

# How people with dementia make technology work for them.

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# Assistive Technology and Dementia: current status

- Growing use of assistive Technology (AT) with people with dementia within UK and internationally based on assumptions that AT can:
  - reduce caregiver burden,
  - help sustain cognitive and functional abilities,
  - encourage ‘ageing in place’
  - delay entry into residential or nursing care
  - Lead to significant efficiencies and cost-effectiveness savings

AT currently being ‘mainstreamed’ within the UK

*How do people with dementia and their carers  
actually use AT in the context of their everyday  
lives?*



# Assistive Technology and Dementia: the evidence

- Until recently most studies of AT in dementia restricted to:
  - Technology development studies
  - Small scale trials of AT devices
  - Local evaluations of AT services
- Lack of evidence for AT from large scale studies
  - Major issue for continued roll out
  - Particularly important issue within the context of healthcare & need for evidence to demonstrate efficacy



# Methods

- Part 1. Identification of range and types of AT currently provided by AT services
- Part 2. Survey of AT products provided by AT services
- Part 3. Qualitative study of everyday use of AT devices by people with dementia and their carers



# Part 1. AT's available for people with dementia

## Used 'by' people with dementia

- Time/place orientation
- Prompts and reminders
- Communication aids
- Tools and aids
- Alerts and alarms

## Used 'with' people with dementia

- Communication aids
- Play and enjoyment
- Reminiscence

## Used 'on' people with dementia

- Telecare systems
- GPS and location alarms
- Safety and security



# Tech used 'by' people with dementia



# Tech used 'with' people with dementia



# Tech used 'on' people with dementia



Control unit



Alarm button



Fall detector



Gas detector



Door exit sensor



Temperature sensor



Flood detector



Bed or chair  
occupancy sensor



Smoke detector/alarm



Pressure mat



Alarm pill dispenser



Pull cord alarm



## Part 2. Survey of AT providing organisations

	Local authority	Housing provider	Charity	NHS trust	Private company	Total
<b>Total number of services</b>	245	48	1	2	35	331
<b>Community alarms</b>	244	47	1	2	33	327
<b>Community alarms and telecare</b>	196	25	0	2	29	252
<b>Telehealth</b>	5	0	0	0	4	9
<b>Stand alone AT products</b>	15	2	0	0	7	24
<b>GPS location services</b>	3	0	0	0	2	5

## Part 3. Qualitative study of experiences of technology

- 39 qualitative interviews exploring everyday use of AT
  - 26 carers (age range: 49-82 years)
  - 13 People with dementia (age range 49-91 years)
- Emerging themes
  - **AT types & experiences of using AT**
  - **AT use: a form of bricolage**
  - **Challenges to everyday use of AT**



# Types of AT

## 'Formal' AT

- Accessed via health and social care professionals
- Community alarms, telecare, GPS location monitoring equipment



## 'Off the shelf' AT

- Purchased directly from private sector
- Dementia friendly signage, telephones, remote controls



## 'Do it yourself' AT

- Everyday devices developed or adapted by families
- Reminder systems, simplified technology



# Experiences of AT; Carers

I still had my freedom that I could always know that she was in the house and I could view her at any time (Carer 106).



As I say I couldn't have continued working as long as I did, and I'm still, we're still benefiting from it. I think it's a wonderful device, wonderful. (Carer 109)

# Experiences of AT; People with Dementia

- Relatively rare for devices to have direct benefits for people with dementia
- People with dementia rarely aware of AT or convinced of need

She said it [pendant alarm] made her feel like a crock. She says, “I don’t need this, I’m perfectly alright”. (Carer 113)



# Experiences of AT; People with Dementia

- Some people with dementia accepted AT for the sake of their carer

- Oh he's terrified. He's lost me in the town once...he was terrified (PwD 107)

- *Negative experiences*

I'll tell you the truth, I'm terrified of it [pendant alarm]. (PwD 104)

# AT Use & Bricolage

- “The non conventional use of tools or methods designed and intended for a different use to address local and immediate needs” (Greenhalgh *et al* 2013)  
Or “making do with what is at hand”

## Examples of Bricolage

- Using devices for different purposes than their original designs
- Combining AT with everyday technologies
- Using everyday technologies to complement or replicate AT
- Adapting devices ‘on the fly’; to meet a person’s needs, or as a person’s needs change



# Challenges to bricolage based use of AT

- Formal AT's rarely enabled 'bricolage'
  - Closed systems – could not be adapted 'on the fly'
  - Lack of support to carers to act as 'bricoleurs'
  - Lack of wider information about AT to support its use

IV            The (telecare); have they been helpful at all?

P108        Oh what, since they put it in? Haven't seen them since. They haven't really, I've had a letter from them to say they're reviewed every year, or something. Haven't seem 'em since. (PwD109)

# Conclusion

- Bricolage provides a useful tool to explore the everyday use of AT in practice
  - Combining AT with other technologies in the home
  - Showing up the everyday arrangements required to put AT into practice
- Currently AT and AT services for dementia do not enable ‘bricolage’
  - AT not easily adapted to individual circumstance
  - Little ongoing support as a person’s needs change
  - Carers not supported in the bricoleur role
- Need to reconfigure AT services for people with dementia’
  - Supporting bricolage based use of technology
  - Supporting carers to act as ‘bricoleurs’
  - Being sensitive to technology related needs as they change over time



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