

Independent Healthy Ageing
Thursday 13 November 2008
Glasgow Royal Concert Hall

**Design, technology and independence:
getting research into policy and practice**

Professor Peter Lansley
Professor of Construction Management,
University of Reading &
Director of SPARC

A voyage of discovery

**“.....but it's what happens
outside of the hospital, clinic and
surgery which is so important to
quality of life - the home, the
street, public buildings,
transport..., consumer products.
Why can't engineers and
designers take a greater interest
....?”**

Conversation with an eminent clinician in 1996

Taking older people seriously?

- Very little investment in research and development concerned with older people
- Over-medicalised, over-socialised and over-intellectualised
- 'Top-down' policy doesn't work
- Government officials neither sufficiently committed nor inquisitive enough
- Too concerned with problems; little imagination in terms of seeking solutions?
- Why not 'bottom-up' - scientists working directly with older people?

Agenda

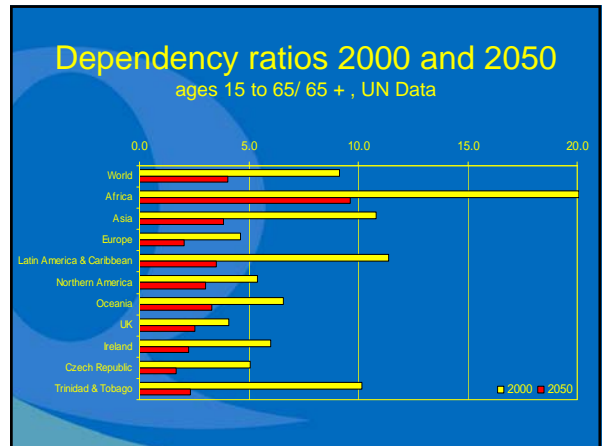
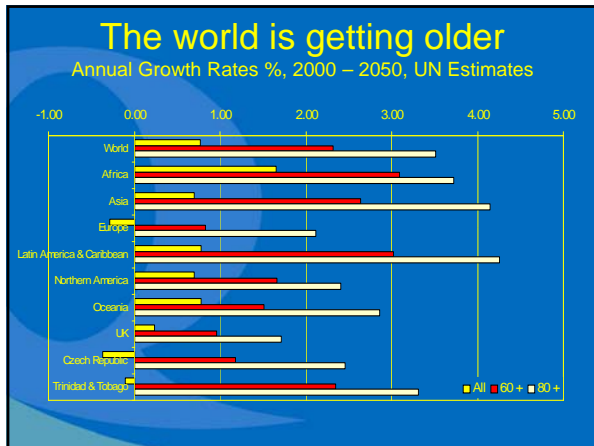
The realities

Challenges

Meeting the challenges

Some examples

The realities



Common conditions affecting people aged over 65

Arthritis	50%
Hypertension and heart disease	30%
Diabetes	11%
Hearing problems	32%
Cataracts and other visual degeneration	26%
Mobility problems	35%
Dementia	5%

Source: Assistive Technology – Independence and Well-being, Audit Commission 2004.

And many older people are disabled

Estimated percentage of disabled men and women and housing tenure, GB 1996/7

	Aged 70-79		Aged 80+	
	Men	Women	Men	Women
All	47%	47%	74%	77%
Social Renting	57%	57%	77%	82%

Source: Disability Follow-Up to 1996/7 Family Resources Survey

- ### The realities
- With age comes frailty, illness and disease
 - Health care resources will be limited and spread amongst more older people
 - Many people want to be independent

The challenges

Physical challenges



- Handicapped and disabled
 - is it the person who is handicapped or disabled
 - or the environment or product which is handicapping or disabling them?
- Dependent
 - why is the individual dependent?
 - Why can't they do the task for themselves?
 - Can't we compensate for physical, sensory, cognitive impairments?

Sensory challenges

Paddington Station - Areas of no definition
Visibility for people with 85 – 100% vision



Signage
Tickets
Departure monitors
Seating
Ladies
Way Out

Work by Dr Hilary Dalke and Dr Geoff Cook

Paddington Station - Areas of good definition
Visibility for VIP's of 85 – 100%



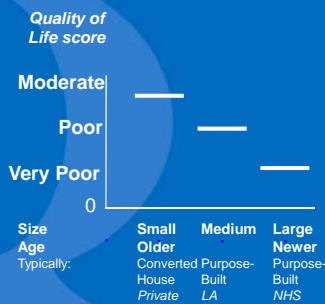
Cognitive challenges

Care Homes from different eras



Work by Judith Bevington & Professor Kevin Morgan

Quality of Life: by type of home



NB Staff Satisfaction scores follow a similar pattern

The engineering solution Designing for inclusion

- Creating Environments, Designing Products.....
 - which can be accessed, used and enjoyed by all people
 - regardless of physical, mental and cognitive ability
 - Inclusive Design
 - Universal Design
 - Design for All.....
- Assistive Technology



Meeting the challenges

EPSRC – 1997 - Engineering and Physical Sciences Research Council EQUAL Initiative

- Built Environment
- Design for All
- Rehabilitation
 - Researchers
 - Intermediate Organisations
 - Interdisciplinary
 - Multi-professional
 - Older People



EQUAL - areas of activity Developing the evidence base



- **Housing**
 - Design, adaptation, smart homes, telecare, independence
- **Accessibility**
 - Urban design, access, navigation systems, wheelchair issues, public transport
- **Design for All**
 - Product and packaging design, ergonomics, aiding designers
- **Hearing, Seeing**
 - Impact of colour & contrast, navigation in urban/complex environments
- **Cognition, Dementia, Learning Disabilities**
 - Stroke rehabilitation, housing for dementia, smart homes, care home design, reminiscence

Making a difference since 1998 Informing public policy

- Improving:
 - Building Regulations
 - British Standards
 - Professional Guidance Documents
 - Expectations
- Supporting those who commission:
 - Buildings and infrastructure
 - Transport systems
 - Consumer products
- Assisting the professions:
 - Design
 - Health
 - Social services
- Aiding policy development:
 - Housing
 - Transport
 - Care....

The Scottish connection

- Some EQUAL examples
- **Professor Catharine Ward Thomson**
 - Edinburgh College of Art
 - Improving the design of the outdoor environment to enhance older people's quality of life
 - Major project also involving Salford and Oxford Brookes Universities
- **Professor Bernie Conway**
 - Strathclyde University
 - Assessing viability of building designs for wheelchair users using VR walkthroughs

The Scottish connection

- More examples
- **Dr Arlene Astell**
 - St Andrews University
 - Supporting communication with dementia patients through technology-assisted reminiscence
 - Assessing nutrition, mental health, physical and cognitive function of those at risk of under-nourishment, and developing interventions
- **Professor Alastair Macdonald**
 - Glasgow School of Art
 - Better data and tools for designers especially to inform better care and rehabilitation
 - Exploiting technologies to prevent malnutrition in older patients




Touchstones for success

- **Bottom-up not top-down**
 - ageing is a new area for research
 - the innovators are at the leading edge of science
 - policy driven approaches fail to spot the opportunities for matching science and the needs of an ageing society
- **Ageing research thrives**
 - when those with knowledge of leading edge of science become engaged with ageing issues
 - when older people, practitioners from all walks of life and researchers get together
 - on grassroots enthusiasm of researchers and their supporters who want to make a difference to the quality of life of older people.



SPARC

For the research community and its supporters in health, social and housing services, charities, voluntary agencies, local and central government, and amongst older and disabled people.....

SPARC - a community-led Initiative

- Focused on:
 - Encouraging new blood
- 2005 – 2008
- EPSRC & BBSRC - £1.6m
 - Design and engineering research
 - Biological research
 - All areas in between
- Three themes
 - Workshops for all comers
 - Advocacy
 - Pump-priming



Workshops

Showcasing research

- **Examples**
 - **Integrating Research on Ageing:** bridging the gap between biology, engineering, design and older people
 - Strathclyde University
 - **Ageing, Dementia and Cognitive Impairment - new perspectives in research, practice and caring**
 - Eli Lilly and Company
 - **Technologies for Health, Rehabilitation and Self Management of Long Term Conditions**
 - Bath Institute for Mechanical Engineering
 - **The Business Case for Ageing Research**
 - Unilever plc
 - **Living with Stroke**
 - Sheffield Hallam University
 - **Design research and its applications for ageing populations**
 - Glasgow School of Art, Yesterday!

Advocacy

Informing public policy

- Making the case that ageing research can and is making a difference
- Lobbying
- Developing a good track record
 - MPs do listen!
 - Two questions in Parliament on, Ageing Research and Older Workers
 - Ministers do listen (but Civil Servants only rarely!)
 - › Royal Patronage
 - › HRH The Princess Royal participated in *Ageing Research and Occupational Therapy: building partnerships, creating opportunities*



Capacity building awards

Developing the evidence base

- Small awards scheme for newcomers to ageing research
- 185 proposals total value £5.7m were considered in Summer 2005 & Spring 2006
- **34 were funded at total value £1.25m**
 - for superior scientific excellence and capacity building
 - for more information see posters and www.sparc.ac.uk




- ## Areas of work
- Furniture Design
 - Adaptations to the Home
 - Product and Packaging Design
 - Older Drivers
 - Transport Planning involving older people
 - Safer Urban Design in depressed areas
 - The Organisation of Clinical Care (hip fracture)
 - The Older Worker
 - Making Computers easier to use
 - Vision & Falls
 - Diet, Exercise, Activity & Falls
 - Cell Ageing
 - Stem Cells etc etc
- SPARC is very broad, it is spread very thinly!


SPARC in Scotland

Examples

Dr Maria Wolters
Edinburgh University



Synthetic speech, eg call centres




Dr Avril Thomson
Strathclyde University




Better designed packaging



Dr Richard Ferguson
Strathclyde University



Exercise, muscle efficiency and effect of temperature

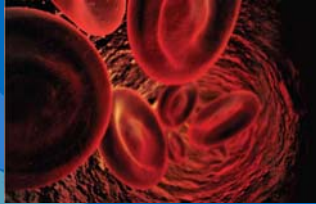




Dr Richard Hartley

Glasgow University

Radicals and the biology of damage to cells, tissues and organs



SPARC

“ Where enthusiastic researchers meet the sharp end of practice and the realities of ageing and disability - the grass roots of living”



2009!

- December 2008 – SPARC ends
- January 2009 – KT-EQUAL begins
 - Workshops
 - Advocacy
 - Seamless transition
 - Even closer to policy makers and practitioners
 - Funded by EPSRC

Next steps

- Scotland is a centre for creative, exciting and valuable ageing research
 - Many young enthusiastic scientists
 - and some mature ones as well
 - They have a lot to offer
 - Your interest and encouragement would be repaid by an even greater commitment to improving the wellbeing and quality of life of older people
- Are you interested in how Scottish scientists really are changing the world in which older people live?
- If you would like to hear directly about their work then please let me know!

The ultimate aim



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www.equal.ac.uk

www.sparc.ac.uk