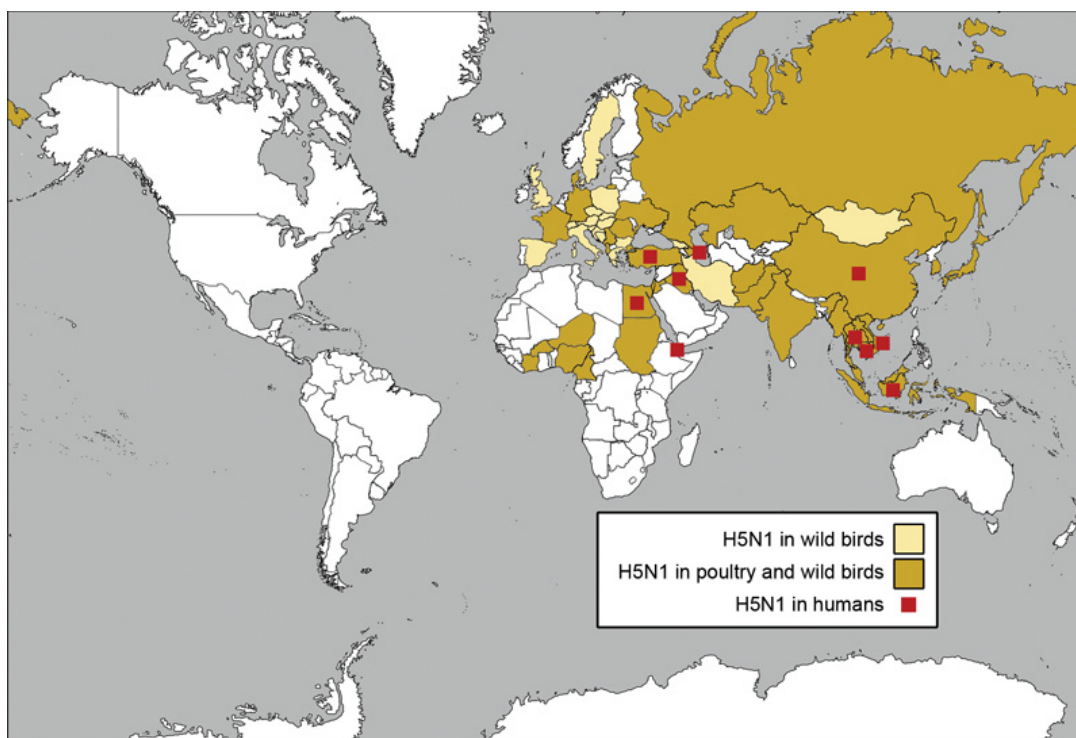


Bird, flu – Osterich or Chicken Little?

Implications of Pandemic for Non Life Insurers and Reinsurers

For several months now it has been pretty much impossible to pick up a newspaper or to turn on the television without been confronted with something to do with Avian Influenza. The world is watching the spread of the H5N1 virus in birds from Asia to Africa and Europe, and counting the tally of human infections and deaths (see Figure 1). The American and Australian continents are keeping their fingers crossed. The whole world is anxiously holding its breath lest a mutation or recombination of the virus renders it transmissible from human to human, marking the time when the world will really need to hold its breath.

Figure 1. Nations With Confirmed Cases H5N1 Avian Influenza (July 7, 2006).
US Dept of Health and Human Services <http://www.pandemicflu.gov>



In the meantime, much of what is written and broadcast regarding bird ‘flu contains more questions than answers. Clearly there are many unknowns surrounding this issue: for instance, will it or when will it reach North America or Australia, how deadly will it be once it becomes human to human transmissible, how long will it last, how much will it cost etc.. These questions are there because we all, quite naturally, want to know what is going to happen but the simple fact is that no one knows what will happen. Indeed, depending on your vested interest it is possible to find a credible scientific view to support that position.

This uncertainty leads to varying groups of observers ranging from the head in the sand position at one extreme to the sky is falling view at the other. The 28th March 2006 (Japanese) edition of the International Herald Tribune ran the front-page headline, “The response to bird flu: Too much or not enough?”, under which there were two pieces one entitled “From the front line , a sceptical doctor” and the other, “UN flu chief stands by dire warnings”. Neither of the

two extremes are particularly useful positions but amongst all the unanswered questions there are some things that we do know for sure.

We know that pandemics do happen. They tend to reoccur once every 40 years and it has been 37 years since the last major pandemic, the Hong Kong Flu outbreak of 1968 – 1969, which caused an estimated 4,000,000 deaths. The Asian Flu outbreak of 1957 - 1958 (an avian/human hybrid virus) also caused an estimated 4,000,000 deaths. The infamous Spanish Influenza outbreak of 1918 - 1919, an avian virus, accounted for somewhere between 30 and 50 million deaths.

We also know that pandemics have a wide range of impacts on our daily lives, on our businesses and on the economy at large. We only have to go back to 2003 to see the last example of this when SARS, a relatively minor event by comparison, caused estimated economic damage of US\$ 60 billion. SARS infected a total of only 8,000 people killing around 10% of that number. Whilst this is of no consolation to the victims and their families, SARS was a small disease outbreak.

Whilst no one can definitively say today whether we are on the brink of a major pandemic caused by the H5N1 virus, it is clear that the possibility does exist. Therefore ignoring that possibility is not the most prudent path to take, and considering that these are events with a shorter return period some of the natural peril exposures that concern insurers, reinsurers, regulators and rating agencies, we should maintain a perpetual state of preparedness.

When considering the implications of pandemic for insurers and reinsurers, it is useful to consider various different effects. These can be categorised into three groups:

1. Operational risks
2. Asset risks
3. Insurance liability risks

Operational Risk

Insurers and reinsurers will not be alone in the facing operational risks that a pandemic will present. Industries and organisations of all types will be confronted with similar issues. To gain an understanding of the type of operational challenges that business will face it is informative to study the contingency and management plans that various governments around the world have established (See figure 2).

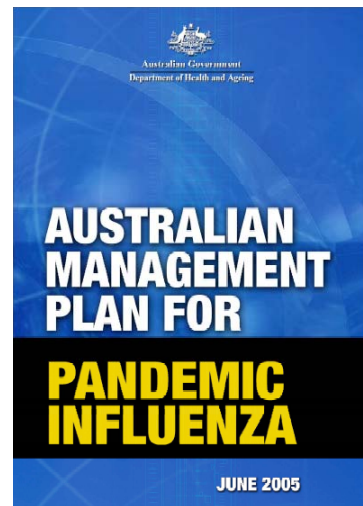
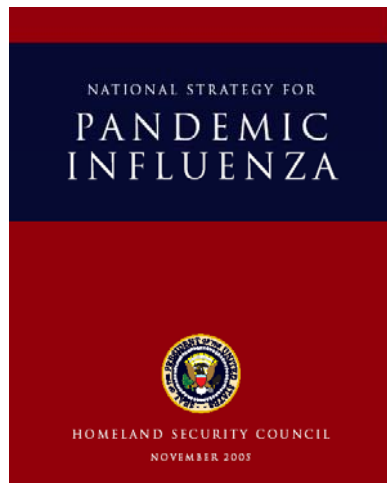
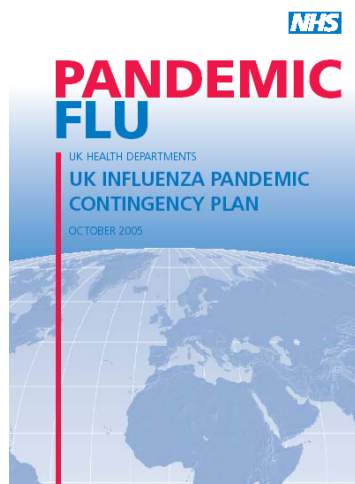
These plans, generally speaking, give background information on historical pandemics and current situation with regard to H5N1, which government departments will be responsible for doing what during a pandemic, who will receive the limited supplies of anti-virals and vaccines (essential workers, health care workers, politicians) and what government actions will be taken at varying stages of a pandemic. The Australian Department of Health and Ageing management plan for pandemic influenza sets out six global phases of a pandemic ranging from animal phases to major human pandemic, with increasingly serious phases in between.

For each phase, the plan sets out the actions that the government will consider taking. Examples of these are, in ascending level of pandemic:

- "implement specific transport / export restrictions related to species of animal and animal products"
- "consider implementation of mass quarantine measures at international borders"
- "as appropriate, implement travel advisories, precautions and restrictions"
- "internal regional quarantine measures (e.g. isolation of a town or region)"
- "measures to increase social distance (e.g. school and work closures, limiting mass gatherings)."

It is clear that in the event of a major pandemic, our daily routines could be severely impaired and this would present businesses with significant operational challenges.

Figure 2. US, UK and Australian governmental pandemic contingency and management plans.



During a pandemic, we can expect travel and contact restrictions, quarantine orders, public authority ordered closures meaning denial of access to workplaces, a reduction in availability of public transport, and large scale employee absenteeism.

The Lowy Institute, a Sydney based independent international policy think tank, published in February 2006 a detailed analysis entitled "Global Macroeconomic Consequences of Pandemic Influenza". In this study an attack rate of up to 30% is predicted i.e. up to 30% of the population will become infected (note, this is not the predicted death rate).

Operations of all natures will find their ability to conduct their day-to-day business activities severely curtailed. On top of employee absenteeism directly caused by infection, businesses should anticipate other employees will need to stay at home to take care of family members, and furthermore large numbers of employees may simply be unwilling to travel to work and mix with potential carriers in the workplace. Indeed, during the SARS outbreak there was an understandable lack of willingness to conduct business meetings and to travel for business.

In Hong Kong during SARS, HSBC split its bond traders into two office locations and instructed personnel in each not to socialise with colleagues at the other site. As part of its business continuity planning for bird 'flu, HSBC has planned multiple locations. Having experienced SARS, businesses in Asia generally have a greater level of business continuity planning with specific regard to bird 'flu when compared to elsewhere, but truly prepared businesses are still in the minority. Deloitte and Touché released a report in January 2006 for which 100 executives in the US were surveyed. The findings included that two-thirds said that their companies were not adequately prepared for bird flu, and that most had no one specifically in charge of such a plan.

As well as hygiene measures such as the provision of face-masks, hand wipes etc., business continuity plans should anticipate employee demands for home working, large scale absenteeism, supply chain disruption, reduced public transport and ability to travel, a reduction in public services, and for large corporations, increased community demands to provide assistance to local communities. The latter could be particularly true for providers of financial services such as banks and insurers.

Insurers and reinsurers, along with all industries and public sector entities should ensure that their business continuity plans take the possibility of pandemic into full consideration. In their report dated 27th March 2006, "Bird Flu – Will It Ruffle The Industry's Feathers?", Fitch commented that weaknesses in an insurer's business continuity plan could potentially have rating consequences.

Asset Risk

The Lowy Institute analysis referred to above modelled the economic consequences of four levels of pandemic, and assessed the impact on a range of indicators, in aggregate for the world and individually for around 20 countries and territories. The analysis, which was calibrated using experience from SARS, predicts that a mild scenario would cause 20,000 deaths in the US and an "ultra" pandemic would increase this number to over 2,000,000, or 0.7% of the US population (see Figure 3). In terms of global impact, the mild scenario is estimated to cost the world 1,400,000 lives and 0.8% of GDP, or lost economic output of US\$ 330 billion. The extreme ultra scenario increases these figures to global GDP loss of 12.6% or US\$ 4.4 trillion and 142 million deaths.

Figure 3. Deaths in percent of population and GDP loss in mild and ultra pandemic scenarios, Lowy Institute, Global Macroeconomic Consequences of Pandemic Influenza, February 2006.

	Mild Scenario		Ultra Scenario	
	Deaths % pop.	GDP Loss %	Deaths % pop.	GDP Loss %
USA	0.007%	-0.6%	0.70%	-5.5%
Japan	0.017%	-1.0%	1.68%	-15.8%
UK	0.013%	-0.7%	1.28%	-11.1%
Europe	0.010%	-0.7%	1.00%	-8.0%
Canada	0.010%	-0.7%	0.99%	-5.7%
Australia	0.011%	-0.8%	1.09%	-10.6%
New Zealand	0.013%	-1.4%	1.31%	-17.7%
Indonesia	0.054%	-0.9%	5.39%	-18.0%
Malaysia	0.045%	-0.8%	4.48%	-16.3%
Philippines	0.052%	-1.5%	5.20%	-37.8%
Singapore	0.035%	-0.9%	3.46%	-21.7%
Thailand	0.026%	-0.5%	2.63%	-10.3%
China	0.022%	-0.7%	2.22%	-9.1%
India	0.023%	-0.6%	2.31%	-9.3%
Taiwan	0.025%	-0.8%	2.48%	-13.8%
Korea	0.025%	-0.9%	2.47%	-15.1%
Hong Kong	0.024%	-1.2%	2.42%	-53.5%

The impact on asset value of such events where businesses and economies are not able to function in their usual manner is a huge, complex and critical topic. In this short article we cannot do it justice, but clearly for any entity where asset values are of importance this is a risk that needs to be managed. No doubt insurance risk carriers, their regulators and rating agencies are all paying attention to this. For insurers, alongside the potential effect on asset values, attention should be given to reinsurer creditworthiness: how able will reinsurers be to weather the impact of a pandemic, especially those weakened by the events of the last few years?

Insurance Liability Risk

Is this another Y2K? No. Comparisons with Y2K and the view that pandemic is another non-event are misguided. It is true to say that the H5N1 might not turn out to be the next big one – no one knows for sure (although the balance of scientific view is that it is likely to be behind the next pandemic), but that does not imply that pandemic as a peril is of no concern. As previously mentioned, one of the things that we do know is that pandemics happen. We also do know what happens during a pandemic because it has happened before on a regular basis. We also know that disease outbreaks give rise to insurance claims, both life and non-life. This was most recently demonstrated during SARS. So, pandemic is not like Y2K because a) we know that pandemics happen b) we know they cause insurance claims and c) we cannot prevent pandemics by amending computer code.

In the Fitch report referred to above, it is commented that non-life insurers' exposure is likely to be limited when compared to that of life insurers. There is of course no question that life insurers do face a large potential exposure but the exposure to non-life insurers should not be overlooked. The Fitch remark is rather surprising given the extent of non-life claims generated during SARS. Indeed, S&P issued a report in November 2005 that suggested multiple insurance lines would be hit with worldwide losses in the range of US\$71.4 billion to US\$ 200bn. S&P also remarked that business interruption insurers would be particularly badly affected.

S&P's remarks are more consistent with actual the experience from SARS. Aside from life, health and accident claims, substantial claims in the non-life arena were incurred. The largest categories were Workers Compensation and Business Interruption. Depending on the local workers compensation legislation, we can expect to see a repeat of the Hong Kong SARS experience. Infected medical workers in Hong Kong, some of whom died, working in SARS isolation wards had a legitimate right to compensation as they could reasonably establish that they contracted in the disease in the course of their employment. With around 370 infected medical workers, SARS presented the Heath Authority's insurers and their reinsurers with a significant accumulation exposure. There was also a lively debate regarding how many occurrences took place from a reinsurance perspective, revolving around whether there was one sudden and identifiable event (i.e. the outbreak) or whether each worker contracting the disease represented a separate event, or whether "clusters" of infectious were separate events.

Workers compensation exposures are likely to be restricted to categories of workers that are reasonably able to demonstrate that the disease was contracted in the course of their employment. Medical workers, aircrew, and poultry farm workers are in that category. Office and factory workers are unlikely to have a successful claim unless their employer was shown to have failed to take reasonable care. Failing that, it would be difficult to establish that an infection was a result of the workplace as opposed to the environment in general.

Before returning to business interruption, it is interesting to consider which other classes of non-life insurance could have exposure to disease.

- Cargo: it is easy to construct scenarios involving shiploads of cargo rejected at ports, perishable goods in warehouses and so on. However, it is likely that these exposures will cease after an initial round of claims as government restrictions on exports from infected areas come into effect.
- General Third Party Liability: organisations that are in a position of responsibility and that have a duty of care could have an elevated exposure to negligence suits if they fail to follow governmentally imposed sanitation and quarantine measures.
- Products liability: manufactures of equipment designed to prevent the spread of disease e.g. masks, protective clothing etc.
- D&O: failure of businesses to implement effective business continuity plans could leave shareholders looking to recover their financial losses.

- Property: employee absenteeism could leave regular risk management and loss prevention processes unattended to, creating an enhanced exposure to regular perils. It is also likely that sooner or later insureds will seek to establish that an infected premises and associated decontamination costs constitute physical damage.

Whilst the types of exposures listed above may not represent a catastrophic accumulation potential, in the event of a major pandemic the cumulative impact on loss ratios should not be ignored.

In some markets business interruption does stand out as the largest and most obvious accumulation exposure. Generally speaking, in order for there to be a successful business interruption claim, there first needs to be a insured physical damage claim. However, in various markets around the world (and typically those that have policy wordings that have been influenced by UK market practice), specific business interruption disease extensions are often granted that specifically waive the physical damage proviso. Details of these extensions can be found in Witherby's "Business Interruption Insurance: Law and Practice".

An example of such a wording reads as follows:

"Loss as insured by the policy resulting from interruption of or interference with the Business directly or indirectly arising from Infectious or contagious disease manifested by any person whilst at the Premises [or] The outbreak of a notifiable human infectious or contagious disease occurring within 40 kilometres of the Premises shall be deemed to be loss resulting from Damage to property used by the Insured at the Premises."

In this example there are two possible triggers: the manifestation of disease by a person on-site, and secondly, the outbreak of a disease within 40 kilometres of the premises. It was the latter that caused significant successful business interruption claims arising out of SARS. In the Insurance Day article of 25th November, 2005, written by representatives of the law firm Barlow Lyde and Gilbert, "Avian flu – is the market prepared?" it was reported that the Mandarin Oriental Hotel Group's insurers settled their business interruption claim for US\$ 16m. The same article noted that "there were sizeable claims made on life, health, travel, contingency and business interruption insurers, who provided "notifiable disease" extensions. It is interesting to consider that the business interruption claims that were paid in Hong Kong as a result of SARS were made by businesses that were still fully operational and that had no public authority restrictions imposed upon them.

There are variations on the business interruption trigger under disease extensions, ranging from on-site manifestation to the 40 kilometre radius type on the one hand, and either with or without the requirement for public authority ordered closure on the other. The tightest trigger combination would require on site manifestation and public authority ordered closure.

In addition to type of trigger, insurers who issue such extensions would need to consider:

- Time excesses
- Indemnity periods
- Level of sub-limits
- Possible stacking of sub-limits with other policy extensions and endorsements e.g. denial of access, customer and suppliers extensions etc

It is also worth considering that unlike a natural peril such as windstorm or earthquake that impacts a limited geographic area, a pandemic represents an accumulation potential that extends to wherever policies have been issued. Similar to the Hong Kong SARS / workers compensation experience, it can be foreseen that the possibility for discussion regarding the definition of “event” exists.

In the face of a major pandemic, one can question why business interruption disease extensions are in existence. These covers were originally intended to provide the hospitality trade with a limited amount of cover should their businesses be briefly interrupted due to disease (as well as various other triggers). When these clauses were originally drafted, it is likely that major pandemic scenarios were not contemplated.

Accumulation of Risks Categories

In conclusion, we can not ignore the risks that insurers and reinsurers face in the event of a pandemic, but keeping a balanced view is the most constructive position to take. Insurance risk carriers, along with businesses of all nature, will face a considerable operational impact in the event of a major pandemic, and that operational impact will have financial implications resulting from either the inability to conduct business or the increased cost of conducting business. This will be compounded with the general economic slowdown, but it is difficult to gauge in advance how deep the effect of that will be. Insurers and reinsurers also need to be prepared for impaired asset values, and as well as their own operational risks, insurers and reinsurers will bear at least some of the costs of the operational risk of other industries that have been transferred by way of business interruption and other non-life insurance coverages. Insurance risk carriers are in a unique position in having this accumulation of risk categories arising out of pandemic and therefore need to be especially prepared. Our customers, shareholders and employees all share the reasonable expectation for us to be prepared, and regulators and rating agencies will demand that we are.