ou and I are gonna live forever", sang Oasis in 1993. Oasis might have been a little over-optimistic, but the overall trends are clear. Over the past 35 years life expectancy at birth in the UK has increased by about six years for women and eight years for men, to 82.7 and 78.9 respectively, according to the ONS. Between 2011 and 2013 the most common age at death for women was 89 and for men 86.

All of which is fairly good news for anyone approaching retirement now if their retirement income is going to meet their needs - but these trends also present huge challenges for policymakers, employers and pension providers. Because the key question is not how long we will live, but how long we will remain in good health. "By 2050 22 per cent of the globe is going to be over the age of 50," says California-based Buck Institute for Research on Ageing CEO and president Brian Kennedy. "That's an economic crisis in the making, because there aren't enough people to afford to pay for the care of older people."

# Variations

The UK is a world leader in researching longevity because of the size of its private sector defined benefit pension scheme liabilities. But even with huge resources dedicated to analysing the avail-

able data, predictions are immensely difficult, dependent on many complex factors, says Continuous Mortality Investigation (CMI) chairman, on behalf of the Institute and Faculty of Actuaries, Tim Gordon.

Some factors clearly have predictable effects, such as national wealth for example, but this depends on the division of wealth. US healthcare spend per capita is twice that in the UK, but average male life expectancy is lower. Other important factors are living

# **≥** Summary

• Over the past 35 years life expectancy at birth in the UK has increased by about six years for women and eight years for men, to 82.7 and 78.9 respectively, according to the ONS. Between 2011 and 2013 the most common age at death for women was 89 and for men 86. Current mortality improvements are at 3% per year, in contrast to the long-term average of less than 1.5%.

• Analysing longevity data is difficult due to its many complex factors, such as the division of national wealth, government policy and trends in personal behaviour. Monitoring improvements in health during later life is still in its infancy.

• Employment into later life will need to be considered as ageing populations will not have enough younger people to care for them. This will blur the line between employment and retirement.

# The science of ageing

# David Adams explores the latest trends and scientific predictions around longevity

standards, government policy (particularly on health) and trends in personal behaviour – stopping smoking, eating healthily, exercising more and so on.

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Longevity also varies by socio-economic group. Gordon speculates that lower socio-economic groups in the UK may catch up with other sectors of the population in future as a consequence of increased spending

on the NHS that began under the Blair and Brown governments, but he thinks longevity variation by socio-economic group is likely to continue.

There are also a few slightly more

unexpected factors in play. For example, mobile phones may be increasing average life expectancy, because you have a better chance of survival if there is a mobile phone in your pocket when you have a heart attack or an accident – you can call 999 more easily.

## **Increasing longevity**

The cumulative impact of these and other factors has been "an unprecedented increase in longevity" in the UK, according to Gordon. "Current mortality improvement levels are 3 per cent per year, in the context of a long-term average of less than 1.5 per cent," he says. "[But] is the current rate of mortality improvement going to tail off to a more typical rate of



improvement?"

Questions around why people age and how long people can expect to live are the focus of Professor Tom Kirkwood's work as Newcastle University's associate dean for ageing. He points to the main reasons why life expectancy has increased over the past 200 years. First, death rates among the young fell as water supplies, sewerage systems and medical advances like vaccination and antibiotics were introduced.

However, the scientific consensus held that even if more people survived into middle or old age there was still a natural limit on how long they could live. So the subsequent decline in death rates among older people seen during the past three decades was a surprise.

"That tells us the ageing process is not as fixed as was popularly supposed," says Kirkwood. Instead, science has now shown that earlier in our evolutionary history, it made no sense for human bodies to invest in genetic traits that strengthened the repair and renewal processes that keep us alive for longer.

According to Kirkwood, animal species that tend to contain long-lived individuals have evolved features that make it less likely they will die when young: such as the ability to fly - think of long-lived birds, or bats, which live much longer than land-based mammals of similar size - or a hard shell. For humans it was the development of the brain, which helped us to harness fire and technology, develop language and cooperate. A bigger brain reduced the risks of earlier death and so increased the genetic value of better body repair processes. This change and the more recent improvements in health and lifestyle mean more of us now reach retirement with less damaged bodies.

## Healthy lives

But will they stay healthy? Ill-health in later life means additional costs for individuals and the state. Even if those costs are met in part by taxes paid by retirees during their working lives, the care bill



for older people will still place heavy costs on those still working. Immigration might help, but whatever the dependency ratio between those working and those in retirement, the situation would clearly be improved if more older people were in good health.

The ultimate goal of the Buck Institute in California is to help people stay healthy for longer. One major problem to be overcome is that although many people understand how to live in a healthier way, many simply choose not to do so. Kennedy wonders if employers will do more than government to change this in future – something that is already happening in the US to some extent, in part because many employers pay for employees' medical insurance.

The process of collecting data that shows what happens to health in later life is still only in its infancy. In north-east England, Kirkwood led the Newcastle 85 + Study, which began in 2006 and examined the health of over 1,000 people born in 1921. It discovered that 75 per cent of participants had four or more age-related illnesses, yet 78 per cent rated their health and quality of life as good, very good or excellent.

One conclusion that could be drawn on the results of this and other research is that health and wellbeing is almost as varied in this age group as in any other. But Kirkwood highlights research from a study in Denmark that suggests increased life expectancy does not necessarily mean this last, low quality stage of life is also extended.

What does seem certain is that most of us will need to work for longer before we retire. "It's great that people can enjoy life after they retire, but we're looking at an economic disaster," says Kennedy. "Society is going to have to change. We're going to have to think about moving people into different types of employment as they get older."

This may mean that the old distinction between a working life and retirement becomes blurred. That could be good news for retirees as well as for employers and the economy, says Kirkwood, noting the widely known phenomenon of people finding their lives lack meaning and purpose after retirement.

Instead, he says, society should continue to benefit from the experience and talents of older people. He was a co-author of a 2008 government report on the value of this 'mental capital' throughout life. Recommendations included training for older people, to "realise the potential value of the aggregate mental capital ... held by older people", as this could "generate new opportunities for taking up business or volunteering roles within society". It also criticised prejudice against older people, stating: "The result of the persistent negative stereotyping of older people is responsible for a massive waste of mental capital in later life."

"We're going to see more people learning new ways to work for longer," says Kirkwood. "That may even extend into the second stage of retirement. I think we will see a change in the nature of retirement."

Written by David Adams, a freelance journalist