go and put something in that she disagrees with'** (Female Carer). Others however felt that safety came before human rights, **'I would fit it because I mean human rights are alright but it is for her own benefit'** and **'that's common sense (fitting alarm without the person knowing) but they will say that she has got human rights'** (Female Carer)

## **4.2 Semi-Structured Interviews**

### **4.2.1 Understanding of the terms Alzheimer's disease or dementia**

Each of those interviewed identified that the terms were connected with memory loss although they were unclear as to the difference between the different types of dementia.

**'I believe there's different seriousness of dementia'** (HIA member of staff)

**'Dementia would generally be termed the older version of what is generally now referred to as Alzheimer's'** (DIY Retailer)

#### **4.2.2 Working in the homes of people with memory loss**

The two members of staff working for HIA's indicated that they often carry out work in the homes of people with dementia but have received no specific training to support them to do this. They indicated that they felt training would be beneficial.

**'We get training on disability awareness and all that but you are either relatively aware of that or not but Alzheimer's is a totally different thing. If there is any information or publications I would like to read it'** (HIA member of staff)

#### **4.2.3 Understanding of the terms 'assistive technology' and 'assistive devices'**

Assistive technology and assistive devices were identified as aids that would provide support for people with a disability.

**'I would take that to mean any product, not just electrical, that can be used to help and literally assist a person who has a particular disability whatever area, not necessarily physical, to improve their sort of day-to-day life and make things easier for them'**  
(DIY retailer)

Some examples of devices to meet the specific needs of a particular disability were given.

**'You can get lights that flash on when people are at the door for deaf people'** (HIA member of staff)

**'The simplest thing I have seen for a blind person is something you drop in a saucepan and it floats and it rattles about when the water is boiling'**  
(HIA member of staff)

**'Lever taps'** (HIA member of staff)

**'Quite often I fit the telephone cables for care lines'** (HIA member of staff)

#### **4.2.4 Sourcing Assistive Devices**

A number of sources were suggested where devices might be obtained

**'Hardware store B&Q's or Homebases'** (DIY retailer)

**'There's tons of stuff available. There is catalogues full'** (HIA member of staff)

However, it was indicated that locating the right device might be both problematic and costly.



**'Unfortunately we don't have the resources to spend hours hunting round going shopping for these things'** (HIA member of staff)

**'I am actually interested to know at some point if you give me some indication of what you find that is available. I am hoping that you can tell me that there are specific companies that supply things in specific areas that is useful because if anyone does come and ask me I can point them in the right direction'** (DIY retailer)

**'There are a couple of specialised brochures that we use for disability equipment but I don't like using them because things seem horrendously over priced. Having said that any of that stuff has got a limited sales so it is always going to be dear'** (HIA member of staff)

#### **4.2.5 Does Technology have a Role to Play in Supporting People with Dementia**

It was acknowledged that technology could in some instances support people with dementia particularly in the form of memory prompts.

**'I think I certainly would because assistive technology if for instance someone had Alzheimer's they may need to be reminded which may take the form of something like a buzzer or a bleeper or something more advanced that showed you a text message that alerted them that some action needed to be taken as a reminder'** (DIY retailer)

**'As I understand it things like alarm going off and post it notes can prompt people'** (HIA member of staff)

On the other hand, it was felt that in some situations technology would be unhelpful.

**'A lot of the stuff that I fit if they have major memory loss it adds to the confusion because suddenly you have changed what they are used to'** (HIA member of staff)

#### **4.2.6 Solving problems using technology**

A number of safety solutions were suggested including smoke alarms and oil filled radiators. Again traditional solutions were offered in response to the cooker being left on, **'there isn't much you can do about someone who leaves the cooker on other than try and talk them into maybe having meals delivered. Social services I would guess would be involved at that point'** (HIA member of staff).

Some suggestions were made concerning adaptations which could be made to the cooker but these were qualified with the following statement **'any problem like this is that you are now doing a modification to a piece of electrical equipment and it falls into all sorts of rules. You can't just rewire cookers'** (DIY retailer)

#### 4.2.7 Ethical Dilemmas

Opinion was divided over whether the alarm should be fitted without the knowledge of the person with memory loss.

**‘I wouldn’t go and fit it just on her family’s say-so I would want the family to say so, probably a doctor to say so and maybe some other person a neighbour the appropriate people and it had be given due thought. I just don’t want to walk in and impose on people I don’t think anybody has the right to do that’** (DIY retailer)

**‘I would be very wary of doing that knowing that Mrs Jones didn’t want it’** (HIA member of staff)

For others concern for the family and neighbours was a mitigating factor in their decision to fit the alarm even if it was against the wishes of the person with memory loss.

**‘There are other people involved. There is family. They are entitled to live a life without worrying so are the neighbours..... so it is not just about her although it is her right to have or not to have something. There are other people as far as I am concerned.... do it [fit the alarm] and never mention it again to her’** (HIA member of staff)

#### 4.3 People Recruited

Considerable time and effort went into the recruitment process. Recruitment was conducted through professional gatekeepers, e.g. managers of health and social care and housing staff working with people with dementia.

The following table is presented to show the number of people recruited, and the profession of the person making the referral.

Table 2. Number of people recruited in each locality and profession of person making referral

	Profession of referrer						Total
	Community Psychiatric Nurse	Social Worker	Occupational Therapist	Care Manager	Housing Manager	Other	
B'mth	1	0	1	0	0	1	3
Dorset	10	0	0	0	0	4	14
Poole	3	1	1	3	2	1	11
Total	14	1	2	3	2	6	28

A further three people were referred from professionals working in Dorset. Two failed to give consent and the third person was admitted to hospital prior to the consent procedure.

#### 4.4 Characteristics of Participants

Some characteristics of people completing the trial are shown in the tables below.

Table 3. Age and Gender of participants

	Gender of participant		Total
	Male	Female	
Age 63	1	0	1
66	1	0	1
71	0	1	1
72	1	0	1
73	1	1	2
75	0	1	1
78	0	1	1
80	2	0	2
81	1	1	2
82	0	2	2
83	0	2	2
84	2	2	4
85	0	1	1
86	1	0	1
87	1	2	3
88	1	0	1
89	1	1	2
Total	13	15	28

Table 4. Living arrangements of participants

Accommodation	Living with			Total
	Alone	Husband	Wife	
House	1	3	5	9
Flat	2	0	1	3
Bungalow	4	1	2	7
Mobile Home	1	0	0	1
Warden assisted accommodation	8	0	0	8
Total	16	4	8	28

Table 5. Living arrangements and relationship of carers to participants

	Residing with participant		
	Yes	No	Total
Husband	3	0	3
Wife	7	0	7
Son	0	6	6
Daughter	0	4	4
Friend	0	2	2
Home Care	0	2	2
Niece	0	1	1
Sister in Law	0	1	1
Total	10	16	26

Two participants living in warden-assisted accommodation were unable to nominate carers.

#### 4.5 Devices

Participants were invited to select one device from those identified which best matched their individual need.

##### 4.5.1 Locator Device

The number of people trialling the locator device and the locality in which they live is shown in Table 6.

Table 6. Number of people trialling the locator device

Device	Locality			Total
	Bournemouth	Dorset	Poole	
Locator Device	1	7	4	12

The locator device is aimed at enabling people to locate items, which they frequently misplace. The device has four colour-coded buttons (red, yellow, blue and green) each of which has space next to them for a picture or the name of the object to be located. Four tags whose colours correspond with the buttons on the locator unit can be attached to items by means of a key ring or a Velcro tab. When the user touches a button it initiates a bleeping sound from the tag attached to the misplaced item so that it can be found. The sound stops when the item is picked up.

#### Implementation

The device comes with a base unit that has a magnetic strip for attachment purposes (the device can be used without this unit). The locator device is battery operated. The items, which are frequently misplaced, need to be identified and tagged accordingly. It is important that the locator unit is kept in a location that is familiar to the user. It is necessary to check that the user can hear the sound and recognize that it is coming from the tag attached to

the misplaced object. If the user lives alone they require the ability to learn new routines, as they have to understand how to operate the device.

### **Reliability of product**

No technical problems were reported with the product. Clear operating instructions were provided by the manufacturers and these were given to the participants and their carers.

### **Suggestions for improvement**

People were asked how they thought the product could be improved. The most common comment was that, **'the bleep is not very loud. If you are looking for modifications that is something. You could make the bleep a bit louder'** (Male carer). The size of the tags was also commented on. Some people found that their size restricted them from tagging some items that they frequently misplaced like spectacles and hearing aids. People who used the Velcro pads to attach the tags to items commented that they had problems making them adhere, **'Maybe not strong enough or not sticky enough'** (Female carer).

The locator device was the most popular device, suggesting that misplacing items is of concern to both people with dementia and their carers. The device was most successful where there was a carer to support its use. One person managed to operate the device following instructions from her son over the telephone.

**'On the telephone and I would ask her to go and press the button and locate it. It gives me more confidence that things at a distance are under control, because I know that it is possible to locate something in a different way from just talking it through, because mum has been as long as perhaps three quarters of an hour looking for her medication in the past'** (Non-Resident Male Carer)

The most commonly tagged items were keys and handbags. The most unusual item tagged was a tortoise!

### **Comments from users**

#### **Saving time**

**'Absolutely essential, essential to save time because you can spend so much time just trying to find something before you actually do the job. If mum wants to go shopping you can't find her handbag you can't go shopping until you can find the handbag and it has taken me as long as half an hour to find the handbag'** (Non-Resident Male Carer)

**'Saving time and worry really because its important if you mislay the keys'** (Female Carer)

**'Normally we would be looking absolutely everywhere every drawer every cupboard, wardrobe, washing basket we would have to empty everything out just to find it'** (Female carer non-resident)

### **Relieving Stress**

**'I've stopped worrying about where to find the keys because I know now I can find them and I don't have to worry'** (Female Carer)

**'It's stopped me getting bad tempered'** (Male Carer)

**'Yes it's saved us aggro'** (Female carer)

### **Other consequences**

**'It is much easier. It stops me having to rifle through all the drawers and cupboards which people find very offensive, people don't like you going through their personal belongings'** (Home Care Assistant)

**'If anybody got into the house and we get quite a few burglaries around here all they have got to do is pick up that control and they'll say now alright if we want to know where his keys are we press that one and if we want to know where his wallet is we press that. I wouldn't use it'**  
(Male Carer)

#### **Case History**

Nancy aged 83 years lives alone. She has home care and is also supported by a neighbour. She attends a day centre on several days a week. Nancy's handbag is a very important to her and she likes to have it with her at all times in particular when she attends the day centre. Nancy frequently misplaces her handbag and if her neighbour is unable to find it she gets very distressed. This is a particular problem on the days she attends the day centre, as she will not leave home without it. Nancy agreed to try a locator device.

**Result:** Although Nancy was not able to operate the device herself her neighbour was able to locate the handbag using the device and involved Nancy in listening for the bleep from the tag. Nancy no longer worries about misplacing her handbag, as she is confident that her neighbour will be able to locate it for her. Nancy is now able to attend the day centre regularly.

### **Professionals Evaluation of the Device**

The professional's evaluation of the device can be seen in Table No 7. Two people failed to complete the trial period because they were admitted to hospital. A total number of ten questionnaires were sent out to referring professionals and seven were returned.

Table 7. Professional's evaluation of the usefulness of the locator device

Locator Device	Amount of contact with client	Provided Support for client	Provided Support for carer	Increased the amount of time lived at home
1	Increased the contact	Yes	Yes	Yes
2	Made no difference	No	Missing	No
3	Made no difference	Yes	Yes	No
4	Missing	Missing	Missing	Missing
5	Missing	Missing	Missing	Missing
6	Missing	Missing	Missing	Missing
7	Increased the contact	Yes	Yes	Missing
8	Made no difference	Yes	Yes	Don't know
9	Made no difference	Yes	Yes	Don't know
10	Made no difference	Yes	Yes	Don't know
11	Missing	Missing	Missing	Missing
12	Missing	Missing	Missing	Missing
Total	N	12	12	12

#### 4.5.2 Medication Reminder

The number of people trialling the medication reminder and the locality in which they live is shown in Table 8.

Table 8. Number of people trialling the medication reminder

Type of Device	Locality			Total
	Bournemouth	Dorset	Poole	
Medication Reminder	2	3	2	7

The purpose of the medication reminder is to dispense the correct medication at the correct time. The reminder is a circular container with a lockable lid. Inside the container is a rotating cassette, which has twenty-eight compartments into which the medication is dispensed. This allows pills to be dispensed up to four times a day. At pre-programmed times the cassette rotates, an alarm signal sounds and the correct dosage of medication comes into view through an opening in the lid. Tilting the reminder dispenses the medication; this allows the medication to fall into the hand of the person using it. This action stops the alarm. If the person fails to carry out this action the alarm will continue to ring for approximately 25 minutes. If the medication is

not removed before the dose is due the action of the carousel rotating results in the missed medication being retained inside the container.

### **Implementation**

An instruction booklet is provided with the device. The reminder needs to be programmed with the times that the medication is due to be taken. It also requires someone to dispense the medication in the correct doses into the reminder. In some cases a carer performed these tasks. If a carer was unable to undertake these tasks it required the support of a pharmacist. The device is battery operated and it requires someone to take responsibility for changing the batteries. This could be a potential problem if a pharmacist is dispensing medication into the reminder, as someone would need to take responsibility for the purchase of the batteries. It is also necessary for the alarm to be re-programmed to take account for seasonal time changes.

### **Reliability**

The alarm was reported as going off at the set times. One person identified a problem with a tablet getting stuck between the opening and the lid on one occasion. Some people found the lock difficult to open.

### **Suggestions for improvements**

The most frequent suggestion for improvement from carers was that the low battery indicator should be visible from the outside of the reminder. Some also felt that it would be helpful if the lid could be made from a semi-transparent material to enable them to check if any medication has not been taken and to monitor the timer clock. One person felt it would be useful to have simple operating instructions printed on the bottom of the reminder in case the instruction booklet was mislaid or lost.

### **General comments from users**

**'Oh quite easy yes, it goes off like an alarm clock does, and then it produces the tablets. You can't get the tablets without, without it goes off you know, yes its been working alright'** (Person with dementia)

**'Well oh yes I think it is very clever but when I first got I thought why don't they let me have three bottles and I'll remember to take them'** (Person with dementia)

**'I would be lost without it'** (Person with dementia)

**'If I didn't have this machine I wouldn't be taking them I would completely forget and I wouldn't remember if I had taken them or not'** (Person with dementia)

### **Support for carers**

**'To know that she is actually taking them you know regularly'** (Female non-resident carer)



**'I can come at the end of the week and open it up and see exactly what she has taken and what she hasn't taken and I know exactly what is going on'** (Male non-resident carer)

**'Its made it a lot easier because I know my dad is getting the medication that he needs'** (Male non-resident carer)

**'Peace of mind I suppose really at the end of the day'** (Male non-resident carer)

### Case History

Paul lives alone. His wife died recently. Whilst she was alive she reminded him to take his medication. Since her death his son who lives a long way away has taken responsibility for reminding his father by telephoning him twice a day. This is not always convenient for him as he works irregular hours.

**Result:** The son programmed the reminder for his father. Paul finds the reminder easy to use and is pleased to be able to take responsibility for taking his medication. His son no longer has the burden of remembering to telephone his father twice a day at set times.

### Professionals Evaluation of the Device

The professional's evaluation of the device can be seen in Table No 9. One person failed to complete the trial period because she was admitted to hospital. A total number of six questionnaires were sent out to referring professionals and five were returned.

Table 9. Professional's evaluation of the usefulness of the medication reminder

Medication Reminder	Amount of contact	Provided Support for client	Provided Support for carer	Increased the amount of time lived at home
1	Decreased the contact	Yes	Missing	Yes
2	Missing	Missing	Missing	Missing
3	Made no difference	Yes	Yes	Yes
4	Decreased the contact	Yes	Don't know	Yes
5	Missing	Missing	Missing	Missing
6	Don't know	Yes	Yes	Don't know
7	Made no difference	Yes	Yes	Yes
Total	N	7	7	7

### 4.5.3 Memo Minder

The number of people trialling the memo minder and the locality in which they live is shown in Table 10.

Table 10. Number of people trialling the memo minder

Type of device	Locality			Total
	Bournemouth	Dorset	Poole	
Memo Minder	0	2	4	6

The Memo Minder is a message recorder/player operated by battery or AC adaptor. A message of up to 20 seconds in length can be recorded onto a circuit board. The message is triggered by a passive infra-red motion detector whenever anyone moves within a range of 5 metres or 15 degrees of the memo minder.

#### Implementation

An instruction manual is provided with this device. The chosen message is recorded on the device by sliding the function switch to the 'REC' position and then depressing the 'REC/PLAY' button until the recording is completed. The message is erased if you start to record a new message. The device can be placed on a table/shelf or mounted on a wall. It is important to locate the device in a position where the message can be activated by the movement of the user.

If the message only needs to be played at certain times of the day or night it requires someone to switch the memo minder on and off at appropriate times. The nature of the message recorded on the memo minder depended on the individual need of the users. In all cases the person recording the message was known to the user; so the voice they heard giving the message was familiar to them.

The following reminders were recorded-;

- To remember to lock the door and take the keys with them when they were going out
- Not to go out during the night (2)
- To wait until home care arrived before getting up in the morning
- To indicate whether it was a day to attend the day centre
- To indicate where the carer had gone and when they would be returning (this carer made use of the device's ability to record new messages)

#### Reliability of product

No problems were reported.

### **Suggestions for improvement**

The only suggestion for improvement was for the device to incorporate a timer so that it did not rely on someone to be available to turn it on and off at set times.

The reminder appeared to work well for people with mild to moderate dementia. Two participants who had more severe dementia became intolerant of the voice and were annoyed by it.

### **General comments**

**'Yes very helpful yes it puts my mind at rest sort of thing'** (Person with dementia)

**'Prior to that I would have had a piece of paper and wrote down where I was going but when I come home it is in the bin and he's forgotten where I've been so this will keep repeating itself until I come in the front door and switch it off again and then it has given reassurance to know where I have gone which has been most useful'** (Resident Carer)

**'Were it be absent I think I might forget so I am pleased to have it'** (Person with Dementia)

**'Very helpful sometimes I go out early and it says to stay in bed'** (Person with Dementia)

**'From the feedback that I have had or not had it must have been very useful because no-one has been complaining about early morning phone calls saying he is getting out of bed at four o'clock in the morning'** (Home Care Assistant)

**'She became very agitated by being told what to do'** (Non-resident Carer)

**'I don't know boxes and noises. If you want to go you go'** (Person with dementia)

### **Case History**

James lives alone in sheltered housing. He attends a day centre on several days a week and he also likes to go out walking in the local neighbourhood. When he leaves his flat he forgets to lock his front door and often leaves the door open as well. Recently there have been a number of thefts in the area.

**Result:** Friends of James record a message reminding him to lock his door and take his keys with him when he goes out. James responds well to this reminder and locks his door when he goes out. He recognises that the voice belongs to a friend and says that he finds the voice reassuring.

### Professional's Evaluation of the Device

The professional's evaluation of the device can be seen in Table No 11.

Table 11. Professional's evaluation of the usefulness of the Memo Minder

Memo Minder	Amount of contact	Provided Support for client	Provided Support for carer	Increased the amount of time lived at home
1	Made no difference	Yes	Yes	Yes
2	Made no difference	Yes	Yes	No
3	Decreased the contact	Don't know	Yes	Don't know
4	Decreased the contact	Yes	Yes	Yes
5	Made no difference	No	No	No
6	Made no difference	Yes	Missing	Yes
Total	N	6	6	6

### 4.5.4 Telephone

The number of people trialling the telephone and the locality in which they live is shown in Table 12.

Table 12. Number of people trialling the telephone

Type of Device	Locality			Total
	Bournemouth	Dorset	Poole	
Telephone	0	1	0	1

The telephone identified in phase I of the research was a picture telephone. In addition to the normal keys this telephone had nine large pre-programmable keys, to which a photograph or the name of a person could be added. This allows the person to dial a number by pressing one key and eliminates the need to remember a string of numbers. However this telephone was not available during phase II of the project. A similar telephone was located but the pre-programmable buttons on this telephone only had space for a name to be written by the side of them.

### Implementation

The existing telephone was replaced by the pre-programmable telephone. A family member programmed the required numbers and wrote the names by the side of the buttons. The person with dementia needs to be able to recognize the names written by the side of the buttons in order to identify the correct button to push.

### Reliability

No problems were reported.

### Suggestions for improvements

No suggestions were made.

### General comments

**'Well before I wouldn't use it, it has been very useful because before I didn't like to touch the phone'** (Person with Dementia)

**'I just pick it up and press the button and then you know I haven't got to worry'** (Person with Dementia)

**'You used to make a call and you would be half way through and then you'd forget the number'** (Resident Carer)

### Case History

Rosemary lives with her husband. She has lost confidence in using the telephone because she is unable to remember telephone numbers and has subsequently stopped using the telephone.

**Result:** A family member programmed the telephone with the telephone numbers of her family and friends. Rosemary is gaining confidence in using a telephone again both to make and answer calls. She is now able to contact her family and friends and this is helping her to maintain her social network. She says that this has helped her to feel 'better about herself'.

### Professional's Evaluation of the Device

The professional who made the referral was unable to comment on how successful the device had been as she had had no further contact with the person since making the referral.

### 4.5.5 Passive Infra Red (PIR) Night Light

The number of people trialling the night light and the locality in which they live is shown in Table 13.

Table 13. Number of people trialling the PIR Night Light

Type of Device	Locality			Total
	Bournemouth	Dorset	Poole	
PIR Light	0	0	1	1

A number of lighting devices were identified in phase I of the research. These ranged from dusk to dawn lights which plug into an existing electrical socket and emit a low level light throughout the hours of darkness to hard wired light switches which react to either body heat or movement to activate a light which can be programmed to stay on for a set number of minutes. The person who

elected to trial a night-light chose to use a dusk to dawn light, which had a PIR function.

**Implementation**

Two PIR dusk to dawn lights were used. One was plugged into an existing plug socket by the bed and the other was plugged into an existing plug socket in the hallway near to the toilet door. Both lights were switched to the PIR function so that they only came on when activated by movement. The lights stayed on for approximately one minute when activated. This enabled the person to see to find their way from the bedroom to the hallway and then to locate the toilet.

**Reliability**

No problems were reported.

**Suggestions for improvement**

No suggestions were made.

**General Comments**

**‘I know where to go now, you get used to it, I know where to go’** (Person with Dementia)

**‘Once you’ve got that main light on it wakes you up. I was awake for hours after’** (Female Carer)

**Case History**

Joan and Peter live in a bungalow. Peter gets up during the night to use the toilet and sometimes becomes disorientated in the darkness. If he switches on the main lights this disturbs Joan’s sleep and she finds it difficult to get back to sleep.  
**Result:** PIR Night Lights come on when Peter gets out of bed and light the way to the toilet. This allows him to orientate himself and find the way to the toilet safely. Joan’s sleep is now less disturbed.

**Professional’s Evaluation of the Device**

The professional’s evaluation of the device can be seen in Table No 14.

Table 14. Professional’s evaluation of the usefulness of the PIR Night Light

	Amount of contact	Provided Support for client	Provided Support for carer	Increased the amount of time lived at home
PIR Night Light	Made no difference	Don't know	Don't know	Don't know

#### 4.5.6 Door Alarm

The number of people trialling the door alarm and the locality in which they live is shown in Table 15.

Table 15. Number of people trialling the Door Alarm

Type of device	Locality			Total
	Bournemouth	Dorset	Poole	
Door Alarm	0	1	0	1

A number of different door alarms were identified in Phase I of the project. The one trialled was a wire free PIR contact door alarm with a portable alarm unit. This alarm was selected to meet the individual needs of the person involved.

#### Implementation

This device requires someone to attach contact switches to the door and doorframe. The packaging contained installation instructions.

#### Reliability

Initially the alarm failed to work correctly after installation and made a constant beeping noise. This was due to a problem with the installation and not with the device itself.

#### Suggestions for Improvement

No suggestions were made.

#### General Comments

**'I thought the other day that it would make sense to ring every time I go out and you know I've gone out'** (Person with Memory Loss)

**'I know when my husband has gone out and I hear him come back. So I can relax and think right he is home'** (Carer)

#### Case History

Sarah & David live in a first floor maisonette. David has dementia. His wife Sarah is hearing impaired and has restricted mobility. David likes to go out walking. David is disorientated in time and is often away for long periods of time when he goes for a walk. This is a particular problem in the summer when the evenings are light. Sarah is often unaware that David has gone out because she is unable to hear the front door opening and closing. This causes Sarah to worry because she has no idea how long he has been absent from the house.

**Result:** The portable door alarm indicates to Sarah when David has left the house and when he returns. This provides re-assurance for her and allows her to decide if she needs to alert someone to look for David if he has been gone for a long period of time. David is able to maintain some independence by continuing with an activity he enjoys

## Professional's Evaluation of the Device

The professional's evaluation of the device can be seen in Table No 16.

Table 16. Professional's evaluation of the usefulness of the Door Alarm.

Door Alarm	Amount of contact	Provided Support for client	Provided Support for carer	Increased the amount of time lived at home
	Made no difference	Yes	Yes	Don't know

## 5. Discussion and recommendations

### 5.1 Understanding the Terms Assistive Technology or Assistive Devices

Carers and people with dementia were generally unfamiliar with these terms.

**Recommendation:** There is a need for greater promotion of the use of assistive technology and assistive devices amongst carers and people with dementia.

### 5.2 Sourcing Assistive Technology/Devices

Some of the devices identified in phase I of the study were either no longer available for purchase or the original source of supply had changed when the trials of devices commenced in phase II of the study. Therefore sourcing devices can be a time consuming process. Results from the focus groups and semi-structured interviews also suggest that there are problems both in identifying and locating appropriate devices.

**Recommendation:** A greater awareness of the need for assistive devices by people with dementia needs to be promoted amongst manufacturers to enable them to design and supply products that meet these needs. A single source of information on assistive devices would support both suppliers and installers. A managed national database of available assistive devices that is readily available to both health and social care professionals and carers is also indicated.

### 5.3 Installing Assistive Devices

Problems were identified in finding someone to carry out small tasks and also in finding someone suitably qualified to work in the home of a person with dementia.

Only two devices required installation by someone other than a family carer. In both of these cases the participants were members of HIA schemes and the devices were fitted by members of their staff. In the case of the door alarm the agency had to arrange a return call because the alarm failed to



function correctly after it was installed. This resulted in a delay of approximately two weeks before the alarm was fully functioning, because this was the earliest return appointment the agency could offer.

**Recommendation:** People with dementia should be supported in finding appropriately qualified people to install devices. Systems to secure this should be addressed by decision makers and could involve joint working between local authorities and HIA's. Staff involved in installing devices in the homes of people with dementia should be given appropriate training to work in the homes of people with dementia.

#### **5.4 The Role of Assistive Technology to Support People with Dementia**

Assistive technology/devices can provide support to people with dementia and carers. Factors involved in the successful implementation include:

*Person with dementia:* acceptance of having a memory problem, motivation to use the device, ability to learn new tasks if the device requires user input, the ability of someone to provide support in the initial stage of use and a positive relationship with their primary caregiver.

*Carer:* willingness to support the person with dementia in their use of the device.

*Environment:* role, attitude and understanding of all health and social care and housing professionals involved with the person with dementia and their willingness to provide support in all aspects of using the device (i.e. sourcing the device, installing the device, supporting the use of the device, de-commissioning the device when it no longer provides support).

*Devices:* reliability, aesthetics, ease of use, ease of installation, ease of maintenance and cost of the device.

**Recommendation:** An assessment tool needs to be devised that takes the above factors into account. There is a need for more training to be available to health and social care professional, as well as those who work in housing and Home Improvement Agencies.

### **6. Conclusion**

At Home with AT was an innovative study that investigated the ability of low technological devices to provide support to people with dementia. The benefits of this form of technology are that devices: -

- are readily available for purchase
- can be used in the existing home of the person with dementia
- do not require the installation of sophisticated computer equipment
- can be easily removed or adapted as the needs of the person with dementia change

People with dementia valued the opportunity to have their 'voices heard' by taking part in the study. Their motivation for participating was not only for themselves but also for the potential benefits of others in the future.

At an event held to disseminate the findings of the research, health, social care and housing professionals, people with dementia and carers were given an opportunity to discuss and feedback ideas for future practice development (Appendix V refers).

The study has raised awareness at all levels of the potential of low-level technology to support people with dementia and carers. It has highlighted the need for more work to be done to promote and develop low-level assistive technology on a national scale.

Appendix I



**At Home with AT  
(Assistive Technology)**

*Health & Social Care Professionals Evaluation Questionnaire*

Thank you for referring \_\_\_\_\_ to the above project we are very interested to hear your evaluation of how successful the device has been in providing support to your client and their carer. Please could you complete the questions in this questionnaire and then return it in the enclosed stamped addressed envelope. If you have referred more than one client to the project you will be asked to complete a separate questionnaire for each referral made.

This survey is confidential and any information you provide will not be linked to your name. If you would like any further information please contact Marilyn Cash on (Telephone No provided)

ID: 

--	--	--	--

1. What is your job title? (Please tick the appropriate box)

- |                                |                          |                             |                          |
|--------------------------------|--------------------------|-----------------------------|--------------------------|
| Community Psychiatric Nurse    | <input type="checkbox"/> | Patient Aide                | <input type="checkbox"/> |
| Social Worker                  | <input type="checkbox"/> | Care Manager                | <input type="checkbox"/> |
| Occupational Therapist         | <input type="checkbox"/> | Home Care Assistant         | <input type="checkbox"/> |
| Occupational Therapy Assistant | <input type="checkbox"/> | Other (please specify)..... | <input type="checkbox"/> |

2. Who is your employer? (Please tick the appropriate box)

- Dorset NHS Healthcare Trust
- Borough of Poole Social Services
- Bournemouth Borough Council Social Services
- Dorset County Council Social Care and Health

3. If you work for Dorset NHS Healthcare Trust which local authority area do you work in? (Please tick the appropriate box)

- Bournemouth  Poole  Dorset

4. Has the use of the device made a difference to the amount of contact you have had with your client either in person or over the telephone? (Please tick the appropriate box)

- Increased the contact  Decreased the contact
- Made no difference  Don't Know

4b. Please state the reason(s) for your answer to the above question (In the space below)

.....

.....

.....

5. Do you think using the device has provided support for your

client? **(Please tick the appropriate box)**

Yes                       No                              Don't know                     

5b. Please state the reason(s) for your answer to the above question  
**(In the space below)**

.....  
.....  
.....

6. Do you think the device has provided support for your client's carer? **(Please tick the appropriate box)**

Yes                       No                              Don't know                     

6b. Please state the reason(s) for your answer to the above question  
**(In the space below)**

.....  
.....  
.....

7. Has using the device increased the amount of time that your client has been able to live independently at home? **(Please tick the appropriate box)**

Yes                       No                              Don't know                     

7b. Please state the reason(s) for your answer to the above question **(In the space below)**

.....  
.....  
.....

8. Can you think of any other device(s) that would provide effective support to this client? **(Please tick the appropriate box)**

Yes

No

If you have answered yes, please give details of the device(s) below

.....  
.....  
.....

9. If you have any further comments to make about the device or its use by your client and/ or their carer? (Please add them below)

.....  
.....  
.....

Thank you very much for taking the time to complete this questionnaire. Please return the completed questionnaire as soon as possible in the enclosed stamped addressed envelope.

If you would like a copy of the research summary sent to you when the research is complete please write your contact details in the space below.

Name .....

Address to which you would like the summary sent:-

.....  
.....  
.....

## Appendix II

### ASSISTIVE DEVICES FOR PEOPLE WITH MEMORY PROBLEMS

#### A NEW STUDY

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that you are not clear about or if you would like more information. Take time to decide whether or not you want to take part.

Thank you for reading this.

This study is trying to find out if simple technological devices can enhance the quality of life of people who experience memory problems. This study is being carried out by Dementia Voice.

We know that sometimes it can be difficult to remember things, and that this can reduce your independence and quality of life. You may be fed up or concerned with this, and be interested in looking at ways in which assistive devices, such as night and day reminders and picture phones can help.

We think it is important to find out if devices like these can help people to be more independent at home.

We are approaching you to take part in this study because you are in contact with a health or social care service.

It is up to you to decide whether or not to take part. If you decide to take part you will be given a copy of this information sheet to keep and be asked to sign a consent form.

**PLEASE REMEMBER** It is entirely your decision to take part. If you don't want to, that is all right. You do not have to give a reason if you don't want to take part. **If you decide not to take part it will not affect any help or care you get here or anywhere else now or in the future.**

If you would like to take part the study worker Marilyn Cash will come and spend time talking to you about installing a device in your home. You will be able to use and keep the device that suits your needs. If you don't like using the device, you don't have to use it; we can come and remove it.

Marilyn will also come and talk to you and your relative or carer whilst you are using the device to ask you what you think of the device, and how useful it has been for you. With your permission she will also contact the health or social care professional you are in contact with to ask them how useful they think the device has been.

She will have forms to fill in while she is talking to you. She may also have an audiotape to record the interview. You can decide whether or not the interview is tape-recorded. If the interview is being tape-recorded you can ask for the recording to be stopped at any time during the interview.

If you take part in the study and decide that you want to stop, you are free to do so, you do not need to give a reason. Whatever you decide, this will not affect the help or care you get here or anywhere else now or in the future.

We hope that taking part in the research will be of help and of interest to you. The information we get from this study may help people with memory loss in the future.

When the study ends you will be able to keep the device you have been using if you want to.

If you have any questions, you can talk to Marilyn about them. Your relative/carer also knows about the study. They have been given a similar leaflet to this. Any information collected about you during the course of the study will be kept strictly confidential. With your permission we will notify your GP if you agree to take part.

At the end of the study Marilyn will write a report to tell other people what she has found from the work. Your name will not be used in the report. If you would like a copy of the report we can arrange for a copy to be given to you.

This research study is being funded by the Sir Halley-Stewart Trust.

If you would like to speak with someone about the study, or if you have any concerns or complaints as a result of taking part in this study you can ring Jane Gilliard. She can be contacted on telephone number

Thank you very much. - Marilyn Cash, Dementia Voice, Blackberry Hill Hospital, Manor Road, Fishponds, Bristol, BS16 2EW.

Contact Telephone Number for Marilyn Cash -



**ENABLING DEVICES FOR PEOPLE WITH MEMORY PROBLEMS  
CONSENT FORM**

I have spoken to.....about the project.

This conversation took place on .....

(Tick one) Yes No

We have looked at the yellow information leaflet

I have had the chance to talk about the project  
and ask questions

I know enough about the project now

I understand that it is my decision to take part  
or not

I understand that if I do not want to take part,  
this will not affect any help I am getting now or  
in the future

I understand that if I take part, I can stop at any  
time

I understand that if I stop taking part, this will not  
affect any help I am getting now or in the future

I understand that the interview may be taped. I  
can stop this at any time

I agree to take part in the project

Signed.....Date.....

Name (in block letters).....

Signed (Researcher).....Date.....

Name (in block letters).....

## Appendix III

### Vignette 1

***The following is a description of a situation that someone with memory loss might find themselves in: -***

George is a widower aged 78 years, who has lived in his own bungalow for 15 years. Since his wife died two years ago he has been living on his own. He has no close relatives. His home is large and difficult to heat. There is no gas supply to the house. He uses electric fires to heat his living room and his kitchen. George cooks for himself. He sometimes leaves the cooker and the fire full on in the kitchen when he returns to the lounge. George enjoys making his own meals. The neighbours are concerned about the risk of fire.

What could be done to help George?

There are no right or wrong answers to this question.

## Appendix IV

### Vignette 2

***The following is a description of a situation that someone with memory loss might find themselves in: -***

Mrs Jones lives alone in a council flat. She is well known and liked locally. Her daughter lives locally and visits regularly. She has good neighbours. Sometimes she gets up in the middle of the night and goes out into the street. This causes a great deal of worry for her family and her neighbours. The local authority, have offered to fit an alarm on her front door which would operate on a timer. If she went out between 10.00pm and 7.00am the alarm would be raised at a local 'Life line centre' and her family could be alerted. The fitting of the alarm has been discussed with Mrs Jones but she does not want it to be fitted.

How would you solve this problem? There are no right or wrong answers to this question.

## **Appendix V**

### **At Home with AT (Assistive Technology)**

#### **Developing Practice**

##### **Feedback**

##### **Potential Users of Assistive Technology**

- People with memory problems
- People with learning disabilities
- Carers
- Home Care Staff
- Residents in residential and nursing homes

##### **Cost**

How can the equipment be financed?

- Fairer Charging
- Direct Payments
- Integrated Community Equipment Service
- Looking for cheaper alternatives
- Person using the equipment

##### **Sourcing Technology**

Finding out what is available

- Production of a catalogue
- Production of a database
- Providing information for the public
- Setting up an information exchange with carers and people with dementia in order to learn from each other
- Local Forum for exchange of information
- Local Authority intranet used to promote technology by providing information on what low key technology is available and where it can be sourced and providing a facility for practitioners to exchange ideas and information
- Integrated Community Equipment store should stock Assistive Technology Devices
- Need for a technical expert to co-ordinate the use and promotion of technology within a local authority or health care trust

##### **Resource Centre for Assistive Technology**

- Should be accessible to both professionals and the public
- Could be integrated with Sight & Sound Centres
- Equipment should be available for people to try out (possibly for a small charge) before they make the decision to purchase items themselves
- Facility to recycle/re-issue devices

##### **Assessing for Technology**

Whose responsibility is to carry out the assessment for technology and organise its provision?

- Questions could be introduced in the Single Assessment Process which would involve all practitioners involved the process to be aware of the potential of Assistive Technology in supporting people with dementia
- Assessments could be undertaken by specific professionals, such as Sensory Loss Teams or Occupational Therapists

### **Promoting Independence by the use of Assistive Technology**

Overcoming difficulties surrounding the acceptance of technology by potential users

- Important for professionals to work with families to support the use of Assistive Technology
- To support clients to overcome barriers to accepting technology (e.g. many may find the word 'technology' off putting or may have unrealistic expectations of the support that technology can offer or may see it as a threat to their independence)

### **Medication Reminders**

Responsibility for dispensing medication into reminder devices if there is no carer available to carry out this task

- Is this a health or social care responsibility?
- Local pharmacists may be willing to dispense medication into reminder devices
- Concerns raised by practitioners that some pharmacies are now charging to dispense medication in blister packs
- Scheme could be set up to train Home Care Assistants to dispense medication into reminder devices

### **Education**

Raising awareness of the potential of Assistive Technology and the role it has in supporting people with dementia and carers

- Staff Training
- Promotion of the use of technology with people with dementia and carers (This could be carried out via memory clinics and carer support groups training sessions)
- Involving other agencies in promoting Assistive Technology i.e. Police and Fire Service, Utility Companies and Voluntary Organisations

### **Health & Social Care Professionals Concerns Surrounding the Introduction of technology**

- Possible abuse of technology (i.e. not used in the best interests of the person with dementia or used without their consent)
- Installation: -**who** is responsible for arranging installation?  
**who** is responsible for the cost of installation?  
**who** ensures that the person carrying out the installation is appropriately qualified for the task they are undertaking?  
**who** is responsible for the maintenance of the equipment?