

# *Ageing and everyday interactions with technology*

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# Technology and older people

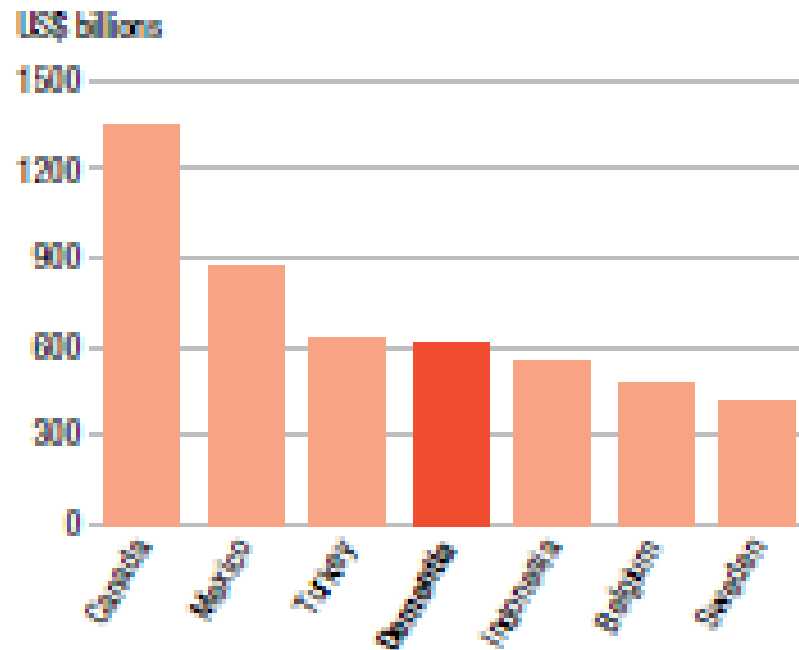
- Shame associated with ageing.
- Feelings of technological incompetence can magnify shame and discredited identity as 'old'.
- ALTs especially are loaded with social meaning.

# Technology and older people

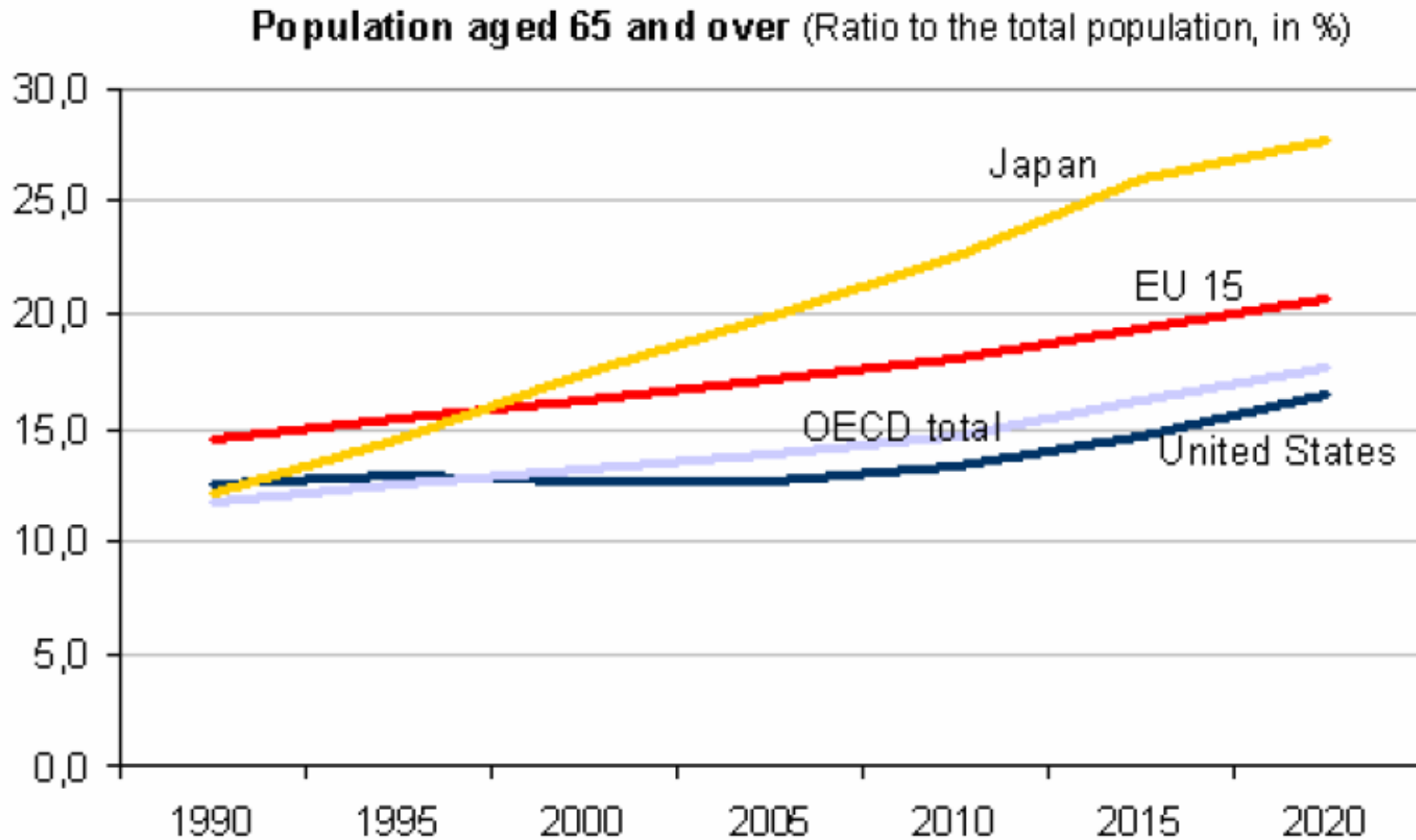
- Successful adoption of ALTs is more than just learning how to use gadgets.
- ALTs open up new opportunities but are also adapted in use.
- [...] in interaction with ALTs, ways of living [...] *and ALTs* are reconfigured.

# World Alzheimer Report 2010

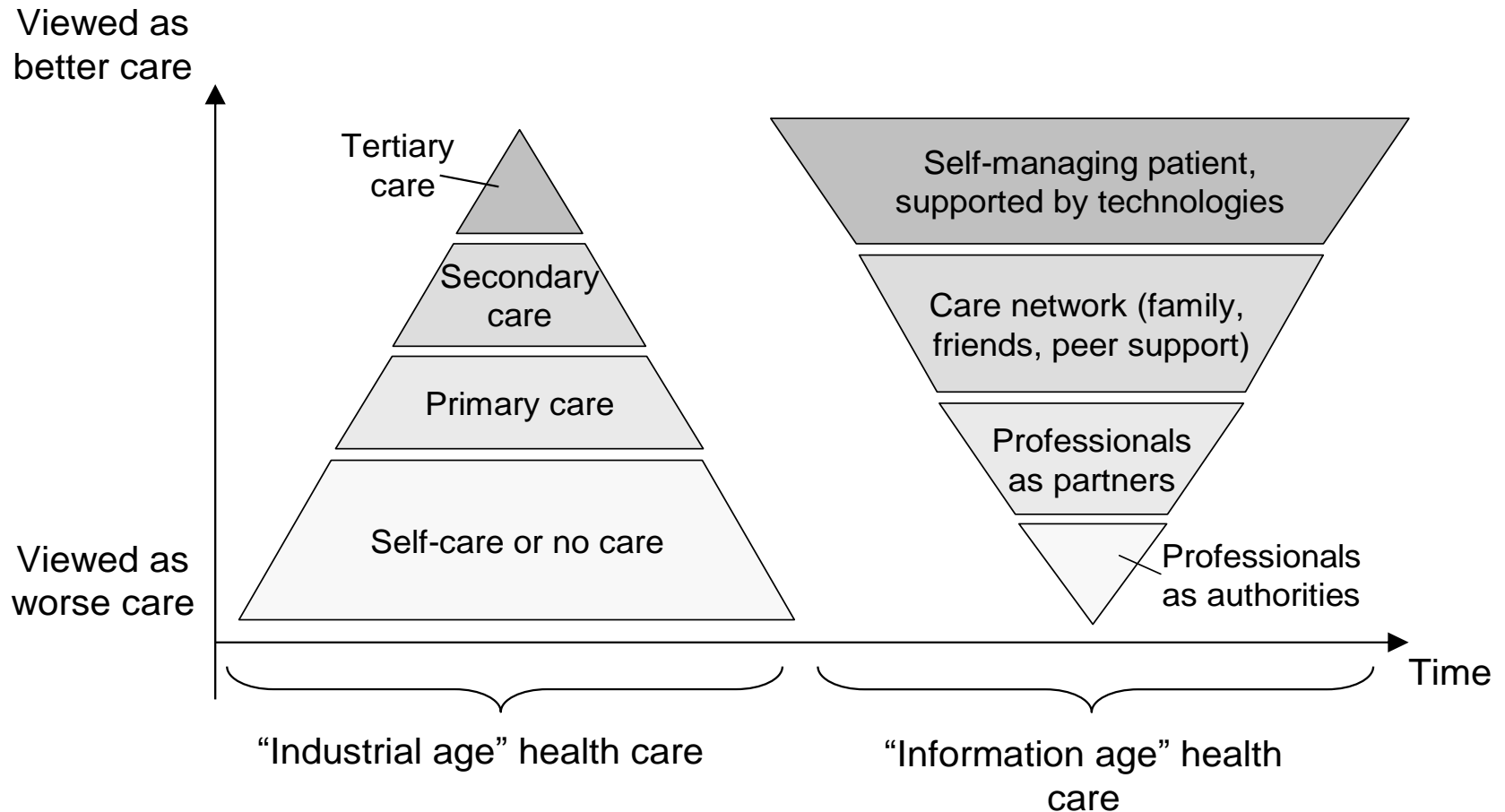
Figure 3 Cost of dementia compared to national economies



# The healthcare challenge



# The policy response



**Policy vision of specialist-driven care shifting to patient-driven care as the information age replaces the industrial age**



 The University of Nottingham



“And that’s a thing that’s routinely being done, and it’s the source for the failures of technocratic dreams, that if only we introduced some fantastic new communication machine the world will be transformed. Where what happens is that the object is made at home in the world that has whatever organisation it already has.”

Sacks, *Lectures in Conversation*, 1972 [1992]: 548



# Issues for ALT adoption

- ALTs are not 'plug and play'. Both technologies and the routines (domestic and organisational) in which they are embedded must be mutually adaptive and able to evolve.
- Challenges of engaging older users in the design and development of ALTs such that they are useful, usable and dependable.

# Issues for ALT adoption

- Obdurate problems that make direct observation intrusive, disruptive and inappropriate.
- Developing new methods for identifying user needs:
  - ‘cultural probes’ and ‘technology probes’
- Challenge for designers:

“To pay heed to the stable and compelling routines of the home, rather than external factors, including the abilities of the technology itself. These routines are subtle, complex, and ill-articulated, if they are articulated at all [...] Only by grounding our designs in such realities of the home will we have a better chance to [...] predict the effects of our technologies.” Edwards & Grinter, *At Home with Ubiquitous Computing: Seven Challenges*, 2001

# Cultural probes for ALT design

- Make use of a range of everyday artefacts such as a digital camera, dictaphone, paper diary, postcards and photo-album.
  - Embedded, invisible, non-intrusive functionality enabling the monitoring of ongoing use of technology by users.
- Have been used successfully for e.g. capturing requirements for ‘smart home’ technologies:
  - To collect information about use and users in real world setting.

# Cultural probe pack

- Disposable camera, photo album, visitors book, scrapbook, post-it notes, pens, pencils and crayons, a set of postcards addressed to the researcher, and a map.
- Instructions:  
*These items are Cultural Probes - but don't worry - they're just a way for us to find out more about you, your everyday life, what you think and feel. We'd like you to use them to tell us about yourself - and below are a few ideas you might want to think about. Ignore these if you like - nothing is compulsory - do as much or as little as you like. We hope its fun. I'll come back to collect them in about a week.*



## TECHNOLOGY AND YOU

This section asks about how you feel about the electrical items in your home

I use the following electrical items most regularly

- 1) KETTLE
- 2) MICROWAVE
- 3) MUSIC CENTRE
- 4) WASHING MACHINE
- 5)

You can draw or attach a picture of the most useful item to you here

I have most problems with the following electrical items

- 1) REPLACING LIGHT BULBS (I WAIT UNTIL SOMEONE CALLS)
- 2)
- 3)
- 4)
- 5)

## IT'S OVER TO YOU

Please let us know what your concerns and fears are as well as your aspirations

The following things are a major problem to me

- 1) REACHING COFFBOARDS



# Instructions

## PACK SECTION 1: Photo Diary

### PHOTO DIARY



#### ***This is your photo diary for 1 week***

*This is a chance for you to record your experiences through the week. You will find the following items to help you:*

- Post-it Notes;
- Polaroid camera;
- Pens & glue.



#### ***Think about...***

*Each day, please think about the following:*

- What experiences you have with residents and your colleagues that you tell others about;
- What message boards and notices you use;
- What photographs there are at Durranhill (e.g. photos in residents' rooms);
- What pictures there are at Durranhill (e.g. paintings)



#### ***What to do...***

*As you move through each day try to take photos:*

- Of experiences that you currently share with others, perhaps by talking to them;
- Of information that you has to be made public, perhaps on a notice board;
- Of examples of how residents use photographs (with the residents permission of course);
- Of some pictures that are at Durranhill already (such as a painting).

Then add the pictures to this scrapbook and add some notes:



#### ***Think about & observe...***

*Each day, please think about and observe the following:*

- Concerning you and your colleagues...
  - What kind of information and messages:
    - are passed among you and how this is done;
    - you receive and how you receive it;
    - you pass on to others and how you do this.
- Concerning you and the residents...
  - What kind of information and messages:
    - are passed between you and hoe this is done;
    - you receive from the residents and how you receive it;
    - you pass on to the residents and how you do this.
- Concerning the residents...
  - What kind of information and messages:
    - are passed among them and how this is done.



#### ***What to do...***

*As you move through each day try to:*

- Gather some examples of messages & information that you receive and pass on (e.g. Post-it notes);
- Take some pictures of messages & information that you receive and pass on (e.g. a message in the *Communication Book*, if permitted);
- Note down how you exchange (i.e. pass on, send or receive) information and messages from both other staff and residents;
- Note down how residents exchange information and messages among themselves.

# Probe returns

## PACK SECTION 1: Photo Diary

DAY 4:



Spam, Spam, Spam, Spam  
Spam, Spam, Spam, Spam  
everybody loves spam.

## PACK SECTION 2: Message Book

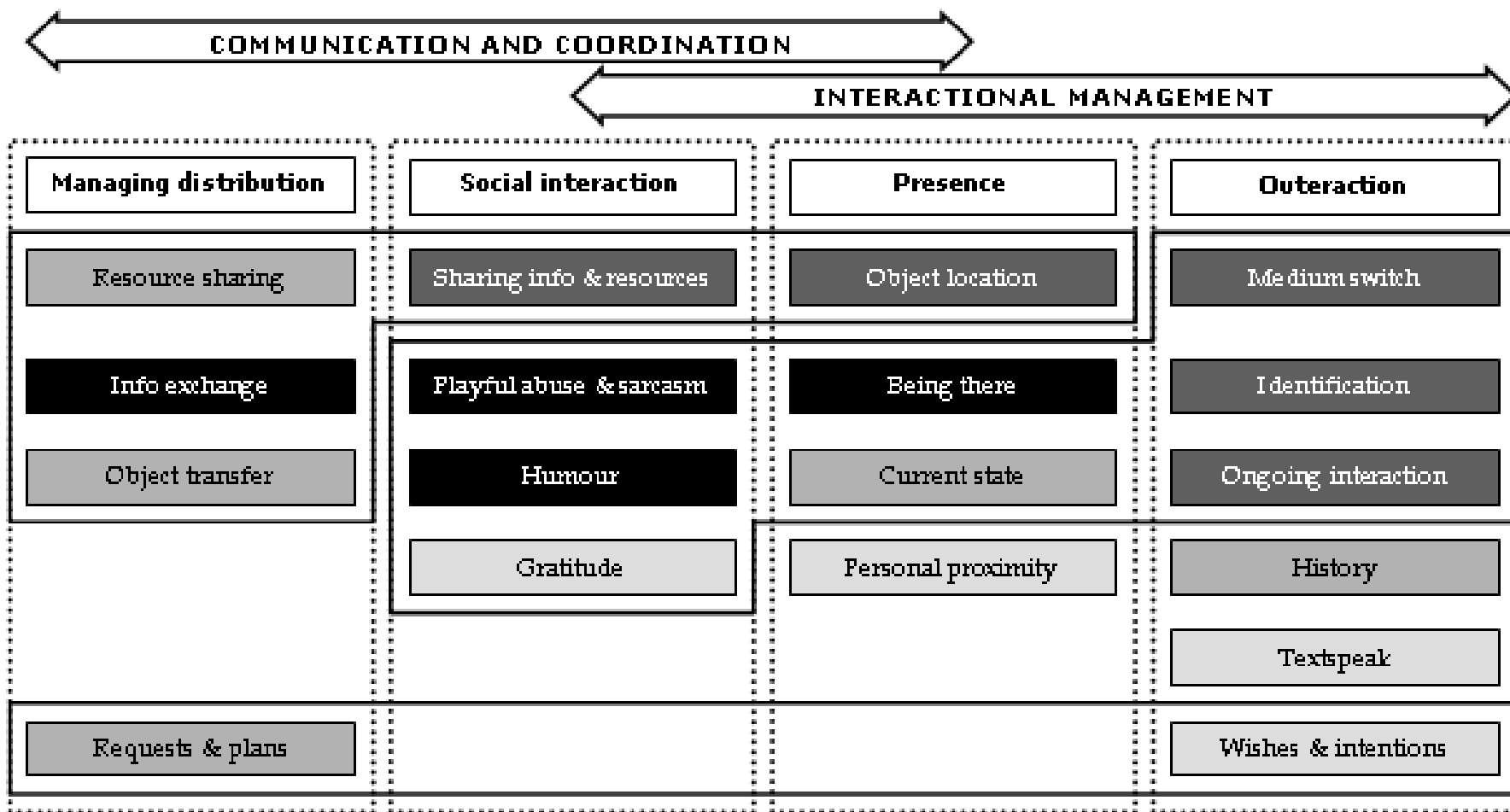
DAY 1:

D.M.C  
R.B  
S.M.C  
W.A  
A.C  
H.H  
M.T

MILK  
Crocey

Note used by staff when  
collecting medication from the

# Themes from analysis



*Number of messages in each sub-category*

18-26

10-17

6-10

1-5



# How do probes work?

- Probes create fragments of what it is to be human:  
*“unless we start to respect the full range of values that make us human, the technologies we build are likely to be dull and uninteresting at best, and de-humanising at worst.”* Bill Gaver
- Probes create uncertainty:  
*“I deeply value the undermining of certainty we achieve with our probes...we actively enjoy confusion and strangeness and most researchers aren’t very comfortable with these qualities.”*
- Probes inform, inspire, engender interpretation and provoke, encourage ‘reflexivity’.

## Need

- Many ALTs for older people have been built on hazy and stereotypical understanding of their complex needs and diverse preferences
- This is particularly true of ALT users from minority ethnic groups

## Dissemination plan will include

- Broad based steering group strongly engaged from the outset
- Strong links with 3<sup>rd</sup> sector / industry
- Series of training workshops for industry aimed at building capacity in co-design for ALT

## Approach

- Build grass-roots partnership between NHS, social care, ALT industry, 3<sup>rd</sup> sector, users and researchers
- Produce rich accounts of 50 use cases (including ethnic minorities) using cultural probes
- Feed these into a co-design process

## Benefits/ Outcomes

- Lived experience and diverse needs of older people will be better understood by those who design ALTs for them
- Benefits of *co-designing* ALTs alongside health/social care microsystems will be demonstrated

# Special thanks to

Mark Rouncefield

Guy Dewsbury

Trish Greenhalgh

Technology Strategy Board Assisted  
Living Innovation Platform

<http://www.innovateuk.org/ourstrategy/innovationplatforms/assistedliving.ashx>