



# ***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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## **Summary Report**

This Summary Report was written to provide information about the project to those who took part.

### **1. Introduction**

The aim of At Home with AT (Assistive Technology) was to find out whether low-key technological devices could provide support to people with memory problems and their carers in their own homes.

#### **1.1 Research Location**

The research took place in the local authority areas of Dorset, Bournemouth and Poole.

### **2. What is Assistive Technology?**

We asked people with memory problems and carers if they had heard of the terms 'Assistive Technology' and 'Assistive Devices'. Some people had never heard these terms used. They thought that it would be something that was likely to be '**high tech**' (Male ex-carer), '**electronic**' (Female carer) involving the use of '**computer type things**' (Person with memory problems). They thought that it would be, '**used in a big hospital**' (male carer) by a professional, such as '**Doctors**' (Person with memory problems) or '**various technicians**' (Person with memory problems) rather than by an individual '**in their own home**' (Female ex-carer).

Some carers said 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)

Assistive technology or devices are any items that help people to do things that they are no longer able to do unaided. An example of this would be something that reminded them to take their tablets.

### **3. Where can you find these devices?**

We asked people with memory problems and carers if they knew where they could find assistive devices. They made lots of suggestions, such as high street stores, catalogues, DIY stores and mobility shops. They also said that they would ask for advice from social care staff such as social workers or occupational therapists or from voluntary agencies such as Age Concern.

However when we asked social care staff the same question they told us 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. The Devices Tested**

We asked people with memory problems if they would like to try using one of the devices from the list below to see if it would help them with a particular problem that they had.

#### **Medication Carousel**

A battery driven medicine reminder that alarms at pre-set times. It reminds the person to take the tablets and provides the correct tablets in correct doses.

#### **Locator Device**

A battery operated device that helps to find commonly misplaced items e.g. keys. This 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 match 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 the tag attached to the misplaced item beeps so that it can be found. The sound stops when the item is picked up.

### **Memo Minder**

This device can be operated by either a battery or an AC adaptor. It allows you to record a message as a reminder. For example you could record a message to remind someone to lock their door and take the keys with them when they go out or to remind them not to go outside during the night. The chosen message is triggered automatically whenever anyone moves within range of the memo minder.

### **Night-Time Lighting**

A simple plug in light with which comes on at dusk and goes off at dawn or can be set so that it comes on when it detects movement during the dusk to dawn period.

### **Door Alarm**

A wire-free door alarm, contacts fitted on a door send a signal to an alarm unit when the door is opened.

### **Telephone**

A telephone with buttons that can be pre-programmed with frequently used telephone numbers with a space for a name to be written by the side of the button. This makes it possible to call a person by pressing the button next to their name and eliminates the need to remember telephone numbers.

### **Magi Plug**

A bath plug that prevents flooding by letting excess water out of the bath if the taps are left running.

The people who took part in the study were asked which device they would like to use. None of the people who took part had a problem remembering to turn taps off so no one tested the magi plug in this study.

## 5. The Number of People Who Tested Devices

This table shows the number of people who tested devices the device they chose to test and the area they live in.

Device	Dorset	Poole	Bournemouth	Total
Locator Device	7	4	1	12
Medication Carousel	3	2	2	7
Memo Minder	2	4	0	6
Night-time Lighting	0	1	0	1
Door Alarm	1	0	0	1
Telephone	1	0	0	1

## 6. Results

We asked the people who tested the devices to tell us what they thought of the devices and to suggest ways in which they could be improved.

### Locator Device

The locator device was the most popular device, suggesting that misplacing items is of concern to both people with memory problems and their carers. The device was most successful where there was a carer to support its use. The most commonly tagged items were keys and handbags. The most unusual item tagged was a tortoise!

### Suggestions for improving the locator device

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).

### **Comments from people who used the locator device**

#### **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)

#### **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)

### **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.

### **Medication reminder**

#### **Suggestions for improving the medication reminder**

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 tablets had 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**

**'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 it goes off you know, yes its been working alright'** (Person with memory problems)

**'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 memory problems)

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

**'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 memory problems)

### **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.

### **Memo Minder**

#### **Suggestions for improving the memo minder**

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 if the reminder message was not needed twenty four hours a day.

## **General comments**

**‘Yes very helpful yes it puts my mind at rest sort of thing’**  
(Person with memory problems)

**‘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 memory problems)

**‘Very helpful sometimes I go out early and it says to stay in bed’** (Person with memory problems)

### **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.

## **Night Time Lighting**

A number of lighting devices were identified. These ranged from dusk to dawn lights which plug into an existing electrical socket to hard wired light switches which re-act with either body heat or movement to switch on a light which can be programmed to stay on for a set number of minutes. The person who chose to use a night-light decided to try a dusk to dawn light, which re-acted to movement.

### **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 memory problems)

**'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:** The 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.

### **Door Alarm**

A number of different door alarms were identified. The one tested in this study was a wire free contact door alarm with a portable alarm unit. This alarm was selected to meet the individual needs of the person involved.

### **Suggestions for improving the door alarm**

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 problems)

**'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 a memory problem. 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 of 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 reassurance 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.

### **Telephone**

#### **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 memory problems)

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

**'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'

## **6. Discussion and recommendations**

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

People with memory problems and carers were generally unfamiliar with these terms.

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

### **Identifying & Locating Assistive Technology/Devices**

This study found that there are problems both in identifying and locating appropriate devices for use at home.

**Recommendation:** The provision of a single source of information about available assistive devices that is readily available to people with memory problems, carers and health, social care and housing professionals.

### **The Role of Assistive Technology to Support People with Memory Problems**

Assistive technology/devices can provide support to people with memory problems and carers. Devices were most successful in providing support when: -

- the person with the memory problem wanted to use the device

- there was someone to support them to use the device
- their carer was happy for them to use the device
- health and social care and housing professionals worked as a team to provide support in all aspects of using the device
- the device worked reliably
- the device was easy to install
- the device was easy to maintain

**Recommendation:** Agencies involved in health, social care and housing need to work in partnership to support to people with memory problems and carers in their use of assistive devices.

### **Conclusion**

The study has raised awareness at all levels of the potential of low-level technology to support people with memory problems 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.