



# CURRENT DEVELOPMENTS IN AGING AND MORTALITY

A JOINT SEMINAR BY THE POPULATION ISSUES WORKING GROUP AND THE MORTALITY  
WORKING GROUP OF THE INTERNATIONAL ACTUARIAL ASSOCIATION (IAA)

## PRESENTATIONS

### Introduction to the Working Groups and Opening Remarks

*Speakers: Assia Billig and Brian Ridsdale*



### Is Longevity Still Improving?

In some countries, recent years of heavier mortality cast doubt on assumptions about future mortality improvements. It's a subject of particular interest to actuaries. What do we know so far?

*Speaker: Brian Ridsdale, Chair, IAA Mortality Working Group  
Retired General Manager, Zurich Life UK; Past Chair CMI*



### Long Term Care

The IAA's Population Issues Working Group has prepared a paper on long-term care addressing care for the oldest segment of the population, which will present huge financial and practical challenges in most countries. It is the result of the aging of the population and will increase to epidemic proportions in the coming decades. The highlights of the paper will be presented.

*Speaker: Sam Gutterman, Co-Vice-Chair, IAA Population Issues Working Group. Retired Director, PricewaterhouseCoopers Chicago, USA*



### Determination of Retirement and Eligibility Ages

Increases in longevity and decreases in fertility combined with low interest rates have put financial pressure on social security programs and pension funds. This has led to consideration of increasing the eligibility age of all retirement income pillars. The effect on individuals, employer sponsored plans, social security programs and the labour market is far reaching.

*Speaker: Martin Stevenson, Vice-Chair, IAA Population Issues Working Group. Consultant, formerly Partner Mercer Australia.*



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## High-age Mortality and Population Heterogeneity – Data, Assumptions and Modelling Issues

The age pattern of mortality at high ages and the “deceleration” phenomenon constitute controversial issues. In this talk, the results of various statistical analyses are first presented and commented. Then, a model-based explanation of the mortality deceleration is discussed, relying on the presence of unobservable heterogeneity factors. Some actuarial implications of heterogeneity and deceleration are finally focussed.

*Speaker: Ermanno Pitacco, Co-Vice-Chair, IAA Mortality Working Group. Professor of Actuarial Mathematics, Faculty of Economics, University of Trieste, Italy*



## International Social Security Association Paper on Demographic Megatrends

We all know that people are – in general – living longer and the world is aging. But by focusing on specific elements of such changes, the ISSA Demographic Megatrends report identifies the 3 key trends that are most likely to impact social security – and society in general – in the decades ahead. The presentation will detail the trends, what social security systems can do to respond and the role that actuaries can and should be playing.

*Speaker: Simon Brimblecombe, Responsible Investment, Actuarial Work and Research at International Social Security Association, Geneva, Switzerland*



## Drivers of Future Mortality

Many actuaries try to predict future mortality using various extrapolation techniques, but they rarely consider the future drivers of mortality. This presentation will provide some preliminary results from a paper being written by an international group of mortality and longevity experts entitled “Long Term Drivers of Future Mortality”.

*Speaker: Al Klein, Co-Vice-Chair, IAA Mortality Working Group  
Principal and consulting actuary, Milliman, Chicago, USA*



## Actuarial Perspectives on Inequality

Inequality can take different shapes and impact different aspects of societies and lives of individuals. This presentation is a preview of the upcoming PIWG paper on actuarial perspective of inequality. It will touch on the implications the trends in inequality have on actuarial work, as well as on what actuaries could do to positively alter future developments.

*Speaker: Assia Billig, Chair – Population Issues Working Group  
Senior Actuary, Office of the Chief Actuary, OSFI-BSIF Canada*



# Current Developments in Aging and Mortality



## International Developments in Actuarial Mortality Research

We have observed different rates of improvement in mortality over different time periods and at different ages, with an uncertain future, leading actuaries to ask how is mortality going to develop in the future. The Institute and Faculty of Actuaries has recently funded two large research programmes that will look at different aspects of this. The directions of these two projects will be discussed ranging from new models for measuring longevity risk through to novel statistical analysis of big health data. The second half of the talk will cover the potential impact of this research on actuarial practice.

*Speaker: Prof Andrew Cairns, Director of the Actuarial Research Centre (ARC), Institute and Faculty of Actuaries (UK)*



## Panel Discussion with Hungarian input provided by Gyula Horváth

Gyula Horváth, Chief Financial Officer, Aegon Hungary  
Past President of the Hungarian Actuarial Society