

Avian Flu Update with Underwriting and Business Continuity Considerations

Introduction

A pandemic – whether caused by the current avian flu strain H5N1 or by some other flu virus down the road – is of great potential importance to the business community as well as to us as individuals. As such, Munich American Reassurance Company included the following commentary in our Life Underwriting Manual updates “What’s New” column during 2005. We also feel it appropriate to share this information (with some updates) with clients and friends outside of the Underwriting arena, hoping to provide you with some background on the topic of pandemic flu, a brief update on the current situation with avian flu and some thoughts on business continuity planning.

An influenza pandemic results when a readily transmissible **new or not recently experienced** strain of influenza virus appears (“emerges”) within the human population, causing serious illness and, ultimately, achieving global dissemination. Pandemics differ from usual seasonal outbreaks or “epidemics” of influenza (the common “flu”) which are caused by subtypes of influenza viruses that are not new to human populations. Past influenza pandemics have led to high levels of illness, death, social disruption and economic loss. Several years ago, a new influenza virus principally affecting birds, influenza A subtype H5N1, was discovered in Southeast Asia. This “avian flu” virus has been in the news as a potential agent that could cause a pandemic if it were to acquire the ability for easy transmission among humans.

Background Information

The current virus of concern, H5N1, is an avian flu virus, which appears highly virulent to humans who become infected.

H5N1 originated in Southeast Asia and cases of human infection have been concentrated there. However, birds carrying the virus have also already been found on the European continent and there is concern that more and more human infections will occur as H5N1 becomes more commonplace around the globe. Destruction of flocks of suspected infected birds is one measure being utilized in efforts to limit the spread of this virus among not only bird populations but other animals as well.

The number of H5N1 human infections as of January 2006 has exceeded 160. The majority of those infected were persons directly involved in the occupational handling of birds or had otherwise close contact with infected birds. About 50% of those infected, often previously healthy, have died, usually from an overwhelming viral pneumonia or the complications thereof. Up until recently, all human H5N1 deaths had occurred in Asian countries. Recent deaths in Turkey (January 2006) marked the first deaths recorded from avian flu on the European continent.

To put the virulence of H5N1 viral infection in perspective, the death rate for our usual seasonal flu (which typically infects 5-20% of the US population from year to year) is less than 1% of those infected - with the related deaths concentrated primarily among the frail and elderly. The H1N1 flu of 1918, on the other hand, had a reported death rate of 2.5% but it rapidly spread from person to person, infecting a large percentage of the world population.

The relative virulence and widespread number of infections accounted for the historic morbidity and mortality recorded with the 1918 viral pandemic.

So far, easy transmission of bird flu from human to human, a key component of a pandemic, has not been documented. There have been a limited number of presumed person-to-person transmissions recorded but thus far these have been isolated events involving the infection of an immediate family member who had closely cared for a person who had acquired the infection from a known avian source. Effective infection control and quarantine measures have limited further spread among family members and health care workers in these cases to date.

A great fear has been and remains that avian H5N1 will acquire the genetic ability, either by random mutation or genetic reassortment with a human flu virus, to become readily transmissible from human-to-human as is common with conventional human flu viruses. Flu virus spread among humans is most commonly via aerosolized respiratory tract secretions or direct bodily contact between infected and uninfected individuals. The more avian H5N1 virus propagates, of course, the higher is the statistical likelihood that a mutation or mutations of this key nature might occur, making it a serious threat to humans.

What to Expect with H5N1 Remains Uncertain

In 1918, the first few cases of H1N1 flu surfaced in the US at Fort Riley, Kansas in March. US monthly mortality figures started to increase significantly shortly thereafter. The most dramatic peak in US monthly mortality statistics for this outbreak occurred in October 1918, several months after the initial cases were reported. The monthly death rates declined thereafter with a second lesser peak of increased mortality occurring about six months later reflecting a second wave of infections, which is also a characteristic of most pandemics.

Within and beyond the US borders, the worldwide course of the 1918 pandemic was greatly influenced by conditions and events surrounding WWI, in particular the amassing and movement of large numbers of troops, both nationally and internationally.

In contrast to 1918, the realities of today's jet travel-oriented economies and more open borders make very rapid global spread highly likely if H5N1 becomes readily transmissible from human to human. If introduced into the US, spread would likely occur in short order (measured in days or weeks rather than months) and could prove exceedingly difficult to limit via conventional quarantine measures. Pre- or post-exposure treatment effectiveness (including that of Tamiflu), at this point, remains uncertain. Adequate availability of antivirals for affected populations appears potentially problematic as well (supply, system capacity and cost issues). Depending on its course and severity, a widespread outbreak in the US could, at its worst, effectively overwhelm the health care system, deplete reserves of key medical supplies and contribute greatly to an economic downturn which might include the collapse of many economies around the globe.

Some possible mitigating circumstances in the US might include:

1. A sophisticated surveillance (CDC, etc) system and an advanced health care network that is on alert for possible outbreaks.

2. Wider availability than in most countries of prophylactic or pre-exposure antiviral therapies (Tamiflu, etc.), anti-viral therapies to treat post-exposure or acutely ill persons, and broad-spectrum antibiotics to treat secondary bacterial infections, which commonly occur with flu.
3. An older population in US which have likely had remote prior exposure(s) to milder, similar strains of flu which *might* afford some protection against H5N1 infection or reduce its severity in those persons. The outbreak in 1918 had a higher fatality rate among some adolescent and young adult groups than among some middle-aged groups, it is thought, for this reason. (On the other side of the same coin, today's much larger older population could mean more persons at high risk of bad outcome if such partial immunity is lacking as some postulate.)
4. A population with a significant proportion of individuals who have had annual flu shots which might afford some protection against H5N1 infection or reduce its severity in those persons. This remains an unknown.
5. Vaccines currently in development *might* be ready for deployment by the time H5N1 or a similar agent arrives in pandemic form.
6. The actual pandemic strain *might* prove less virulent in general than the known cases in Southeast Asia to date.

Worker Availability Challenges with Major Outbreak

Should a pandemic of H5N1 or a similar viral agent occur, many persons in the US workforce could become ill or be affected in a way that could impact their workplace availability and/or performance.

The usual flu season in the northern hemisphere is typically November through March. Outbreaks of flu are possible at other times of the year but occur less commonly. A pandemic of a new virus strain could come at any time of the year. Appearance of characteristic symptoms and severity thereof might be the first clues to public health officials that H5N1 is the causative agent of an illness. There are serological tests available whereby health professionals can confirm in a matter of days which flu strain is involved.

Of those infected with H5N1, individual survival and duration of illness variables would include: attack rate (one CDC study estimated a 25% attack rate), relative virulence of the strain involved, age, pre-morbid or pre-existing conditions, the individual's response to the infection, medical resources available at the time, effectiveness of those resources, home or community support available, etc. (Pre-morbid conditions might be less of a factor in a workforce population since most workers would be expected to be relatively healthy.)

The CDC estimates that a moderate pandemic could result in 90,000 to 200,000 extra deaths in the US over a relatively short period of time. Many others will likely experience significant illness.

Below is a summary of some challenges employers might face as regards to staffing during and following an outbreak of a serious acute viral illness such as H5N1 (using a 25% attack

rate postulated in one CDC paper and the currently observed 50% mortality to provide some very rough numbers):

1. Employee deaths or prolonged disability – 12.5% or more of workforce
2. Employee acutely ill – 1 week or more (per CDC for ages 19-64, a range of 5-17 days) - 25% or more of workforce
3. Employee possibly ill or exposed and medically advised to stay home – days to weeks - unknown %, possibly a significant number of persons
4. Employee needed at home to care for others who are ill – one or more weeks – unknown %, possibly a significant number of persons
5. Employee recruited to be deployed as a first responder, caregiver, etc. by military or public health agency – weeks to months (physicians, nurses, other trained health personnel) – % dependent upon workplace staff make-up
6. Employee elects to not come to work for personal reasons (anxiety, etc.) - weeks – % dependent upon workplace, media influences, etc.
7. Public health authority-ordered limitation of group activities (e.g., church, school, social, athletic gatherings suspended) – ? weeks - could affect part of or entire work force
8. Public health ordered quarantine of an area – ? weeks - could affect part of or entire work force
9. Employee travel to work impaired by quarantine measures, fuel shortage or reduced availability of public transit etc. – ? weeks or longer - could affect part of or entire workforce

Some Thoughts on Preparedness

Though there are many uncertainties with regard to H5N1, the likelihood of a serious viral pandemic (either H5N1 or some successor influenza virus) is quite high in the near (soon) to intermediate term (next 10 years). Such a scenario should be considered as part of a company's business continuity planning as adequate planning could help lessen the impact of such an event on the workplace and its employees:

1. Monitor CDC and HHS websites for updates and advice. An informational website www.pandemicflu.gov was launched by the Federal government in November 2005. The site contains a plethora of information on a variety of flu topics including workplace considerations.

At www.pandemicflu.gov, see "Resources" for links to Business Planning Checklists.

2. Look to other resources, e.g., State Preparedness Task Forces, etc. for ongoing workplace advice.

An integrated federal, state and local influenza pandemic planning process under the Departments of Health and Human Services and Homeland Security was launched in late 2005.

3. Encourage eligible employees to get this year's flu shot as directed by local health authorities
4. Obtain, distribute and implement CDC www.cdc.gov flu prevention guidelines (recommended hand washing, stay home if ill, etc., advisories) to staff at an appropriate time – these are still considered very important first line of defense measures.
5. If possible, consider developing alternative work-sites for possible use with just a few days or a week's notice, for example, if a local or regional outbreak limits the availability of one or more usual worksites.
6. Consider ways to enable essential work force members to work from home on short notice and for extended periods
7. Firm up succession plans for key positions throughout the company
8. To preserve capacity to meet the potentially significant needs of existing policyholders, consider temporarily limiting marketing in areas where outbreaks are occurring or are likely to occur until the pandemic period and anticipated second wave(s) of infection have passed.
9. Prepare to be able to review and efficiently process an increase in claims of varying complexity during the pandemic period and possibly for some time thereafter.
10. Encourage discussions and modeling within the Industry as a way to highlight the potentials for unanticipated risk and help the Industry better plan to meet the potential needs of policyholders.