Longevity in Australia: prospects and implications

Heather Booth
Australian National University

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LONGEVITY IS INCREASING

…and there is no end in sight
Observed maximum female life expectancy

Oeppen and Vaupel (2002)

Japan 2016
87.2 years
How is the linear increase achieved?
How mortality declines

Australian female death rates 1921-2014

The largest decline occurs at different ages at different times.
Changing age pattern of mortality decline maintains increasing life expectancy

How is the linear increase in $e(0)$ achieved?
Changing age pattern due to disease patterns

Warning:

The negative contribution of “mental/nervous system diseases” or dementia is an artefact of data collection.

Nevertheless the graph shows the current contribution of dementia deaths and hence the amount by which life expectancy might be increased if dementia were reduced to zero (about 0.5 year).

Total net increase = 6.1 years

Shows which diseases contributed to the increase in female life expectancy over last 30 years
PROSPECTS FOR LONGEVITY IN AUSTRALIA
Coherent* mortality forecast, Australia 2015-2044


Improving survival: cohort exceeds period

Female born 1945 = aged 65 in 2010

- **Period life expectancy**
  - Expected age at death at age 65
  - $65 + 22.0 = 87.0$

- **Cohort life expectancy**
  - Expected age at death at age 65
  - $65 + 23.8 = 88.8$
Expected age at death for cohorts by age in 2010

Younger cohorts have higher expected age at death
Expected age at death increases with own age

Forecasts by Tickle and Booth (2014)
Modal age at death is increasing: relatively more deaths occur at very old ages

Dying as a nonagenarian becomes more and more ‘certain’

40% of deaths now occur at ages 85+
Greater concentration (compression)

Extension of the lifespan...

Mode moves to older ages
THE PROSPECT OF A CENTURY
At birth:
Females 6 in 100
Males 3 in 100
At birth:
Females 6 in 100
Males 3 in 100

At 80:
Females 8 in 100
Males 4 in 100

At 90:
Females 13 in 100
Males 9 in 100

What are our chances?
At birth:
- Females: 6 in 100
- Males: 3 in 100

At 80:
- Females: 8 in 100
- Males: 4 in 100

At 90:
- Females: 13 in 100
- Males: 9 in 100

At 95:
- Females: 26 in 100
- Males: 21 in 100

At 99:
- Females: 72 in 100
- Males: 69 in 100

What are our chances?
Survival to 100 now depends on oldest ages

What are our chances?

Probability of living to 100 from attained age: cohort born in 1950

Mortality up to age 60 is already too low to make a noticeable difference

This point has to be lowest

This point is fixed

Increase occurs here
Cohort survival to 100
Females born in 2013 have 16% probability
Males born in 2013 have 10% probability
IMPLICATIONS OF INCREASING LONGEVITY
IMPLICATIONS

A LONG RETIREMENT
More people spend longer in retirement

Most people live 20+ years in retirement
Pension age in Australia
On average, ‘we’ can expect more than 20 years in ‘retirement’

After ‘retirement’, females can expect to live 24 years and males 21 years in 2017.

On average, half of us will live longer.

These estimates are conservative: cohort life expectancy is higher.
IMPLICATIONS

GROWING NUMBERS OF CENTENARIANS
Future numbers of centenarians

By 2014:
- Female: 2890
- Male: 610
- Total: 3500

By 2050:
- Female: 39400 (66%)
- Male: 20000 (34%)
- Total: 59400

Forecast number of centenarians (with 80% probability limits)
IMPLICATIONS

AN OLDER POPULATION STRUCTURE
An older population structure is embodied in current mortality

An even older population is embodied in declining mortality

This is independent of the effect of age structure – which is ‘temporary’
IMPLICATIONS

LONGEVITY AND SOCIETY
Health and well-being

• Health needs of very old people
  – Different mix of diseases (dementia)

• Needs of the ‘healthy frail’ and disabled
  – Age-Friendly Cities and Communities: Infrastructure/Health/Social
  – Universal design

• Ageing in the community
  – Independence and social connectedness

• Challenges for society as a whole
IMPLICATIONS

A NEED TO CHANGE ATTITUDES
“See, the problem with doing things to prolong your life ….

….is that all the extra years come at the end, when you’re *old*”
The prospect of a century?

Most people do not want to live to 100

They think of ill-health and disability….

Our ideas of old age are out-dated

- formed in childhood
- not keeping up with ongoing changes…..
- not changing behaviour re longevity
An alternative view…?

An expanded future time perspective

Plan for the century!

...back to the past!