Keeping Individuals Safe and Secure: older peoples’ perspectives on safety and security and the potential of new technology to promote independence

Dr Rachel McCrindle, Senior Lecturer
School of Systems Engineering
University of Reading, UK
Overview of Presentation

• Present results from a study undertaken by the KISS network regarding perceptions of safety & security of older people

• Introduce a sample of the technical innovations being developed in order to help alleviate concerns regarding safety & security
KISS – Keeping Individuals Safe & Secure: Safety and Security for Older People - User Studies

Supported by the New Dynamics of Ageing initiative, a multidisciplinary research programme supported by AHRC, BBSRC, EPSRC, ESRC and MRC.

Dr Rachel McCrindle, Professor Christina Victor, Dr Wendy Martin, Ms Julie Barrett
Significance of safety and security in later life – KISS Network

• Feelings of safety & security seen as central to promoting quality of life, independence and autonomy (World Health Organisation, 2002)

• Predominant research & policy agenda has focused on fears / perceptions of crime either at individual or neighbourhood level; and / or general perceptions of ‘insecurity’

• Limited research into older peoples’ definitions of safety & security, how safety and security issues present themselves in later life, and links to potential technological solutions to ameliorate concerns
Researching safety & security

• 6 focus groups with different profiles:
  – Day Care Centre clients
  – Over 60's Club (urban)
  – Over 60's Club (rural)
  – Visually impaired older people
  – Indian Day Centre clients
  – ‘Volunteer panel’ members

• Ethics approval obtained; interview guide to focus discussion; 7 – 9 participants per group (16 at volunteer panel group); researcher and note taker present; focus groups audio-taped & transcribed in verbatim; thematic analysis of data

• Workshop with ‘volunteer panel’ members at the University of Reading

• Self-completion questionnaires with members of University of Reading ‘volunteer panel’ of older people (N=54)
Safety & security: some concerns identified by older people

- Falling in house 50%
- Falling in garden 46%
- Falling in street 50%
- Leaving house unattended in day 38%
- Leaving house unattended at night 48%
- Being a victim of crime 70%
- Answering door to strangers in day 40%
- Answering door to strangers at night 72%
- ‘Cold’ telephone calls 62%
Four key dimensions associated with safety & security

**Person Specific**
Sense of vulnerabilities; ageing bodies; risk of falls; being alone; interaction with environment; social factors, e.g. gender, chronological age, levels of dependency, social class and ethnicity

**Home**
Sense of insecurity; protecting home against intruders/callers; living alone; potential hazards of indoor environment, e.g. mats, lighting; increased risks associated with some household & gardening tasks

**Other People**
Family; people living in home; neighbours; social networks; friends; risks of crime, uninvited callers, and possible intruders; concerns of others in locality, e.g. groups of young people

**Locality: outside environment**
Waiting for transport; urban / rural; uneven pavements; risks of theft / crime; vandalism/graffiti (visual environment); being safe in car / car parks; lighting; cyclists on pavements
Safety & security – at home (1)

• The home was central to ideas about safety & security – however there was ambiguity about perceptions of being safe and secure within the home.

• Home was seen as a central place in which to feel safe & secure.

• BUT from questionnaires 9% were worried about safety at home during day and 39% at night; also reflected in focus group data.

• Participants therefore actively worked to make home feel safe & secure from possible risks of intrusion / crime and to reduce potential risks of falling.

• Home also construed as a potential environment of high risk.
‘When you’re not worried about being in your own home’
(R2, Rural over 60s focus group)

‘Feeling secure in one’s own home’
(VIP2, Visually impaired focus group)

‘I feel safe and secure, I think it is important to make it difficult for people to get in, and easy for me to get out’
(SC9, Urban over 60s focus group)
Safety & security – at home (3): notions based upon ideas of time

‘Just the very fact of having to think all the time about security. I mean, there was a time when you didn’t have to think about security every time you moved from your home, now you have to, even when you go into your own home you still have to think about security, you shouldn’t have to be like that it’s not normal’

(SC9, Urban over 60s focus group)

‘Yes, as soon as it begins to get dusk, I just think it’s common sense to lock the doors if you’re on your own’

(R1, Rural over 60s focus group)

‘I have had 2 attempted break-ins, I have made it reasonably hard, I have security systems but I worry at night, I lock everything up, but it is more worrying during the day when things are not locked up’

(SC5: Urban over 60s focus group)
Safety & security - home (4): identifying callers

DC1: ‘We’ve got an outer lock on the door, and also each flat’s got a keysafe number pad, can only get in if knows the number – goes up in lift and then keysafe, so carers can get in – they have the number to which is handy if you’re not available to get up’

DC1: ‘Can’t get to mine, use the intercom – if I don’t know them they don’t get in’

DC4: ‘Can peep out the little side window and then I have to say “who is it?” ’

DC2: ‘In an ordinary house I suppose a security chain is best’

(Day Care Centre focus group)
Safety & security – locality (1)

• Participants were concerned about interactions with others in the locality, for example, groups of youths, cyclists on pavements, that may impact on their safety and security

• Differences between urban / rural environments, such as, access to emergency services / other health services; access to shops (all rural participants drove to shops); transport concerns

• Time of day / night significant: more reluctance to go out in the dark / night time

• Limited access to locality by visually impaired and day care centre participants due to concerns about safety going out alone, e.g. falls, limited mobility etc.

• Sense of personal vulnerabilities significant, such as, being alone, risk of falls, hazards on pavements, risk of crime (such as theft)
‘I never go out alone, my daughter won’t let me, because I fell once in the town. A lady called the medics and they came in a couple of minutes and were there, picked me up quick and took me to the hospital – just fell down’

(DC4, day care centre focus group)

‘I don’t, I’ve fallen in Reading a year or two ago, and people passed, one or two came up to me’

(DC7, day care centre focus group)

‘I just go out round the block to keep my moving going, so I have to walk everywhere – I just don’t think about falling or I’d be a nervous wreck’

(DC9, day care centre focus group)
‘I feel I’m quite secure really – I live on my own but I have my neighbours either side of me and I know their phone numbers’
(DC5, day care centre focus group)

‘Just up the road here, on my own, don’t like living alone was an awful blow at first – but I’ve got quite good neighbours if I need them’
(DC6, day care centre focus group)

‘My family is not living nearby. I have got quite good neighbours if I need them. Good neighbours are important to us’
(IC3, Indian Community Centre focus group)
Analysis (1)

- Analysis at early stages: some tentative conclusions
- Differences related to levels of dependency; gender and ethnicity; living alone; social networks; urban / rural; and sense of personal vulnerabilities.
- Interaction of environment / personal / social
- Frequency of possible risks differ, for example, daily (day and night time constructed differently), weekly (shopping, out in local area) or yearly (holiday, annual bill payment)
- Differences between perceptions of safety and security, and actual incidents documented in interviews
Analysis (2)

- To feel safe and secure was, for some, related to a sense of independence and freedom, therefore significant to quality of life.
- Feeling insecure / unsafe impacts significantly on quality of life.
- Social networks were central to perceptions of safety and security.
- Underlying the participant’s discourses was a sense of vulnerability.
- Potential solutions complex, multi-disciplinary - often concerned with social networks, ‘basic’ home security or ‘generic’ solutions such as street lighting - few specific to ‘old age’.
- What technological interventions can bring about a sense of safety and security? What type of technologies can be incorporated into older people’s daily lives?
Next Stage

• Using the results from these studies to inform our research agenda in a collaborative research proposal currently being developed for submission to the New Dynamics of Ageing Programme
Location Based Device for Older People who want to Remain Independent in their Own Home

A research collaboration with Position Systems Limited

Dr Rachel McCrindle, Dr David Oliver, Professor Christina Victor
Location-based Device

• A device that provides location based services for active senior citizens who want to remain independent in their own home

• Features
  – GPS positioning
  – Geofence to send position update
  – Reception of incoming calls
  – Provides status button

• Example scenarios
  – Emergency services dispatch - if a user requires immediate assistance
  – Assisting a lost person – if a person is lost and needs assistance
  – Locating a lost person – if a person become separated from a group
  – Navigation instructions – if a person wants help to find a destination
ENABLE - A wearable system supporting services to *enable* elderly people to live well, independently and at ease

A multidisciplinary EU Framework VI project
13 Partner Organizations from AT, UK, CZ, ES, GR, BE, IE, EST

Dr Rachel McCrindle, Professor Christina Victor, Dr David Oliver, Dr Veronika Williams

http://www.enable-project.eu/
ENABLE

• A project to develop a personal, user-centred system, based upon a mobile phone and a wrist unit, that together will provide a range of services, for use by older persons in or out of their homes

• Innovative use of technology to promote independence based upon existing technologies but which does not require significant alterations & adaptation to homes as with ‘smart home’ technologies. Can also be used outside of the home

• With the mobile phone, user can call for human support:
  – For advice or instructions on what to do
  – To take some action (e.g. send nurse, read a label)

• Some of this support can be automated, using:
  – Display of instructions or pictures, with speech option
  – Analysis of data (e.g. OCR for bar codes, ASR for speech)
  – Remote control of devices (e.g. in smart home)

• The system can decide that a user may need this support:
  – Because sensor data indicates a problem or risk
  – Because it is time to do something

• Because the system is worn/carried at all times, the support is always available, to complement a user’s own capabilities
Simulation of Visual Impairments to Aid Design of Homes, Buildings or Public Spaces

Dr Rachel McCrindle, David Banks, David Kellas, Andrew Manning
Simulation of Visual Impairment
Further Information

• If you would like any further information on any of these projects please tick the relevant box on the form available at the reception desk.

• The form also includes a request for volunteers to help my PhD student, Julie Barrett, develop a useful and easy to use information based web site aimed at older people in the UK.