Enrich Your Future

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This Means...
The Good News about Ageing:
I’m Still Alive!

The Bad News about Ageing:
Can’t Be Long Now!
Age and Sex Specific Mortality Rates for Humans

![Graph showing annual mortality rate per 1000 by age and sex for humans.](image-url)
Increased life spans represent one of humanity’s greatest achievements

For the great majority of the population, health and wellbeing have improved. Illness and death have been postponed through centuries of scientific research, ingenuity and perseverance.
Continuing Revolution in Life Expectancy

Declining early/mid-life mortality  Declining later-life mortality

UN estimate 1980
UN estimate 1990
UN estimate 2000

Oeppen & Vaupel Science 2002
Ageing – Historically a Rarity, Now Routine

1900

2000
Now Living – Formerly Dead
• Increasing life expectancy is an economic good

Longevity has made, and continues to make, an enormously positive contribution to our economy. Older people are contributors and consumers of products and services, adding substantially to economic growth.
Within the US, the economic value of the increase in life span since 1970 is estimated to have been worth $73,000,000,000,000.
Why So Slow?

House of Lords Select Committee on Science and Technology, 2005

“We cannot understand why, with few exceptions, … companies of every size seem unable to recognise the commercial opportunities which are there for the taking.”
Ageing concerns us all

Those who are young today will in time be old. Those who are old were once young.
Each individual has an equal place in our society regardless of age

The blind eye that is so often turned to the scourge of ageism, in its widespread and corrosive forms, can no longer be accepted. Ageism should be outlawed to the same extent as racism, sexism and religious discrimination.
• Much better information about older people is needed

We need to know about the contributions, capabilities, needs and aspirations of older people in their enormous diversity. Older people should neither be marginalised nor treated as a separate category (the elderly) within society.
Factors Influencing Health Trajectories in Old Age

- Genes
- Nutrition
- Lifestyle
- Environment
- Socioeconomic status
- Attitude

These factors and their interactions are being studied in the Newcastle 85+ Study; a 5-year prospective study in more than 1000 individuals born in 1921 of the biological, clinical and psychosocial factors associated with healthy ageing.
No one has perfect medical health at age 85. Yet, 78% rated their health compared with others of the same age as “good” (34%), “very good” (32%) or “excellent” (12%).

Collerton et al British Medical Journal 2009
Disability Burden Among Those Aged 85

A quarter of men and a sixth of women have no important functional limitation at age 85.

Collerton et al *British Medical Journal* 2009
Older people are an under-acknowledged asset

The mental capital and skills of older people should no longer go to waste. Arbitrary ages of compulsory retirement or of exclusion from full participation in any social activity, including education, should in future be abolished.
Foresight Challenge Project: Mental Capital Through Life

Kirkwood et al 2008
• We need to use and expand our scientific knowledge about ageing

Transformational reorganisation and reprioritisation of health research and service provision is needed to take account of new advances in understanding the connections between ageing and health.
What happened? Why??
AGEING PROCESS AND ITS MALLEABILITY

Kirkwood Cell 2005

Age-related Frailty, Disability, and Disease

Accumulation of Cellular Defects

Random Molecular Damage

INFLAMMATION

GOOD LIFESTYLE

GOOD NUTRITION

ANTI-INFLAMM.

STRESS

ENVIRONMENT

BAD NUTRITION
Nutrition and Survival: EPIC-Ageing Study

76,707 men and women aged 60+
No CHD, stroke or cancer at enrolment
Median follow up 89 months (4047 deaths)
Adherence to Mediterranean diet assessed on 10-point scale:
0 (poor)...9 (high)

2 unit increment in ‘Mediterranean-ness’ of diet results in 8% reduction of overall mortality

Trichopoulou A et al. (2005) BMJ 330, 991-997
Exercise significantly improves health across the life course and delays diseases linked with ageing.

“I never thought turning eighty would be so much fun!”
Mechanisms Underlying Age-Related Disease

Accumulation of Molecular and Cellular Damage

Initiating Processes

End-Stage Pathology

Disease A

Disease B

Disease C

Likely Effectiveness of Interventions
• We need urgently to adapt infrastructure for an ageing population

Commitments are needed to begin as soon as possible to adapt national and local infrastructure for transport, housing, and communications to accommodate the changing age structure of our population. This will create major opportunities for industrial growth.

www.ncl.ac.uk/changingage
Making It Happen

■ Stimulating the “user pull”.
  ■ Requires clearer recognition of what might be achieved.
  ■ Requires profound changes in attitude – a belief in, and a belief by, older people that they can cope.

■ Developing the “technology push”
  ■ Requires better understanding of the opportunities to improve healthy ageing.
  ■ Requires better understanding of the challenges faced by older people and of their aspirations.
• VOICE North: the regional research and engagement panel

• Involving the (older) public to help us understand:
  What really matters?
  What might work best?
  How to structure genuine engagement?

• Harnessing the public’s ideas, experience, expectations and aspirations
Case Study - People: Design Network North - Inclusive Outdoor Seating

The needs of the older population are often neglected during the design of products and services.

Design Network North recognised this and set up an exemplar project with Newcastle University focused on street furniture.

£1,000 of ERDF funding was injected into the project and through Changing Age for Business, the design and manufacturing companies involved were able to participate in consultation with:

- Voice North
- academics
- architects
- estate planners

to enable the design to be tailored to the needs of the end users.

The contemporary design has a number of features that make it suitable for use by older people. It is a great example of user driven inclusive design and, as such, is well positioned to address this growing market.

I worked closely with the Institute and Voice North, and began holding consultation sessions with groups of older people who were interested in giving feedback to the project. It has been a rewarding and pleasurable experience. There is certainly a correlation between the amount of consultation and the success.

Jonathan Butters, Butters Innovation.
Barriers to Changing the Status Quo

- Fatalism – “I can’t change it anyway”.
- Negative stereotyping – “Old people are losers”.
- Tunnel vision – “This is how it has to be”.
- Youth bias – “We must invest in the future!”
- Restrictive accounting of costs and benefits – “Why should I pay when it’s not me that benefits?”
- Lack of hard evidence – “I won’t consider it until it’s proved to work”
- Short-term’ism – “I’ll deal with it when I’ve fixed the immediate crisis”.

Age Transitions and their Management

- The moving boundary of old age
- Changing self-image
- Changing health
- Changing attitudes
- Work and beyond
- Education and challenge
- Fighting and accepting functional decline
- Avoiding traps
- Winning the end-game
The Traditional View of Ageing

- The ageing process is biologically determined (we are programmed to die) with an inbuilt limit to lifespan
- The ageing process is one of progressive, irreversible loss of functional capacity and of quality of life
- Ageing is something that only concerns people in the later years of life
- Increasing human longevity threatens to impose an intolerable burden on societies around the world

We are programmed for survival not death.

A New View of Age

- We are programmed for survival not death.
- Ageing is intrinsically malleable
- Ageing is something that only concerns people in the later years of life
- Youth and age are a continuum
- Increasing longevity is a resounding success bringing major opportunities as well as challenges.
Campus for Ageing and Vitality

Newcastle Initiative on Changing Age (www.ncl.ac.uk/changingage)
The Challenge of Living Longer – Waking up to the 29-hour day!

• Each day we have 24 hours for now, and 5 hours for later.

• How good will those 5 hours be when we come to use them?

• Can we make them better?