



INTERNATIONAL ACTUARIAL ASSOCIATION
Mortality Working Group (MWG) November 19-21, 2016
Westin Hotel, Cape Town

Minutes

Present:

Paul Lewis – Chairperson	Mika Makinen
Al Klein – Co Vice chairperson	Ksenia Novikova
Brian Ridsdale – Co Vice chairperson	Hans Michael Overgaard
Morteza Aalabaf-Sabaghi	Ermanno Pitacco
Ayse Arik	Lars Pralle
Assia Billig	Adam Reese
Hans de Mik	Michael Sherris
Michael Eves	Eduardo Trigo Martinez
Sam Gutterman	Henk van Broekhoven
Bill Horbatt	Hiroshi Yamazaki
Darko Medev	

Observers:

Stuart Leckie	Actuarial Society of Hong Kong
Jari Niittuinperä	Suomen Aktuaariyhdistys
Phil Simpson	Association of Consulting Actuaries
Leza Wells	Actuarial Society of South Africa
Lindsey Mansfield	Actuarial Society of South Africa
Zvikomborero Chirema	Actuarial Society of South Africa
Ted Goldman	American Academy of Actuaries
Thierry Poincelin	Institut de Actuarais France
DQQA Svendsen	Den Norske Aktuarforening

Guest speakers:

Emile Stipp, John O'Brien, Ronald Richman

The Chairman welcomed all members and observers present. The meeting included two sessions, held over two days, with a combined length of 7.5 hours. The Chairman also welcomed Leza Wells from South Africa, who was observing the meeting, and will be replacing Paul Lewis as the ASSA representative after the Cape Town meetings, and Lindsey Mansfield, who sat in on the meeting to take the minutes.

1. Minutes of the prior meeting, new members, retiring members, and brief introduction by all members, fields of interest

The Chairman discussed the minutes of the previous meeting. No changes to the minutes were necessary and they were taken as read and correct, and a true reflection of the meeting.

The speaker discussed the committee membership, and mentioned the retiring members;

- Martin Stevenson from Australia

- Paul Lewis from South Africa
- Dieter Gaubatz from USA

And the new members;

- Farid Flici - Algeria
- Ibrahim Muhanna – Lebanon
- Dmitry Pomazkin – Russia
- Michael Sherris – Australia
- Leza Wells – South Africa

It was also noted that Brian Ridsdale will take over the position as Chairman of the MWG, and Al Klein and Ermanno Pitacco will be the Vice-chairs.

2. IAA MWG - (a) what it means to be a member; (b) Budgets and MWG Working Plan - Part 1

The Chairman gave a brief overview of the history of the MWG. Member attendance of these meetings, as well as active participation in these meeting was addressed. In particular, the Chairman noted that prompt replies to MWG emails were crucial for the working of the MWG between meetings.

The Chairman presented a spreadsheet database of the MWG. The database sets out the membership of the working group and the tasks allocated to members. In the future, the database will be used to identify whether members are participating in the MWG actively enough, and to assign tasks to members who are less actively engaged in the MWG.

It was noted that several members have not provided their details for the database, and should do so in the next couple of weeks.

Actions: PL to send out database to the MWG email

3. Ongoing Project 1: Insured / population / annuity mortality

The Chairman noted that no progress had been made on this project since the St Petersburg meetings. He deferred to the future Chairman, and the Issues Advisory Group, as to whether the MWG should proceed with this project.

There is mixed opinion on this project, with some members feeling that this is an important topic that is worth pursuing further, and some members unclear on the intended outcome of the project.

4. [Ongoing Project 2: Long term drivers of mortality](#)

Al Klein pointed out that significant progress was being made. There are 10 members working on this project, with preliminary results expected in January 2017.

The work currently breaks down 11 key drivers of mortality, and the idea is to broadly describe these drivers. There is no plan to explicitly model these drivers.

The entire project is expected to conclude in 2017.

5. [Ongoing Project 3: Mortality improvement at older ages](#)

Sam Gutterman noted that this project was particularly challenging. This was partly due to the lack of credible data at older ages.

Results were shown for mortality improvements for army veterans from the US. It was noted that there may be an element of selection in the dataset because this population may be healthier than the general population due to the fact that they were in the army.

Sam also noted that they have access to the surviving spouse's data, but this has not been analysed as yet.

There was no overall conclusion for this project as yet but there was a big differential between male and female improvements, and the rate of improvement definitely seems to be slowing down for very older ages.

Finally, Sam illustrated some mortality improvement results for Japan, Sweden and Canada.

It was agreed that it would be worth continuing with the project, with more feedback requested for the Budapest meeting.

6. **Ongoing Project 4: Old age mortality**

Al Klein noted that this work was expected to be completed in 2017. It will be presented as a research paper and will describe the calculation methodology for old age mortality as well as older age mortality rates for several countries.

7. **Discussion on Ongoing projects**

Members gave feedback on further ideas that could improve current projects.

Mortality improvement at older ages

It was noted that work still needed to be done for the surviving spouses of army veterans. The project owner would like to include social security information into the analysis as well. Some members also showed an interest to include mortality improvements for other countries as well.

Other

Members discussed whether there should be focussed resources on a few tasks or a greater spread of tasks amongst members. It was also acknowledged that it may be desirable to produce research papers, where possible.

There was also a reminder that the research papers should usually be reviewed and approved by the Scientific Committee.

8. [Mortality improvement in Turkey](#)

Ayse Arik highlighted the methodology and results of research done on the Turkish population. A research paper was completed and further details can be found in the attachment to the minutes.

The paper will be converted into a Country Report, in the standard template.

9. Buffer

Henk van Broekhoven gave short feedback on his contribution, on behalf of the MWG, to a paper on International Capital Standards. A flat 0.75% mortality improvement was used, which is a simplistic adjustment, but an improvement on the previous methodology.

10. Break

11. [Website overview, feedback from the Editorial Committee](#)

Brian Ridsdale noted that it was the group's responsibility to ensure that the information base is up to date. At a previous meeting, a database was set up for reviewing papers, but this has not been actively used, and hence will be decommissioned.

Brian also discussed the handover of projects due to four members leaving the working group:

- Brian Ridsdale volunteered to take over Overview
- Adam Reese volunteered to take over Health Longevity
- Darko Medved volunteered to take over Social and Demographics
- The final topic "Other sources of information" is still to be handed over

Brian asked if members are willing to continue with their current projects, and all present confirmed that they are willing.

12. [IAA MWG Marketing sub-committee](#)

Ksenia Novikova provided an overview of the current resources that the MWG has, why the group exists and how to use the resources from a marketing perspective.

The working group material is translated in several languages.

A survey was conducted based on the material provided by the MWG. The survey asked about the usefulness of the MWG material.

There were only nine responses, one of which had a blank response.

Ksenia then discussed the website visits statistics. It was noted that there was a growing interest in the website. The bulk of the visits are from English speaking countries.

Next Steps

The speaker would like the following to be taken on going forward:

- Wider distribution of material to other IAA actuarial associations
- Promote MWG activities within IAA
- Promote marketing driving force for the MWG
- Look back at the survey to see what to do to encourage participation
- Embed the next survey into the summary so it can more easily be completed

The Chair asked for two volunteers to join the marketing sub-group; Leza Wells and Michael Eves volunteered to join the committee.

13. [New mortality forecasts in the Netherlands](#)

Has de Mik presented on the Actuarial Society of Netherlands' new model for Dutch mortality. The report is updated every two years. The model uses data from countries in Europe with above average GDP to inform the Dutch mortality basis. Further details can be found in the attachments to the minutes.

Some members raised concerns over the following:

- Whether the model could project any trends in future
- Variable definitions may converge over a long enough period. This could give the false indication of a trend.

14. [The impact of Climate Change on mortality](#)

Farid Flici was unable to attend the meeting, and hence the feedback on Algerian mortality was postponed to the Budapest meeting.

Sam Gutterman gave some feedback from the Resources and Environment Working Group. This project is still a work in progress. It is, however, expected to be a lengthy report and will be completed in the first half of 2017. Sam mentioned that the effects of climate change on mortality are very dependent on region and income levels.

Further details of the presentation are attached to the minutes.

15. [USA feedback](#)

Al Klein gave a comprehensive overview of recent industry mortality research and meetings in the USA. There are a number of activities which were addressed. Further details can be found in the attachment to the minutes.

16. [UK feedback presentation](#)

Brian Ridsdale gave feedback on mortality research in the UK, as well as on the recent Mortality and Longevity symposium. ([UK update paper](#))

The UK is reviewing the current industry mortality projection model.

Brian discussed the results of anti-biotic resistance research. It is expected that anti-biotic resistance will be one of the leading causes of death by the year 2050. This problem is made worse by the fact that new anti-biotic drugs are slow to emerge.

Results of *life expectancy* and *cognitive impairment free life expectancy* were presented.

Standardised mortality trends from the CMI were discussed. Brian noted that there may be a problem with the projection method due to the projected improvements being higher than the observed improvements.

In the UK, there are currently three ongoing multi-disciplinary research projects in mortality, and the SOA and CIA are participating in one. The Institute and Faculty of Actuaries wants to take a global view of the main issues in actuarial science and related disciplines and is keen to collaborate with other actuarial associations on any research projects.

17. Promoting the HMD

Brian Ridsdale and Al Klein gave feedback on the Human Mortality Database. It was noted that our interaction with the HMD is one of our recent success factors, with IFoA, the SOA, and the CIA now providing some funding to the HMD. User Groups may be a key to providing feedback and gaining support.

Members of the Mortality Working Group are encouraged to seek support from their associations for the HMD.

18. Buffer

19. Meeting ended at 12:40

20. County reports

Hans Michael Overgaard, Ermanno Pitacco and Hiroshi Yamazaki gave country reports on [Norway](#), [Italy](#) and [Japan](#) respectively.

New and current Research

Life table K2013 has been developed by Finance Norway written by life insurers and pension funds. This table is currently being monitored against observed mortality.

Italy in 2012 shifted from a 10-year census system to a continuous census system. Ermanno pointed out that validation procedures on this new system will be required.

In Japan all insurance companies must accumulate Standard Liability Reserves. Standard Mortality Table 2007 adopted in 2006 is used as basis for calculating standard valuation since April 2007 and Mortality Subcommittee annually reviews its adequacy in this regard and reports to the FSA.

Country Backgrounds

Similar to all countries is the rising life expectancy particularly in younger age groups with Japan experiencing record high expectancies as recorded on July 27 2016 by Japan's MHLW.

Italy has pension mortality investigations analysed by an Italian Actuarial professional body working group with aim of constructing mortality tables grouped by private, public and self-employment. Pension mortality projections to 2040 have been published. Italy also has Annuitants mortality tables – Tables A1900-2020 and Tables A62.

Japan has increasing new policies and policies in force since 2008 most notably in the medical insurance sector.

Hiroshi pointed out that there are new mortality tables that are currently being discussed and will have a report on them for the next meeting.

21. [Population Issues Working Group](#)

Assia Billig and Sam Gutterman gave some brief feedback on the PIWG and suggested that a volunteer from the working Group was required for the Inequality Project.

22. Scientific Committee

Paul Lewis gave brief feedback from the Scientific Committee outlining the Committees' objectives. The committee now has six working groups namely the Mortality, Population Issues, Resource and Environment, Microinsurance, Big Data and Banking. Big Data and Banking are new working groups.

Paul pointed out that each working group will have a point person on the Scientific Committee, with Martin Stevenson playing that role for the MWG.

23. Guest speaker – Emile Stipp, ASSA and Discovery Life

Emile Stipp, a guest-speaker from Discovery Insurance Company in South Africa gave a presentation [on the impact of wellness programmes on mortality and morbidity](#), using a longitudinal analysis.

Discovery has a wellness programme which incentivises its members to be healthy by offering them meaningful rewards if they do certain things like going to an exercise facility and purchasing healthy foods. This has led to benefits arising from age selection, initial engagement selection and behavioural change.

Using Big Data analysis, Discovery came to the conclusion that incentives lead to positive behavioural changes in members and decrease mortality and morbidity rates especially if there is a high level of engagement and lengthy duration in the program.

Concern was raised on the profitability of the program if meaningful rewards are administered like 50% discounts on plane tickets. Emile responded that initially an aggressive approach was taken to give meaningful rewards but as time progressed adjustments were made but on the overall the benefits from the selection and behavioural effects have resulted in excellent results with profits from the program.

An issue was raised on how fraudulent behaviour was handled like claiming for rewards without engaging in the fitness activities. Emile responded that surprisingly a low percentage of only 2% of the members have been estimated to engage in fraudulent behaviour and they are penalised by disabling their access to any other Discovery benefits.

24. Guest Speaker – John O’Brien, Gen Re CMO

Dr John O’Brien gave a [presentation on E-cigarettes](#) and their potential impacts on mortality.

He started with a brief history on traditional cigarettes, their addictive nature, health impacts and the size of the tobacco industry in various countries and pointed out that lung cancer caused from smoking is the leading cause of cancerous death in women contrary to the popular myth that it is breast cancer.

The E-cigarettes industry is rapidly expanding and is estimated to be \$10 billion by 2017. Despite this growth the largest clinical trial on E-cigarettes carried out in New Zealand showed no evidence of E-cigarettes reducing traditional smoking behaviours.

Dr O’Brien concluded that E-cigarettes are less harmful than traditional smoking but do pose extra risks like mechanical malfunctions leading to explosions of the device but noted that these risks are very small. Also of concern are the numerous toxic chemical compounds found in e-cigarettes which are not in traditional cigarettes; Dr O’Brien pointed out that these are in very small quantities which do not pose a significant amount of risk.

25. Buffer

26. Break

27. Issues Advisory Group

Al Klein summarised the ongoing tasks, and the MWG agreed that, besides the E-cigarette paper, and providing a volunteer for the Inequality project (Henk van Broekhoven), no new projects would be added.

A proposal was forwarded that a group had to be formed to work on an E-cigarette paper publication and this was approved. Al Klein, Sam Gutterman and Ewa Dylewska will be part of the group. The primary goal of this paper would likely be the considerations, regulations, etc regarding e-cigarettes in multiple countries. One thing to consider in this research is what actuaries can add to the currently available science. It was also discussed to expand the research to how specific countries are addressing marijuana. Sam Gutterman agreed to chair this research, but only after he finished several other research projects. This project should start sometime in 2017, but possibly not before the Budapest meeting.

28. Guest speaker – Ronald Richman

Ronald Richman presented on his masters research on [old age mortality in South Africa](#) and how to get meaningful results from the poor and little amount of population data available at these ages by reconstructing population data from death data. The presentation highlighted techniques that can be used to estimate exposure, using known deaths, and how to correct of deaths lumped by date.

29. Geneva

Brian Ridsdale gave a brief feedback on behalf of Lars Pralle on the Geneva discussion forum.

30. Future Seminars

A CEPAR Longevity Research Seminar is being held in Sydney on 15 February 2017
The Living to 100 seminar will take place in Orlando, Florida from 4 to 6 January 2017

31. IAA – what it means to be a member

Paul Lewis gave a brief summary on what it means to be a member, and highlighted that responding to emails and contributing to sub-committees is crucial if the MWG is going to continue to improve.

32. Welcome to the new Chair

Paul Lewis introduced the new Chair, Brian Ridsdale and Brian reviewed what had been achieved so far and introduced a discussion on What's Next?

- Building on the Legacy - the MWG has achieved much:
 - In Research; with Information Base Subjects, Papers and Presentations
 - In Dissemination; with Updates in 10 languages, Minutes and papers, the Information Base and with Seminars in IAA host countries

- Regular progress was requested on researches being carried out by working groups
- Scientific Committee was keen that the MWG should focus on publications delivery
- The MWG will focus on Marketing its work to the wider member base
- and on involving other countries where there is a substantial actuarial presence
- Brian would ask members to consider what *they* would like to see coming out of the MWG

Brian thanked Paul on behalf of the MWG members for the work he had put in to building up the MWG and in making the work enjoyable. Each member had added his own thanks and best wishes to Paul.

32. Buffer

33. End

Actions and other points to note arising from the meetings

- Members who haven't replied with details on the MWG database to do so by **9 December 2016**
- Leza Wells and Michael Eves to join the Marketing Sub-committee
- Decide whether to continue with Project 1 – Insured / annuitant / population mortality
- Continue to make progress on Projects 2, 3 and 4
- Begin work on the E-cigarette project
- Convert Turkey research report into Country Report template
- Brian Ridsdale volunteered to take over Overview
- Adam Reese volunteered to take over Health Longevity
- Darko Medved volunteered to take over Social and Demographics
- “Other sources of information” is still to be handed over
- Members to approach their associations re funding for HMD
- Get membership for India, Brazil, Mexico, France, China
- Create seminar for Budapest with PIWG

Speakers, Presentations and Papers that are hyperlinked to the minutes above

- **Al Klein** – [MWG Long Term Drivers of Future Mortality Update](#) (Item 4)
- **Sam Gutterman** - [Mortality Improvement at Older Ages](#) (Item 5)
- **Ayse Arik** - [Mortality Improvement in Turkey](#) (Item 8)
- **Brian Ridsdale** - [MWP Editorial Committee Report](#) (Item 11)
- **Ksenia Novikova** - [Marketing of MWG](#) (Item 12)
- **Has de Mik** - [New Mortality Forecast Netherlands](#) (Item 13)
- **Sam Gutterman** - [Longevity: The 2016 Dark Side](#) (Item 14)
- **Al Klein** - [MWG US Research](#) (Item 15)
- **Brian Ridsdale** - UK Update - [Presentation](#) and [Paper](#) (Item 16)
- **Hans Michael Overgaard** - [Country Report Norway](#) (Item 20a)
- **Hiroshi Yamazaki** - [Country Report Japan](#) (Item 20b)

- **Ermanno Pitacco** - [Country Report Italy](#) (Item 20c)
- **Assia Billig and Sam Gutterman** - [ASSA REWG Mortality and Climate Change](#) (Item 21)
- **Emile Stipp** - [Engagement Import on Health and Mortality](#) (Item 23)
- **John O'Brien, Gen Re COM** – [E-Cigarette](#) (Item 24)
- **Ronald Richman** - [South African Old Age Mortality](#) (Item 28)