

**Minutes of the IAA Mortality Task Force Meeting  
May 29 and 30, 2009 – Tallinn, Estonia**

**Members Present**

Martin Stevenson, Chairperson  
William Horbatt, Vice-Chairperson  
Henk van Broekhoven, Vice-Chairperson  
Erik Alm  
John Armstrong  
Chresten Dengsøe  
Paul Lewis  
Helge-Ivar Magnussen  
Mika Mäkinen  
Ksenia Orekhova  
Thierry Poincelin  
Brian Ridsdale  
Tom Terry

**Observers Present**

Peter Akers	Institute of Actuaries of India
Francois Berger	Institut des Actuaire
Rob Brown	Chair, Social Security
Vivian Weis Bryholt	Den Danske Aktuarforening
Dimitry Denisov	Russian Guild of Actuaries
Tereza Jarolímková	Ceská Spolecnost Aktuárù
Pirut Raukour	Eesti Aktuaaride Liit
Tom Ross	Faculty of Actuaries
Brian Valentine	Institute / Faculty of Actuaries
Andrew Young	Institute of Actuaries

**Apologies**

Yoshihiro Takahashi  
Marc Tardif  
Peter Ying

1. The Chairman welcomed all members and observers and in particular the three new members since the last meeting: Ksenia Orekhova from Russia, Thierry Poincelin from France and Thomas Terry from the United States.
2. **Minutes of last meeting**  
The minutes of the previous [meeting in Limassol](#) were accepted.

### 3. Discussion on ICA 2010

Peter Withey addressed the meeting and gave a presentation on the social and scientific program for ICA 2010. He explained that currently papers and presentations from the Mortality Task Force were included in the Life Insurance track on Wednesday March 10.

It was pointed out that the Task Force was likely to have up to ten papers and presentations.

It was agreed that it would be desirable for the Task Force to have perhaps three sessions, with multiple presentations and papers to be included in each session.

**Action plan:** Paul Lewis is to co-ordinate the papers and presentations of the Task Force, and work with Peter Withey to arrange the appropriate sessions at ICA 2010.

### 4. Different mortality databases

Presentations were made on Table Manager (Bill Horbatt), Human Mortality Database (Erik Alm) and CMI Library (see item 13). (A description of the WHO database was deferred until item 12.) The presentations included a description of the databases and commentary on their strengths and weaknesses. Information with respect to Table Manager and the Human Mortality Database was included in the agenda papers.

It was agreed that the topic should be included in the ICA 2010 presentations and that information should be included on the web site.

**Action plan:** Martin Stevenson to co-ordinate presentations at ICA 2010 and entries on the website with respect to different mortality databases.

### 5. An update on an International Comparison Study on Mortality Tables used in Pensions

John Armstrong spoke on this project which is a joint initiative of the IAA Mortality Task Force, Cass Business School and the UK Mortality Research Steering Group. The work is funded by the UK Actuarial Profession.

The aims of the project are to:

- review tables used in the calculation of pension liabilities between countries and based upon this review to compare them with population tables
- understand methodological / data / assumptions differences between tables in different countries
- consider impact of mortality improvements on liabilities
- understand mandated assumptions between relevant regulatory authorities.

The project is an update and extension of the original study published in 2005.

It was agreed that this was an extremely worthwhile project, but some concern was expressed as to whether it would be ready in time for ICA 2010.

**Action plan:** John Armstrong and Brian Ridsdale to keep Paul Lewis informed of progress with the project, and in particular whether a paper was possible in time for ICA 2010.

## 6. Projecting future changes in the level of mortality

Henk van Broekhoven had prepared a [presentation](#) in respect of “Internal models Minimum requirements related to Mortality risk”. The presentation was taken as read.

Henk provided the preliminary results of a survey that he had organised earlier in the year. The survey was sent to IAA member associations, and sought advice on the most recent life expectancy for the general population, and the forecasted period life expectancy at year 2050.

**Action plan:** Henk van Broekhoven to prepare a presentation for ICA 2010 on projecting future changes in mortality risks, emphasising his view that statistical methods should be supplemented by environmental factors such as medical developments.

## 7. Cause of death and demographic stratification

Brian Ridsdale led a discussion on his two “work in progress” papers: Mortality by Cause and Mortality by social and demographic stratification. The paper on “cause” covered the issues:

- Sources of data for analysis
- Understanding the past
- Underlying causes
- Mortality modelling by cause
- Projections of mortality by cause.

The social and demographic stratification paper dealt with:

- Sources of data for analysis
- National and international comparisons
- Application in practice on pensions or life company data.

The Task Force was very appreciative of the work carried out to date by Brian. It was noted that there was considerable overlap between the two topics, and there could be merit in combining them.

**Action Plan:** Brian Ridsdale to prepare a combined paper for ICA 2010.

## 8. Pandemics

The Chair commented that, following the outbreak of Influenza A (H1N1), Mika Mäkinen had produced in a very short period of time, a quality paper giving a comprehensive overview of pandemics, including the potential implications for insurance business together with an update of the progress on H1N1. This paper was included on the IAA website and was thus available to all member associations and actuaries globally.

Mika then provided a [presentation](#) on pandemics. An interesting point that was highlighted in the presentation was the marked similarities between the effects of a severe pandemic and the effect of the recent global financial crisis.

Brian Ridsdale commented that it would be interesting to also cover the possible impact of pandemics on very long-term future mortality.

**Action Plan:** Mika Mäkinen to make presentations (and papers?) at ICA 2010 about pandemics generally and about influenza A (H1N1) in particular. Reference to HIV/AIDS should also be included in the paper/presentation.

## 9. Uncertainty

Chresten Densgøe provided a comprehensive [presentation](#) on *Uncertainty of Mortality Projections*. The presentation dealt with both mathematical theory and the results of an actual study covering 18 countries. The study included sources of uncertainty, uncertainty accumulation under random walk structure and incoherent versus coherent mortality projections. A theme of the presentation is that whilst it is understandable for there to be differences in base mortality rates for different countries, one would expect future trends in mortality of developed countries to be similar.

**Action Plan:** Chresten Densgøe to prepare a paper on Uncertainty for ICA 2010.

## 10. Data availability

Paul Lewis spoke to his paper on data availability (paper included in the agenda material). The project is open ended in nature. The totality of tasks is:

- Identify databases of mortality data in the various countries
- For those countries where high quality databases do not exist identify the steps to be taken or obtain the data and/or make meaningful estimates of mortality rates.

The study identified 55 countries with high quality data available and 105 countries with no data available.

The Chairman advised that the World Bank had posed a problem to IAA representatives : how to measure mortality in isolated regions of developing countries. The study was needed because, without reliable statistics, microinsurance product providers were charging a high premium. It was suggested that the Task Force could assist with a pilot study, utilising expertise of the Task Force with World Bank resources.

**Action Plans:** Paul Lewis to prepare a presentation for ICA 2010 on data availability. Martin Stevenson to contact Craig Thorburn of the World Bank re a pilot study of regional mortality.

## 11. Continuous Mortality Investigation (CMI) Tables Program and Library of Mortality Projections

Brian Ridsdale spoke to two presentations in respect of the [CMI Tables Program](#) and the [CMI Library of Mortality Projections](#).

The CMI Tables Program (STP) is a computer package which includes all of the CMI tables of mortality and morbidity and mortality projections published up to August 2006.

The tables include life insurance and pension scheme data, with functionality of mortality functions, commutation functions and single and joint life monetary functions.

The CMI Library of Mortality projections consists of existing projections (“92” Series, Cohort Projections, ONS), variations on existing projections (e.g., cohort and minimum) and examples of P-spline and Lee-Carter projections. The Library is intended to be a single source of “recognised” projections, and to standardise terminology. The projections are not intended to offer guidance on choice of projection.

## **12. Gender difference**

Erik Alm provided an informative and entertaining [presentation](#) on gender neutral mortality rates. The presentation covered the EU Directive 2004 / 113 / EC Article 5, statistics about the difference between male and female mortality and morbidity, an analysis of the reasons why such differences exist and practical implications for life insurers.

*Action Plan:* Erik Alm to present at ICA 2010 on gender differences.

## **13. Society of Actuaries International Experience Study**

Bill Horbatt updated the Task Force on the work being carried out in respect of the SoA International Experience Study. A copy of the presentation is available here. Bill’s [presentation](#) covered the history of the Study, its finances and results from projects in Argentina, the Caribbean, the Philippines, Poland and Vietnam.

*Action Plan:* Bill Horbatt to produce a paper or presentation for ICA 2010.

## **14. Supranational organisations**

Helge-Ivar Magnussen had presented to IOPS (International Organisation of Pension Supervisors) on the work of the Task Force. A copy of his presentation was included in the agenda material.

## **15. Task Force on a more permanent basis**

The Chairman advised that the IAA Executive Committee considered that the Task Force should operate on a more permanent basis rather than the short-term existence implied by the title “Task Force”. Possibilities include becoming a Working Group or a Section. Whilst this is being sorted out the brochure is on hold.

*Action Plan:* Martin Stevenson to work with the Executive Committee to formulate proposals for a new governance structure.

## **16. Website**

Martin Stevenson, Brian Ridsdale and Bill Horbatt discussed with Christian Levac the Task Force’s requirements in respect of the web site. The email exchange in the Appendix summarises the position reached.

*Action Plan:* Martin Stevenson, Brian Ridsdale and Bill Horbatt to continue to work with Christian Levac on web site development.

**17. Mortality related financial instruments**

Marc Tardif had forwarded a [presentation](#) on Mortality Financial Instruments, but could not attend the meeting in person.

The presentation was discussed and the view was expressed that it would be desirable for Marc to make a presentation in person.

*Action Plan:* Discussions to be held with Marc Tardif to determine if a paper or presentation on mortality related financial instruments could be made at ICA 2010.

**18. Any other business**

An observer, Rob Brown, noted that University students may be able to assist the Task Force in mortality projects.

**19. Next meeting**

The next meeting will be held in Hyderabad, India, in conjunction with the IAA Committee Meetings 12 - 15 November 2009.

## Appendix

Email exchange re website requirements

From: Christian Levac

Sent: Wednesday, 24 June 2009 4:15 AM

To: Brian Ridsdale; Stevenson, Martin; Bill Horbatt

Subject: IAA Mortality Working Group Micro-Website

Brian,

I will provide comments based on your numbering below.

1. We have a new IAA website design coming and I am intending on providing quick access to portions of our site of particular interest, such as for Mortality, Microinsurance, and some other key topics of interest.
  - a. The website address is fixed because that's how our site is programmed, however, I could create an alias which would allow you to access the page with a shorter link, such as [www.actuaries.org/Mortality/](http://www.actuaries.org/Mortality/) (this could be used for outside, but when you used this link, it would bring you to the long page link)
  - b. This can be programmed in our search engine and I can take care of this immediately.
  - c. Unless you pay for advertising on Google, you cannot guarantee that you'll come up on the top of the list, and Google uses many factors in order to determine search ranking. I can try implementing some hidden words embedded on the mortality page to help with our rankings, but I cannot guarantee results here.
- 2-3. When we have our new site launched (in the next month or so), I can work with you to add any other items that you wish to have. However, we have to remember that the Mortality Task Force falls within the IAA structure and we must place within this structure on our website. The IAA has almost two dozen committees, subcommittees and task forces. We have created one hierarchical site structure for these with information that is common amongst all of them (approved Terms of References, Minutes, Agendas, etc.). If you wish to any new pages, you can identify the subject headings that you wish to have and the content to fill those pages and we'll be happy to include on the website. However, I cannot create a specifically designed website just for Mortality, as I am sure other IAA entities would asking for the same.
4. ???
5. Not sure how this can be possible. Documents that are posted on our site don't change URLs.
6. Agreed.

Regards,

Christian Levac

Manager, IT and Member Services/

Chef, Informatique et services aux membres

From: Brian Ridsdale  
Sent: June 20, 2009 12:58 PM  
To: Martin Stevenson (Stevenson, Martin); Bill Horbatt; Christian Levac  
Subject: IAA Mortality Working Group Micro-Website

Martin, Bill and Christian

Here are my notes from our meeting to discuss how we would best set up a micro-website for the IAA Mortality Working Group, within the IAA website.

The micro-website will be the primary front-end in support of the IAA Mortality Task Force's vision: "Wherever insights are required in respect of mortality and trends in mortality, the body of knowledge produced by the IAA Mortality Task Force is sought for its valued and authoritative coverage".

It will need to contain the usual materials for a Task Force, including Agendas, Members, Minutes, and Terms of Reference, and a Documents and Links Section. (These are already being set up by the IAA).

In the criteria below for "papers" read also "and data bases".

To support the use of our microsite as a reference site, the additional criteria that we are seeking are:

1. The microsite should be easy to find
  - a. Directly: an easier website address than [http://www.actuaries.org/index.cfm?LANG=EN&DSP=CTTEES\\_TFM&ACT=INDEX](http://www.actuaries.org/index.cfm?LANG=EN&DSP=CTTEES_TFM&ACT=INDEX).  
How about <http://www.actuaries.org/IAAMort> ?
  - b. Comes up first in searches for relevant subject on the actuaries.org website
  - c. Comes near the top in Google searches on relevant subjects
2. It should be easy to navigate around,
  - a. For mortality specialists
  - b. For actuaries who are not mortality specialists
  - c. For others
3. It should have an interesting and attractive "front end" and an overall structure that makes sense
4. Subject area "front pages" should make it easy to navigate, and should attract Google searches
5. Individual papers by members of the group should also have simple (and unchanging) web addresses, so they can be referenced in other papers: e.g. <http://www.actuaries.org/IAAMort/Paper4011>
6. Important papers by non-members of the group should be accessible from our site:
  - a. Sometimes, with permission, the papers might be included in our site
  - b. Otherwise, we should have a summary page that hyperlinks to the paper.

Christian pointed out that one of the ways in which Google prominence can be promoted is by ensuring that the appropriate keywords and links are made, and also that papers (which may be pdf) should be introduced by a summary page.

Brian