

UK Mortality and Longevity Update March 2015

Note: the referenced articles come from a variety of sources in the UK and elsewhere, and I have included them because I think they are interesting. Thanks to all the people who have contributed. If you have any comments or further news, please email me – address at bottom.

Some papers are firewalled, but members of the Institute and Faculty of Actuaries (IFoA) can access many, including those in the North American Actuarial Journal and the Annals of Actuarial Science, via the Athens information portal. Details [here](#).

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1 UK papers, presentations and articles

1.1 Institute and Faculty of Actuaries

[Mortality and Longevity Seminar Jan 2015](#) Presentations on: annuities, the biology of ageing, communicating longevity risk, hot topics, CMI developments.

[Building and communicating 'what-if?' longevity scenarios](#)

[Communicating longevity risk to Life Boards](#)

[Hot topics in mortality & longevity research from around the industry](#)

[Communicating longevity to pension scheme Trustee Boards](#)

[DA - The world of annuities in 2015](#)

[RW - The world of annuities in 2015](#)

[Understanding the Biology of Ageing P1](#)

[Understanding the Biology of Ageing P2](#)

[Latest work from the CMI](#)

Autumn Lecture, London: Carol Jagger - [The Age of Uncertainty: What do we know about Growing Old?](#) Presentation and video available from the hyperlink.

The [Longevity Catalysts Working Party](#) has been set up by the actuarial profession to answer one simple question: "What future events are we aware of today whose occurrence is likely to be coupled with a significant impact on UK longevity?"

Planned new Working Party: [Insuring later life illnesses](#) to look at the nature of illnesses in later life. "With more people surviving conditions like cancer and heart disease typically covered by critical illness policies, more people are living to suffer other illnesses of older age such as dementia that we

know much less about. In fact we expect the prevalence of such diseases to increase significantly in the next 20-30 years.”

Sessional research event Belfast, Jan 2015: [Forecasting death rates using exogenous determinants](#)
Presentation and slides available from the hyperlink.

1.2 Continuous Mortality Investigation; full news [here](#)

Note: details below available to [Authorised Users](#) only.

Mortality projections: [CMI Working paper 74](#) Nov 2014. Accompanies the updated CMI Mortality Projections Model, CMI_2014 and illustrates the impact of incorporating data to 30 September 2014. Includes revised and updated versions of the Model and the User Guide.

Annuitant mortality Proposed graduations of the 2007-2010 annuity data are described in [Working paper 78](#).

Assurances (critical illness and mortality) [CMI Working paper 75](#) Dec 2014. Provides a brief commentary on the all-offices assurances data and experience for the 2007-2010 quadrennium.

Technical [Working paper 77](#) Mar 2015. Report of the Graduation and Modelling Working Party: established to review the CMI’s approach to mortality tables and projections. The CMI is also releasing "beta" software that allows users to investigate various graduation techniques.

1.3 Office for National Statistics

[Mortality in the United Kingdom, 1983-2013](#) Dec 2014

Trends in age-standardised mortality rates in the UK and constituent countries, 1983 to 2013.

[How have mortality rates by age changed over the last 50 years?](#) Oct 2014

Comparison of mortality rates by age and sex in 1963 and 2013

Plus a number of analyses on: alcohol and occupation, suicide and excess winter mortality [here](#).

1.4 Other

[On the decomposition of life expectancy and limits to life](#) Les Mayhew & David Smith

Firewalled: accessible through [Athens](#) for IFoA members

Article by the authors for free pdf download: [A jam-jar model of life expectancy and limits to life](#)

[Waist-to-Height Ratio Is More Predictive of Years of Life Lost than Body Mass Index](#) Ashwell et al.

WtHR is a better predictor of Years of Life Lost than BMI. “Keep your waist circumference to less than half your height”.

Other research news from City University [here](#)

[Misestimation risk: measurement and impact](#) (presentation) Nov 2014 Richards. [Article](#) (P 30 – 32)

["The strange case of Scotland's missing improvements"](#) by Gavin Ritchie
[Weighing the evidence](#). Article. Ritchie. USA predictions of worsening mortality due to obesity have not been fulfilled.

[Simulating future mortality rates for financial work in R](#) by Iain Currie
[Smoothing and forecasting mortality rates](#). Paper. Currie et al
[Forecasting with penalty functions](#). Article. Currie

[The fitting of the CBD M5, M6 and M7 models for mortality forecasting](#) Stephen Richards

[A cardiovascular disease policy model that predicts life expectancy taking into account socioeconomic deprivation](#). Lewsley et al. Scotland.

2 International papers, presentations, articles and websites

[Society of Actuaries Longevity Seminar](#) Feb 2015. A number of papers cover Implications of Longevity Risk, Managing assumptions, Drivers of future mortality, and two sessions on methodology. The [Resource List](#) (downloadable .pdf) is also good.

[Mortality Assumptions and Longevity Risk – implications for Pension Funds and Annuity providers](#). OECD. A wide-ranging international study.

[Global Burden of Diseases, Injuries, and Risk Factors Study 2013](#): Dec 2014
Global, regional, and national age–sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013.
Accessible subject to free registration

[Physical activity and all-cause mortality across levels of overall and abdominal adiposity in European men and women: the European Prospective Investigation into Cancer and Nutrition Study](#)

[Climate Change and Human Health: Emerging threats, adaptation costs and the role of insurance](#)
Tim Taylor, for Geneva Association

DNA methylation age of blood predicts all-cause mortality in later life
[Abstract](#). [Provisional pdf](#). The fully formatted PDF and HTML versions are in production.

[Causes-of-Death Mortality: What Do We Know on their Dependence?](#) Arnold & Sherris

[Industry-specific mortality assumptions can alter pension liabilities](#) USA: Some corporate defined benefit plans would be better served by adopting industry-specific mortality assumptions rather than the new Society of Actuaries mortality tables.

[Genes and their role in aging: Contingencies](#) – USA: "a deeper understanding of the interplay among genetics, disease, and outcomes can help extend human life span"

Website: "[Healthy Life Reports from Japan](#)" – in English

3 Miscellaneous news

The Lancet launched [The Lancet Liver Campaign](#) aiming to change UK government policy and push liver disease to the forefront of the health agenda. [Paper](#) (requires free registration) “Mortality rates have increased 400% since 1970. Liver disease now constitutes the third most common cause of premature death in the UK and the rate of increase of liver disease is substantially higher in the UK than other countries in Western Europe” Might be worth reading with: [Lives lost to alcohol: Does your occupation matter?](#): covering socio-economic and gender inequalities in alcohol-related deaths, from ONS.

A proposal for the new Millennium Development Goals. [Avoiding 40% of the premature deaths in each country, 2010-30: review of national mortality trends to help quantify the UN Sustainable Development Goal for health](#): Proposal for a UN Sustainable Development Goal for 2030: “Avoid in each country 40% of premature deaths ... and improve health care at all ages”

Craig Venter’s [Human Longevity Inc](#) (“our goal is to extend and enhance the healthy, high-performance lifespan and change the face of aging”) signed agreements with [Genentech for Whole Genome Sequencing and Analysis of Samples](#) and with [King's College London to Access Twins UK Registry](#)

4 Upcoming events

[IFoA Health & Care Conference](#) May 2015

[Longevity 11 Sept 2015](#), Lyon France

[Living to 100 Symposium](#) Jan 2017 [call for papers](#)

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This is a note **for** the UK Actuarial profession and others, and **for** the International Actuarial Association (IAA). The last six-monthly report is [here](#)

The most recent UK version of the report **from** the IAAMWG is [here](#)

The web page for the Faculty and Institute of Actuaries Mortality Research Steering Committee is [here](#).

The web page for the IAA Mortality Working Group is [here](#).

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José Mujica on mortality: “Life slips by. The way to prolong it is for others to continue your work.”

.....Repeat of December 2014 information.....

In December 2014 I broke my 6-monthly custom of sending our mortality updates due to the publication of a flush of fascinating papers on mortality and longevity and two sets of symposium papers.

I said I would include them in this report, so in case you missed them, here they are.

1. New papers

What is ageing? Can we delay it?

A new report by the Longevity Science Panel focuses on the biology of ageing and looks in particular at:

- What the key advances have been in the scientific understanding of this topic;
- What the potential might be for new developments such as drug treatments and other interventions to increase lifespan, and
- When we might expect to see any substantial changes in lifespan from these new developments.

[Press release.](#) [Paper.](#)

Health at a Glance: Europe 2014

This third edition of Health at a Glance: Europe presents a set of key indicators related to health status, determinants of health, health care resources and activities, quality of care, access to care, and health expenditure and financing in 35 European countries, including the 28 European Union member states, four candidate countries and three EFTA countries: OECD

[Press release.](#) [Paper.](#)

A variety of other reports, including [Health at a Glance: Asia/Pacific 2014](#), is available [here](#).

Longevity Basis Risk - A Methodology for Assessing Basis Risk

Research investigation and report by Cass Business School and Hymans Robertson LLP for the Institute and Faculty of Actuaries and the Life and Longevity Markets Association: S Haberman, S Baxter et al.

[Press Release.](#) [Paper.](#)

The NAPF and Club Vita have published research which for the first time offers a comprehensive analysis of the difference in life expectancy trends between members of defined benefit pension schemes

[Press Release.](#) [Paper.](#)

2. Symposium outputs

The outputs from the September **International Mortality and Longevity Symposium** in Birmingham are here:

Symposium [publication](#) and [papers and presentations](#) (search down the complete list to: International Mortality and Longevity Symposium 2014)

The monograph of papers from the January **Living to 100 Symposium** in Orlando is available [here](#).