



SOCIETY OF ACTUARIES

**A World of Mortality Issues and Insights Seminar  
May 23, 2012**

**Session 6 – What Have We Learned from  
Pandemics and What Does the Future Hold?**

**Presenter**

Mika Makinen, FASF (IAA MWG)



FINNISH MUTUAL INSURANCE COMPANY  
FOR PHARMACEUTICAL INJURY INDEMNITIES

# What have we learned from Pandemics and what does the future hold?

A World of Mortality Issues and Insights  
23 May 2012, Los Angeles

Mika Mäkinen



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## Pandemic Mortality

- Definition (...one of those):
  - Caused by earlier unknown source (virus)
  - Cause serious illness
  - Spread easily
- Worldwide





## History of Pandemics...

- 41 B.C. – earliest description by Titus Livius of Rome
- 1379 'mysterious influence of the heavens'
- 1510, 1580, 1732, 1761, 1781, 1830, 1847
- 1889-1891 Russian Fever
- 1918-1919 Spanish Flu
- 1957 Asian flu
- 1968 Hong Kong flu
- 2009 'Swine flu' A(H1N1)2009



## Pandemic - World has changed during decades

- Population growth
  - Population density
  - Social inequality
- Spread speed
- Capability to make medicines





## Pandemic – effects to insurance companies

- Insurance risks
  - Mortality rates
  - Reinsurance, risk transfer
  - Short-term effect
- Investment risks
- Operative risks
- Long-term effects



## Current situation of pandemics

- Who's Influenza Pandemic metric
  - Spring 2009 Pandemic Period started
  - 10.8.2010 Post-Pandemic period started
- Can there be time when there is no risk of any outbreak?





## What we have learned from A(H1N1)2009?

- Spread very fast
- Milder than first news expected
- Medicines took about 6 months to made mass use



## Experience from use of vaccines

- Before AH1N1(2009) common belief was that medicines mass production will take half year after viruses dna is known
- Everything went like planned, it took about half year to get vaccine to mass production but...





## Experience from use of vaccines

- ...time to make vaccine was short and there was not so much to test vaccine.
- Pandemrix vaccine has caused some problems in some countries
  - Narcolepsy



## Potential future pandemics...

When, Where to start, What kind of...

...No answers...





## Potential future pandemics...

...BUT it is very probable that

- Next pandemic will be caused by animal virus
- It will start from the areas, where population density is high and where people live near home animals
- It will hit harder to those areas where standard of living is lower

