

# Risk Alert

A report for clients and colleagues of Marsh on risk-related topics

## Avian Flu: Preparing for a Pandemic



With contributions from Kroll and Mercer Management Consulting

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Marsh publishes [Risk Alert](#) to keep its clients and colleagues informed on critical issues related to risk. For additional copies, please contact [questions@marsh.com](mailto:questions@marsh.com). This report is also available for download at <http://www.marsh.com>.

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***‘It is only a matter of time before an avian flu virus—most likely H5N1—acquires the ability to be transmitted from human to human, sparking the outbreak of human pandemic influenza. We don’t know when this will happen. But we do know that it will happen.’***

*—Lee Jong-wook, director-general of the World Health Organization*

## Introduction

With increasing urgency over the past year, a variety of governments, nongovernmental organizations, industry groups, and media outlets have trumpeted the potential dangers of avian influenza, commonly called “bird flu.” Of the 139 people known to have been infected with avian flu as of the publication date, 71 have died—a fearsome mortality rate. Suddenly, the word “pandemic” is on the tongues of world leaders, references to the catastrophic 1918 Spanish Flu are common, and many businesses are nervously looking for gaps in their business-continuity plans.

Human deaths from the bird flu have been reported in five countries. Thus far, the spread of the virus to humans has largely been accomplished through contact with infected birds, although a few possible cases of human-to-human transmission are being investigated. These cases involved families where prolonged daily contact and exposure existed. The possibility that the virus will mutate to allow sustained human-to-human transmission has health authorities on high alert.

“It is only a matter of time before an avian flu virus—most likely H5N1—acquires the ability to be transmitted from human to human, sparking the outbreak of human pandemic influenza. We don’t know when this will happen. But we do know that it will happen,” Lee Jong-wook, director-general of the World Health Organization (WHO), said during a recent gathering of health experts from more than 100 countries.

Likewise, businesses would be well-advised to ensure their emergency-response and business-continuity plans are up-to-date and include specific planning for dealing with a pandemic. This issue of *Risk Alert* aims to:

- provide background information on avian flu and human influenza pandemics;
- discuss corporate preparedness and business-continuity management (BCM) through the lens of a pandemic;
- highlight the international implications of a pandemic; and
- outline some of the potential insurance coverage issues related to pandemics.

### Business Questions About Avian Flu/Pandemic Preparedness

Here are some questions risk managers should consider asking themselves about a potential avian flu pandemic:

- How do we anticipate risks from a pandemic that could harm our company?
- How can we respond effectively to the threat of a pandemic?
- What should we do if employees are exposed to or develop avian flu?
- Can we keep our business operating if employees or a critical employee is infected?
- How can we manage pandemic-related disruptions in our supply chains?
- How should we communicate to our customers, employees, and suppliers the steps we are taking to deal with avian flu?
- Will property and/or casualty policies cover pandemic-related claims?
- How much will avian flu cost?
- What are the potential impacts to our markets?

## A Brief History of Flu Pandemics

A pandemic occurs when a new strain of the influenza A virus strikes humans, spreads easily from person to person, and causes serious illness with a high death rate. Since at least the 16th century, flu pandemics have swept the globe an average of three times per century, emerging every 10 to 50 years. In the 20th century, pandemics emerged in 1918, 1957, and 1968. Nearly 40 years after the last pandemic, the appearance of an especially virulent strain of flu in birds in 1997 and again in 2004 raised an alarm among world authorities when it infected a small number of people.

“We expect the next influenza pandemic to come at any time now, and it’s likely to be caused by a mutant [strain] of the virus that is currently causing bird flu in Asia,” Dr. David Nabarro, coordinator of avian flu response efforts for the United Nations, said in September 2005.

No one can predict with accuracy the extent of damage the next flu pandemic will cause. Projections of deaths, illness, and economic damage are generally built by extrapolating from past pandemics. Following is a brief look at the characteristics of the three pandemics of the 20th century.

#### Influenza Pandemic Comparisons

Year	Worldwide death estimates (millions)	Worldwide population (billions)
1918-1919	20-100	1.8
1957-1958	2	2.8
1968-1969	1	3.6
Avian flu estimates (if pandemic were to emerge in 2006)	7.5-more than 350	6.5

**Sources:** Population data from U.S. Census Bureau  
Death estimates from World Health Organization and others

## The Spanish Flu of 1918-1919

The first pandemic of the 20th century is widely regarded as the deadliest disease in human history. Death estimates worldwide

***One of the Spanish Flu's most troubling aspects was that most deaths occurred in people in "the prime of life," between 15 and 35 years old.***

range from 20 million to more than 100 million. The following are some of the characteristics of the 1918 flu outbreak:

- Outbreaks occurred simultaneously in Europe and several states in the United States.
- The pandemic broke in two waves. The first, in the spring and summer of 1918, was highly contagious, but did not cause many deaths. The second wave crashed across the world with remarkable speed and lethality. The death rate was 10 times greater in the second wave than the first.
- One of the Spanish Flu's most troubling aspects was that most deaths occurred in people in "the prime of life," between 15 and 35 years old. With most influenza strains, the majority of deaths occur among the very young, the very old, and people with compromised immune systems.
- The flu infected about 25 percent to 30 percent of the world's population, striking every continent.

### **The Pandemic of 1957-1958**

Science and medicine made immense strides between 1918 and 1957. By 1957, vaccines for seasonal flu existed; antibiotics had been discovered that could be used to treat flu-related pneumonia; and the WHO's Global Influenza Surveillance Network, which monitors and tracks the flu's spread, was 10 years old. The following are some of the characteristics of the 1957-1958 pandemic:

- A milder strain of the flu virus was at the root of the pandemic, as compared with the 1918 pandemic.
- Detection of outbreaks in Hong Kong and Singapore in early May led to the identification of the exact virus strain; so that by the end of the month, samples of the virus were available to vaccine manufacturers.
- The pandemic touched all corners of the world within six months. As was the case in 1918, the first wave of the pandemic caused fewer deaths than the second wave.
- An estimated 2 million people died during the pandemic. Unlike the situation in 1918, deaths were primarily among the elderly.
- As is the case now, one of the major stumbling blocks to producing sufficient amounts of the vaccine was the lack of manufacturing capacity.

**Concern about H5N1 heightened after scientists reported in October 2005 that genetic detective work had traced the 1918 influenza to an avian flu virus.**

## **The Pandemic of 1968-1969**

The last pandemic of the 20th century was the least severe of the three. The following are some of the characteristics of the 1968-1969 pandemic:

- Symptoms were much milder, and the mortality rate was much lower than with the 1957 pandemic: possibly because it was a similar strain to that virus. Since only 11 years had passed between the two pandemics, many people were alive who had been exposed to the 1957 flu and, thus, had received some level of natural protection.
- The pandemic led to about 1 million deaths.

## **The Emergence of H5N1—Avian Flu**

In 1997, an outbreak of avian influenza among poultry in Hong Kong was traced to the H5N1 virus strain (see sidebar on page 5). The outbreak was accompanied by 18 cases of human infection; six of those people died. There was immediate apprehension among world health officials, as this was the first time an avian flu virus was known to have infected humans. Concern about H5N1 heightened after scientists reported in October 2005 that genetic detective work had traced the 1918 influenza to an avian flu virus. An aggressive response, in which more than 1.5 million chickens and other fowl were destroyed, helped stem the 1997 outbreak; and the threat disappeared—temporarily.

In late 2003, the H5N1 virus was identified as the culprit in the deaths of chickens at a commercial farm in South Korea. Riding the wings of migratory birds, the virus has since moved from Asia, where it is now endemic, to Eastern Europe. The H5N1 subtype is expected to appear in more countries through bird migration. More than 150 million domestic fowl in Asia have been killed in an effort to stop the spread among birds—with the hope that doing so will prevent further infection of people. China is attempting the largest animal inoculation program ever, an effort to vaccinate up to 14 billion domestic birds.

The virus has also been found in domestic pigs in China and in captive tigers and leopards in Thailand that had been fed raw chicken carcasses. Experiments with house cats in the Netherlands have also shown the possibility that cats could act as a host for the virus.



## Birds, Influenza, and the H5N1 Virus Strain

Bird populations are a natural reservoir for influenza A viruses. All known subtypes of influenza A—the most harmful to humans—are found in birds, though most do not appear to cause illness in birds.

Influenza A viruses are named based on the two sets of proteins that extend from their outer surface like spikes on a mace.

The “H” stands for hemagglutinin, of which there are 15 subtypes, H1 to H15. The “N” stands for neuraminidase, of which there are nine subtypes, N1 to N9. All of the H and N subtypes have been found in birds; but only the H1, H2, and H3 subtypes are known to have shown the ability to transmit freely among humans over the past 100 years.

Thus, one of the red flags of the present avian flu virus, H5N1, is that it is a subtype to which humans have had no exposure. And since immunity is built through exposure, there is no natural immunity in the human population should H5N1 mutate into a strain easily transmitted from person to person.

**Human infection with H5N1:** Thus far, most cases of avian flu in humans appear to have resulted from contact with infected birds—such as breathing in dust containing bird feces—from contaminated surfaces, or from ingestion of uncooked or undercooked poultry or poultry products. Investigations are under way in a few cases into the possibility of human-to-human infection. As long as the disease lacks the ability to move easily from person to person, there will be no pandemic. But the possibility exists for a mutation to occur that will allow easy human-to-human infection and give rise to a pandemic.

Scientists say such a mutation could happen if, for example, a person sick with a common seasonal flu becomes infected with avian flu. The two viruses could swap genetic material, creating a new strain that allows easy human-to-human transmission. Health officials have a number of specific worries about the H5N1 virus, including the following:

- Because there is little existing immunity in humans to the H5N1 strain, the spread of a mutant form could be rapid and lethal.
- Some antiviral medications may not be effective. According to the Centers for Disease Control and Prevention (CDC), tests of the genetic sequence of H5N1 viruses from human cases in Vietnam and Thailand have shown resistance to two of the most commonly used antiviral medications—amantadine and rimantadine—used to treat influenza (see sidebar on page 12).
- Developing a vaccine would take months following the appearance of the virus.

## A Global Threat

A human influenza pandemic represents the extreme end of what risk managers call low-frequency/high-severity events. As with hurricanes, tsunamis, and earthquakes, we know the risk of a pandemic exists. And as with those catastrophes, we won't know the severity of a pandemic until it is over. But unlike hurricanes, tsunamis, and earthquakes, a pandemic will not limit its damage to one or a few countries or a single geographic region. A pandemic's worldwide consequences could include:

## United Nations Conference Develops Action Plan

International agencies and individual governments have been increasingly sounding the alarm over avian flu. In early November 2005, the United Nations sponsored a conference that drew participants from more than 100 countries aimed at preventing or minimizing damage from a human pandemic caused by a mutation of the avian flu strain H5N1.

The conference ended with release of a broad six-point plan focused on the following areas:

- **Control measures:** Improve veterinary services, emergency preparedness, and control measures such as culling of diseased or potentially diseased birds and vaccinations.
- **Surveillance:** Strengthen the early detection and rapid response systems for animal and human flu, and enhance laboratory capacity.
- **Rapid containment:** Train investigators of animal and human cases. Plan and test rapid-containment activities.
- **Pandemic preparedness:** Build and test national pandemic preparedness plans; conduct a global response exercise; and enhance health systems.
- **Integrated country plans:** Develop national plans across all sectors as the basis for coordinated technical and financial support.
- **Communications:** Develop and use factual and transparent communications.

**Source:** United Nations Web site, <http://www.un.int>

- more than 7 million deaths from even a mild pandemic, according to the WHO (death estimates vary wildly—some top 350 million—and will ultimately depend on the virulence of a pandemic strain);
- between 89,000 and 207,000 deaths in the United States, according to the CDC;
- 25 percent or more of countries' workers needing to take between five and twenty days of sick leave, according to the United Kingdom Department of Health;
- \$800 billion in worldwide economic damage, according to The World Bank; and
- major disruptions to every industry, particularly those with strong ties to travel, tourism, sports and entertainment, lodging, and health care.

The hardest hit companies in any industry are likely to be those with worldwide operations, global supply chains, and/or international customers. Already, some local, state, and national governments are setting in place plans to curtail travel, close schools, quarantine individuals and communities, and ban public gatherings. Such steps were taken during the epidemic of SARS—Severe Acute Respiratory Syndrome—in 2003, especially in Asia, where the disease was most prevalent. Such measures—while necessary to help slow the spread of the disease and allow time for medical efforts to ramp up—impede commerce.

Even a relatively mild pandemic could “slow or halt economic growth in Asia and lead to a significant reduction in trade, particularly of services,” according to analysis by the Asian Development Bank.

## Lessons Learned From SARS

In late 2002, SARS began to work its way around the world. By the time the outbreak ended in July 2003, about 800 people in 26 countries had died from the disease, just under 10 percent of those believed to have been infected. The vast majority of SARS cases were reported in Asia, although 38 people in Canada also died and 75 cases were reported in the United States. Concerns about the disease led to severe travel restrictions in some countries, closure of premises by government authorities, quarantines,



***For businesses with employees working or traveling overseas, particularly in Asia, some of the “lessons learned” from SARS could be relevant should an avian flu outbreak occur.***

and other business disruptions. The Asian Development Bank estimated the total lost business revenue at about \$60 billion.

SARS was not an influenza virus, but rather a coronavirus, so named for its appearance when viewed under an electron microscope. SARS is a droplet infection, meaning that it spreads when a relatively large droplet containing the virus is coughed or sneezed by an infected person and then inhaled or otherwise ingested by another. Influenza, on the other hand, typically spreads more quickly; as it is an aerosol infection involving smaller droplets able to suspend in the air and travel greater distances.

The SARS experience is on many people’s minds as they consider a potential avian flu pandemic. For businesses with employees working or traveling overseas, particularly in Asia, some of the “lessons learned” from SARS could be relevant should an avian flu outbreak occur. The following are some steps to bear in mind:

- Maintain regular communication between the home office and other operations, with frequent and detailed updates about the unfolding situation. It’s critical to give employees consistent guidance, thus avoiding confusion.
- Work closely with your office building’s management to get complete and updated information on any containment, safety, or other measures implemented, and any incidents involving other building tenants. If necessary, press them hard to reveal the true situation—they will be in direct contact with civil authorities on these issues. Good information from the building’s management will help reassure employees.
- Anticipate that the anxiety among your work force may be driven by concerns over being sent to a quarantine camp—as was done in China during the SARS epidemic—should infections be discovered in your office building.
- Be ready to permit staff to work from other cities or from home.
- Anticipate that companies will respond to government instructions and refuse to accept visits or meetings. Again, this was true in China during SARS.
- Maintain close contact with clients by phone. Respect any requirements they may have limiting or eliminating physical contact, such as in-person meetings.

***An outbreak of avian flu will severely test even the best-laid business-continuity plans, and businesses are well-advised to review and revise their plans in the light of this threat.***

- Be prepared that if you or your employees are coming from an infected area, your own head office and firms you intend to visit in North America may require you to spend a week or more in a hotel before coming into the office.

Although SARS provides a recent case study to which risk managers can look for ideas in planning for avian flu, they should keep in mind that SARS was mild compared to the potential impact of an influenza pandemic.

## **Corporate Preparedness and Business Continuity**

Many businesses, particularly large multinational corporations, have established avian flu/pandemic planning committees. According to media reports, some are creating task forces combining their strategic planning, operations-continuity procedures, human resources, and health services to adopt event-specific measures in anticipation of an avian flu pandemic. Others—primarily in parts of the food industry that use poultry—are preparing marketing campaigns aimed at allaying fears about the use of their products—and thus protecting their brands—should an avian flu pandemic occur.

It's also likely that many companies are not making any special preparations in advance of what they see as the slim likelihood of an avian flu pandemic; instead operating with the belief that should one occur, either it will not affect them, or they will respond as the need arises.

An outbreak of avian flu will severely test even the best-laid business-continuity plans, and businesses are well-advised to review and revise their plans in the light of this threat. In theory, business-continuity management (BCM) should already be in place to identify, respond to, and recover from a broad range of potential interruptions. Pandemic influenza, however, isn't a "normal" business risk. Some of a pandemic's unique characteristics include:

- an international impact with no demarcation by culture, industry, or geography;
- the potential to escalate quickly and last for many months;



- a projected infection rate of 25 percent or more of the world's population, according to many public health experts;
- extreme taxation of health care facilities, public health agencies, and their work forces; and
- a macro impact on regional and global economies that could result in a significant shift in the way that companies conduct their businesses and their ability to continue operations.

There are a number of steps companies should be taking and issues they should be considering before an outbreak, during an outbreak, and after an outbreak. The following guidelines do not present an exhaustive picture of such preparations, but are intended to foster discussion.

If avian flu does not emerge, the time spent on planning and preparation will not have been wasted. After all, avian flu is a good proxy for other potential pandemics; pandemics are a good proxy for potential bioterrorism; bioterrorism is a good proxy for other forms of terrorism. Corporate preparedness is a transferable skill—even if the risk emerges from a totally different direction or source than anticipated.

## **Before an Outbreak**

Risk managers and other executives with risk management responsibilities should consider the following before a pandemic begins:

- Understand the nature of the disease and the potential means by which it could directly and indirectly affect their operations, resources, reputations, and financial fitness.
- Review existing corporate-preparedness plans, procedures, and policies, including business-continuity plans, risk management controls, human-resource policies, communications capabilities, critical suppliers and vendors, and potential sales impacts. All existing plans should be reviewed, updated, and tested based on the threat posed by a pandemic. For example, companies should ask themselves, “Will my plan work in the event of having fewer people, losing certain critical people, or having staff working from remote locations? Will the real or perceived fear of an infection affect sales? How can we position the company to respond positively to this negative event?”

***During a pandemic, the ability of an organization to identify problems and respond quickly and effectively will make a significant difference to the success or failure of protecting staff, profits, and reputation and, ultimately, to the company's survival.***

- Regularly contact governments, international agencies, and industry groups about the availability of guidance from which the company and its staff could benefit.
- Companies should also ensure they know what to do and whom to inform should they identify a suspected case of avian flu among their employees. Agree internally on what circumstances relative to avian flu would trigger invocation of a BCM plan—what are the key risk indicators?
- Re-examine the supply chain, and assess what additional risks avian flu presents to the continuation of service from suppliers and vendors. Consider the increased risk presented from using international versus regional suppliers, particularly from areas already infected.
- Review or develop employee health procedures to minimize the potential for transmission of infectious diseases to other workers.
- Issue periodic “news releases” to employees to educate them about the disease and what health care precautions they need to take at home and in the workplace.
- Test operations-continuity plans regularly. If a company believes that avian flu presents a significant risk, it should consider running a rehearsal using various outbreak scenarios to test the plan's effectiveness.
- Try to ensure that senior managers have the skills to manage such an event before it becomes a crisis.

## **Upon Outbreak**

During a pandemic, the ability of an organization to identify problems and respond quickly and effectively will make a significant difference to the success or failure of protecting staff, profits, and reputation and, ultimately, to the company's survival.

Companies should consider structuring their corporate-preparedness plans for a pandemic crisis into four to six escalating action thresholds that would provide warning information in advance and allow individual facilities, regions, and businesses to detect an emerging event and respond appropriately at each escalated threshold. Tiered planning should provide applicable guidance pertaining to:

- allocation of company resources;
- health and safety issues and procedures;
- operations responses;
- human-resource/benefits involvement;
- internal and external communications;
- financial-resource allocation and impact analyses;
- government involvement; and
- product, facility, information technology (IT) and intellectual property security controls.

Companies should review their existing preparedness plans and consider how—and if—they will be able to answer the following questions during an outbreak:

### **Information and Communication Concerns**

- What is the nature of the disease? How is it transmitted, what are its symptoms, and what health care precautions are appropriate?
- Do employees know what to do and whom to contact if they are infected or may have been exposed to the virus?
- How will the company communicate with its employees if they are not at work?
- At what point do managers need to communicate to upper management that there is a potential problem?
- How will potential problems be communicated to employees and clients?
- Have call centers been set up to maintain contact with suppliers, clients, and employees?

### **Human-Resource/Benefit Concerns**

- What is the company's position if an employee wants to work at home?
- What happens if an infected employee comes to work?
- What if a non-native employee wants to be temporarily transferred to another region? What about his/her family?
- Is or should the company be prepared to provide family death support?

## Vaccines and Antiviral Medications

**Vaccines:** Every year, millions of people around the world receive a vaccination against the flu type(s) determined to be the most likely in a coming flu season. The vaccines work by triggering an immune response, bolstering the body's ability to fight off a virus.

There is currently no available vaccine for the H5N1 influenza strain, although efforts are under way in several countries, including the United States, to produce one.

These efforts do not aim to yield a ready-for-production vaccine because a vaccine must closely match the actual strain of virus it is meant to protect against. Large-scale production, therefore, cannot begin until a virus mutates into a form that causes a pandemic to be declared. The trials currently under way are meant to lay the groundwork that will allow for rapid development of a bird flu vaccine should one be needed.

**Antivirals:** Medications that help reduce the duration and severity of the flu are called antivirals. At present, only two classes of antivirals are known to show an ability to combat avian flu—adamantanes and neuraminidase inhibitors. The adamantanes have not been effective against some of the avian viruses isolated and they also can have side effects such as seizures.

The second class of antivirals are known as neuraminidase inhibitors and contain the drugs oseltamivir (sold as Tamiflu) and zanamivir (sold as Relenza). Both need to be administered within 48 hours of the onset of symptoms to be of help; and clinical data on their use against avian flu is, of course, limited.

*(continued on page 13)*

## Operational Concerns

- Can the company operate with 25 percent or greater absenteeism?
- Can the company have employees work remotely? What infrastructure support is needed to support a shift to an at-home work force?
- How does the company know that supply resources are not contaminated?
- How will clients be assured that products are not contaminated?
- Will there be a disruption to the company's supply chains?
- What are the procedures to decontaminate the facility and its heating, ventilation, air-conditioning systems, electronic equipment, and soft materials (blankets, curtains, and so on)?
- What assurances need to be provided to the facility staff that they are safe at work?
- At what point does the company prohibit staff from traveling to certain geographic areas?
- How will traveling employees be brought home, particularly if they are sick?
- Are there escalation procedures to get additional resources?
- Is there a trained crisis-management team that includes on-call staff? Do the team members know what is expected of them? Are the correct personnel—management and others—designated to participate on the team?

## Risk-Communication Concerns

- Are executives ready and capable of delivering the right messages?
- Have press releases been prepared that can be adapted to fit the situation?
- Are mechanisms in place for managing internal and external communications?
- What if the current means of communication fail?
- Are there trained spokespeople for dealing with the media and other stakeholders?



## Vaccines and Antiviral Medications

(continued from page 12)

Manufacturers are working to increase their ability to produce these drugs, particularly Tamiflu, as countries are increasingly turning to stockpiling them.

Many medical experts advise individuals not to attempt to stockpile antivirals, as, like any prescription medicine, they need to be monitored closely and administered correctly. However, news reports indicate that many people and businesses have been purchasing the drugs over the Internet. This has created the additional problem of scam artists selling what turn out not to be the drugs people think they are buying.

The American Medical Association issued a statement advising against stockpiling: "Stockpiling of antivirals, such as Tamiflu, to have on hand 'just in case' is not recommended for individuals because of the risk that symptoms not related to avian flu will prompt people to initiate unnecessary treatment. In addition, these drugs are needed to confront the real risk of human flu-related illness and deaths that occur annually in the elderly and other high-risk individuals.

"Needlessly taking an antiviral may contribute to the problem of resistance to that antiviral drug, which would then make the drug less useful in the event of an actual avian flu outbreak. Responsible use of antivirals for flu is critical to the health of Americans—and the health of people throughout the world." (<http://www.ama-assn.org>)

## During an Escalating Pandemic

Businesses looking to ensure continued operations during the pandemic and in its immediate aftermath may find the following questions critical:

- Is the business-recovery team operating effectively? Does it have the necessary and readily available resources to support its activities? Where will the team and its support resources stay if they have to travel or relocate to a facility?
- Has the team initially identified and monitored changes of the recovery-time objectives for each of the critical business processes that may be interrupted?
- Have continuity strategies been developed for each process? Have they been integrated in an effective manner or prioritized, particularly if multiple facilities and regions are affected?
- Have supply-chain dependencies been identified and alternative channels identified and secured in case of disruption? What happens if the backup fails?
- Are there alternative premises and facilities within and outside of an affected region that can be used? Are transport links likely to be sufficient to get people and resources to the alternate sites?

## Timing of Corporate Responses

As stated earlier, the foregoing questions are meant only as a general starting point for companies. The actual timing and severity of a pandemic, the nature of a particular business or industry, and other variables will all come into play during an actual incident and subsequently as the spread of the disease progresses.

For example, at what point should a college or university with a large number of students living on campus decide to cancel classes and/or shut down the campus? In that situation, a balance will need to be struck between acting too soon, which could mean canceling school unnecessarily, and acting too late, which could force students to attempt travel in a time of major transportation disruptions.

Likewise, a professional services company may have a significant number of employees traveling overseas. At what point should it curtail overseas travel? How much of its resources should it be

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dedicating to increasing its ability to conduct business through teleconferencing?

A manufacturer may be able to mitigate worker exposure by instituting mandatory hygiene practices and providing workers with protective clothing—gloves, masks, hand disinfectants, and so on. At what point should it move to do so? What thresholds would trigger a shift of manufacturing operations to another location and a complete plant shutdown?

It is not clear that the H5N1 avian flu will mutate into a human-to-human disease this season, or ever. However, it is widely believed that in the near term the global population will have to face a pandemic. It is incumbent on corporate officers to ensure that their companies have evaluated the risks and implemented the appropriate steps to mitigate those risks.

## **Immense Challenges for the Health Care System**

A pandemic will touch every business sector, but few will be as heavily involved as the health care industry, from the frontline doctors, nurses, and others treating patients to the companies that will eventually handle a potentially massive number of insurance claims. While companies in many other industries will be able to tell their workers to work from home or take time off, care providers in most instances will not only be expected to show up, but also to work longer hours.

Yet they will be under the same stresses as others, having family members become ill and require care, getting sick themselves, and facing the fear—a heightened fear—of being exposed to the virus at work.

Numerous government agencies and other industry groups have prepared guidelines for health care facilities and workers to help them prepare for a pandemic. Patient-education material, planning guides for health care facilities, diagnostic-testing guidelines, infection-control guidelines, and more are available from the CDC, the Department of Health and Human Services, and others (see Web sites on page 25)

### Pandemic Poses Potential to Stress U.S. Health Care Delivery

	Low impact	High impact
Total number infected	38 million	90 million
Outpatient hospital visits	18 million	42 million
Hospitalized	314,000	734,000
Deaths	89,000	207,000
Estimated economic impact	\$71.3 billion	\$166.5 billion

Source: <http://www.cdc.gov>

The number of patients U.S. hospitals and clinics could see during a pandemic is staggering and should figure into the planning for any health care facility. The CDC's FluSurge software program aims to help hospitals and public health experts estimate the potential for increased hospital usage during a pandemic. The program estimates the number of hospitalizations and deaths that would occur during an influenza pandemic and compares the number of people hospitalized, the number requiring treatment in the intensive care unit (ICU), and the number requiring ventilators to a community's existing supplies. Users can plug in a number of variables, including the severity of the virus.

As an example, the CDC used a scenario involving the Atlanta metropolitan area during a hypothetical eight-week pandemic with a 25 percent infection rate. Based on those numbers and available information about Atlanta's hospitals, the CDC said the demand on resources would peak in the pandemic's fifth week, during which an additional:

- 2,013 people would be hospitalized;
- 583 of whom would need ICU treatment; and
- 292 of whom would need ventilators.

For the Atlanta metro area, that represents:

- 28 percent of hospital beds;
- 77 percent of ICU capacity; and
- 42 percent of ventilators.

***As was the case with the SARS virus, many claims stemming from a flu pandemic are likely to lead to disputes.***

Over the eight-week course of such a pandemic, the CDC said, the Atlanta area could expect 13,918 hospital admissions and 2,516 deaths. “These sample results from FluSurge illustrate how the next influenza pandemic may overwhelm existing hospital resources, given that hospitals increasingly operate at nearly full capacity,” CDC officials wrote in the FluSurge manual.

The potential stress on the health care system can be expected to be just as significant in other parts of the United States and the world—and it could be more severe in areas where health care is not as modern or effective. Clearly, health care industry workers need to be prepared to be at ground zero during a pandemic.

## **Insurance Coverage Questions**

In the event of a pandemic, businesses around the world could suffer severe economic damage, the extent of which will depend on the severity of the outbreak. Whenever businesses suffer a loss, owners naturally look to their insurance policies for help. As was the case with the SARS virus, many claims stemming from a flu pandemic are likely to lead to disputes. Although the outcome of any claim is dependent on its facts and the legal rules in the applicable jurisdiction, there are some generalizations that can be drawn. Experience derived from the SARS outbreak may also be instructive.

The following is a brief discussion of pandemic-related issues that may arise under several common types of coverage. Understanding these issues and potential responses may assist in planning and preparation.

### **General Liability**

The commercial general liability (CGL) policy provides coverage against a broad range of liabilities alleged to result from the acts or negligence of the insured. It also provides a defense against claims actually or potentially falling within the coverage. Some variation of this coverage is held by almost all businesses and is, therefore, likely to be at issue in any avian flu-related event.

The standard policy typically responds to bodily injury, sickness, or death allegedly caused by the insured. Insurers are, therefore,

***Because of the varied wording of CGL policies and the varied legal interpretations of the policy language, cases potentially falling within the reach of the coverages need to be reported to the primary and excess insurers as soon as there is knowledge of a claim.***

likely to closely scrutinize the alleged causal connection between a claimed infection or exposure and the actions of the insured. Because insurers take the position that the policy extends only to actual injuries, they are also likely to look closely at the nature of injuries alleged by third parties and may reject claims based on fear of exposure, exposure without actual symptoms, or other mental or emotional injuries. However, under the “bodily injury” and/or the “personal injury” language of some policies and the law of some jurisdictions, such emotional injuries may be covered, so careful review is necessary.

The policy also responds to third-party property damage, but requires physical injury or destruction of tangible property; so insurers may take the position that certain types of claimed damage are not covered or that the mere presence of the virus in or on property does not constitute physical injury.

The standard policy contains coverage for “personal injury”—a number of specified wrongs, including wrongful eviction. Policy language varies, as does applicable law; but in some situations, it might be possible to argue that the actions of a landlord or other similar insured that result in closure of a building or evacuation of premises fall within the reach of this definition.

Most liability policies also contain a broadly worded pollution exclusion, which applies to, among other things, all “solid, liquid or gaseous...contaminants or irritants.” Although there are grounds to argue that this language should apply only to industrial chemicals and waste, insurers have used the broad language to deny claims for damage caused by substances as common as smoke, grease, and mud. Courts have split on this argument, with some holding the exclusion applies only to industrial chemicals and others holding that it must be read broadly to apply to anything that is potentially an irritant or contaminant. It is, therefore, possible some insurers will argue that viruses constitute a “contaminant” within the meaning of the exclusion and use that as a basis to deny claims.

Because of the varied wording of CGL policies and the varied legal interpretations of the policy language, cases potentially falling within the reach of the coverages need to be reported to the primary and excess insurers as soon as there is knowledge of a claim. Umbrella policies are generally broader than the primary

## International Travel to Avian Flu-Affected Areas

During the outbreak of SARS—Severe Acute Respiratory Syndrome—in 2003, many companies restricted travel to affected areas. It's important for companies to keep their employees well-informed about travel restrictions and precautions, especially those who may be traveling to areas known to harbor avian flu.

The Centers for Disease Control and Prevention (CDC) recommends the following precautions regarding travel:

### Before travel to areas affected by avian flu:

- Visit <http://www.cdc.gov/travel> for up-to-date information.
- Check with your doctor or health care provider to be sure all vaccinations are up to date.
- Put together a traveler's health kit, including thermometer and alcohol-based hand gel.
- Identify health resources before entering the country.
- Check your health insurance coverage for medical evacuation coverage.

### During travel in an affected area:

- Avoid all direct contact with poultry and handling of surfaces that have been in contact with poultry feces or secretions. Avoid visiting poultry farms or live poultry markets.
- Cleanse hands often with soap and water.
- Ensure all poultry-based foods are thoroughly cooked.
- If you become sick with symptoms that include fever, cough, sore throat, or difficulty breathing, a U.S. consular officer can assist you in locating medical services and contacting family and friends.

(continued on page 19)

coverage, so it is important to make sure that the umbrella insurer is also on notice for the types of employers liability claims noted in the following section.

## Workers Compensation

Workers compensation will undoubtedly be an issue in the event of an avian flu pandemic. As with any insurance coverage issue, the facts of individual cases will vary, as will the coverage afforded under various policies according to state and federal laws and the terms and conditions of policies that provide coverage beyond that which is mandated by law. Exposure falls into three categories:

- potential exposure in the U.S. workplace;
- short-term or temporary assignments outside the United States and Canada; and
- long-term work assignments outside the United States and Canada.

**Exposure inside the United States:** Depending on the language in each state's statute relative to occupational disease, workers compensation could be the mechanism to cover medical bills and reimburse lost wages for avian flu-related disability as long as the exposure meets the jurisdictional compensability standard. The definition of injury is consistent within the majority of states, requiring it to be "...arising out of and in the course of..." employment.

Occupational disease is defined more narrowly in some states, which use language such as "hazards in excess of those ordinarily incident to employment in general and/or...peculiar to the occupation in which the employee is engaged." Some states list those occupational diseases that are "covered"; still others consider whether the risk of exposure is greater on the job than it would be to the general public.

No state specifically references avian flu in its workers compensation law. However, claims for disability related to avian flu by employees on work assignments in geographic areas where the risk is identified should file claims under the appropriate policy. If avian flu reaches the United States, the workers compensation issues will be different from those posed by overseas exposure.



## International Travel to Avian Flu-Affected Areas

(continued from page 18)

### After return from an affected area:

- Monitor your health for 10 days.
- If you become ill with a fever, cough, sore throat, or difficulty breathing during the 10 days, consult a health care provider. Be sure to alert the provider before your visit that you have been in a known avian flu area. Also, inform him/her if you have had contact with poultry during that visit.
- If ill, limit travel and contact with others as much as possible.

**Overseas exposure:** Workers compensation coverage for employees injured while working temporary assignments outside of the United States will depend on the extraterritorial coverage provisions of the applicable state law. Many states extend benefits to those injured outside their borders (whether in another state or outside the country), provided that the contract of hire was made in the state or the principal location of employment is in the state. However, circumstances can arise under which such employees would not be entitled to state workers compensation benefits.

The other coverage that might apply is employers liability, also covered under the standard workers compensation policy used in most states. But while employers liability coverage applies to injuries to employees temporarily outside of the United States or Canada—as long as the employer is legally liable for damages as a result—many employers prefer to address this exposure by arranging for a foreign voluntary compensation benefits endorsement or a separate, standalone policy for this coverage. This endorsement or policy provides voluntary coverage for the workers compensation benefits of a given jurisdiction to employees not covered by state workers compensation law.

Because U.S. nationals assigned to work outside of the United States for an extended period or indefinitely may not have protection under domestic workers compensation policy, coverage under a foreign voluntary workers compensation policy or endorsement is generally preferable. The language is usually very similar to that of the National Council on Compensation Insurance (NCCI) voluntary compensation endorsement plus language providing coverage for endemic disease—such as avian flu—and repatriation expense.

An endemic disease is one that is peculiar to a particular country. The endemic disease coverage language of a foreign voluntary workers compensation endorsement establishes that coverage applies to injury or death arising out of endemic disease even if the disease is not covered under the workers compensation or occupational disease law of the designated state. The repatriation expense coverage provides for the cost of bringing the employee or his/her remains back to the United States.

It is important to note, at this juncture, that foreign voluntary compensation coverage—whether by endorsement or standalone

***If an employee alleges a workplace exposure to avian flu, the employer should report the incident to its claims administrator and cooperate in any investigation.***

policy—is not a standard coverage. There is wide variation in the terms and conditions of coverage from one insurer to the next. Policy forms and endorsements should be analyzed in detail to be sure that coverage will apply as expected.

**Infection from returning employees:** Exposure within the United States to employees who may have been infected with avian flu outside of the United States and Canada presents additional coverage questions. Most state workers compensation statutes do not view illness contracted due to exposure to fellow employees as a compensable occurrence, as the exposure to illness is not usually limited to the workplace. The exposure to avian flu would have to be proven to be solely a result of a workplace exposure to be considered for coverage under a standard workers compensation policy in any jurisdiction.

If an employee alleges a workplace exposure to avian flu, the employer should report the incident to its claims administrator and cooperate in any investigation. Compensability of each case must be determined on the merits of the situation and the law of the jurisdiction.

## **Pollution**

Insureds may also have separate coverage for damage arising out of pollution. These policies may provide a basis for seeking coverage, but it is important to be aware of potential issues and possible insurer responses.

A typical pollution policy provides coverage for “pollution conditions,” which must result from a “discharge, dispersal, release, seepage, migration, or escape.” The term “pollution condition” is usually defined broadly and includes, as a general category, both “contaminants” and “irritants.” However, insurers have often resisted attempts to recover for nonindustrial pollution.

The insurer response to widespread mold claims included revising policy definitions so that they now contain exclusionary or limiting language. Policies now often exclude “naturally occurring substances” or “microbial matter.” Insurers may argue that this language also applies to viruses. In some policies, the definition of “microbial matter” is quite broad and may encompass viruses. In addition to these changes to policy wording, insurers have



argued that the mechanism by which the virus spreads does not constitute “discharge, dispersal, release, seepage, or migration.”

Some insurers have also argued that the broad definition of “pollution” was intended to apply only to industrial pollution and chemicals, rather than to any substance that could be considered an irritant or contaminant; and in some states, there is case law that will support this argument.

Finally, pollution policies often contain a provision requiring that expenses be incurred only in response to a government order and that the order be issued in accordance with a law or regulation governing and setting standards for the remediation of the pollutant. The likely purpose of this language is to protect the insurer against voluntary acts or cleanups or governmental overreaching, but it can create difficulties. In the avian flu situation, insurers may take the position that governmental closure or decontamination orders are not supported by specific authority, that no standards exist, that governmental directives are not orders, that the entity issuing the order does not constitute the government, or that costs are voluntary. It is, therefore, important to consider these provisions when dealing with and responding to local health authorities or other governmental or quasi-governmental entities.

## Property

Real property may potentially be contaminated in an avian flu outbreak. The government may close or quarantine a building or an entire neighborhood. Such events could give rise to claims under an insured’s first-party property coverage.

Insurers begin every analysis of a claim under a property policy, whether for direct damage or time-element loss, by asking whether insured property (or property of the type insured) has sustained physical loss or damage from an insured event or peril.

Generally, unless the insured’s policy provides specific time-element coverages for “infectious disease outbreaks,” coverage is unlikely to be triggered. In regard to avian flu, the two most likely scenarios resulting in a time-element loss are:

- fear that the virus may be present in or near the vicinity where the insured’s property is located, thereby leading to employee absences and diminished customer traffic to the site; and

## Fears That Bird Flu Will Follow Flaws of Swine Flu

In the winter of 1976, a small number of soldiers at Fort Dix developed a strain of the flu that had not been seen in humans before. Only one of them died, but the incident caught the eye of health officials and triggered a national response, one largely viewed as a failure of overreaction.

Epidemiologists found that some of the sick soldiers—and the dead one—were infected with a strain of influenza found in pigs. Fearing that a new strain of flu was about to sweep through the population like the 1918 Spanish flu pandemic—and that it might even be the same strain as that killer disease—some called for a national immunization campaign.

Despite mounting evidence that the swine flu was not a serious threat, preparations for a massive vaccination program were undertaken. Soon after the vaccination program began, though, critics of the effort emerged. And so did evidence that the swine flu did not pose the threat of a pandemic at all.

Nonetheless, more than 40 million people were vaccinated against the so-called “swine flu.” Any vaccination comes with a risk for a small percentage of those receiving it, and swine flu vaccinations were no different.

The vaccine was believed responsible for hundreds of people developing Guillain-Barre Syndrome, a rare neurological disease characterized by loss of reflexes and temporary paralysis. Hundreds of lawsuits were filed, resulting in about \$100 million in settlements and judgments.

- the actual contamination of the site by the virus, resulting in governmental or voluntary closure.

With respect to the first scenario, insurers providing coverage under a standard property policy may argue that there is no coverage for losses arising out of people’s fear of entering a premises. Insurers may argue that a mere suspicion that avian flu may be present is not sufficient to trigger coverage because there is no direct physical loss or damage to insured property.

In the second scenario, where there is an actual closure because the avian flu has been detected, it may be more difficult to argue there was a lack of physical impact; although insurers may contend that the mere presence of viruses does not constitute physical damage. They may also point to the “contamination” exclusion found in most property policies and the “virus” exclusion found within the “mold” exclusions under some more recent forms. The term “contamination” is not defined in most policies. Courts interpreting it have reached varying conclusions as to its meaning. It is likely some insurers would argue it applies to contamination by the avian flu virus.

**Civil authority:** The “Civil Authority” extension is commonly found in business interruption and other time-element forms where coverage will need to be reviewed relative to this question. Generally, this extension covers the actual business interruption or other time-element loss caused by the action of civil authority that prohibits access to the premises covered under the policy, due to direct physical loss or damage to property other than at the described premises and arising from a covered cause of loss. Other restrictions may apply, such as a maximum time period for recovery, usually three consecutive weeks after a 72-hour waiting period. Other forms may limit the scope of coverage to a specified distance from where the damage occurred. In addition, a sublimit may be applicable.

Therefore, in any claim involving this extension, the facts and circumstances of the loss and of the governmental action will be critical. Given possible insurer responses, governmental closure based on suspicion may be treated differently than governmental closure that occurs because of the actual presence of the virus. In either case, it is likely that insurers will rely on the contamination exclusion as a basis for denial. Insurers are more than likely to

***Insurers may also argue that the presence of avian flu on the premises does not constitute “physical loss or damage” under the policy.***

take an “absolutely no coverage” position if an insured evacuates or closes voluntarily without an actual order from the civil authorities.

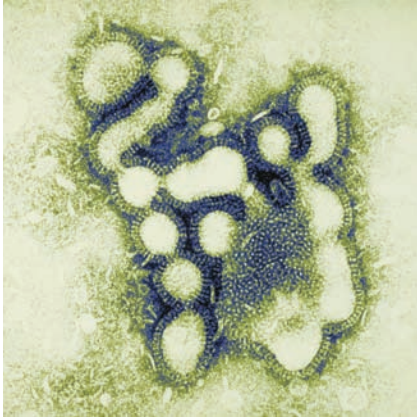
**Physical loss or damage:** Insurers may also argue that the presence of avian flu on the premises does not constitute “physical loss or damage” under the policy. Insurers may argue that even though it may be dangerous to enter the premises because of the presence of avian flu, a property policy insures the structure and/or the property contained therein, not the health of individuals.

Some older policy forms and some manuscript forms contain variations in language that could affect these arguments. Examples include forms that contain the words “from any cause whatsoever” in lieu of the more typical “from an insured peril” wording set out in the civil authority clause. Insurers may insist that such wording relates back to the “Perils Insured Against” clause or “Causes of Loss” form, which stipulates “physical loss or damage,” and that it must be read in conjunction with the “Perils Excluded” or “Exclusions” clauses—in other words, contamination.

Similarly, some large hotel/hospitality and entertainment companies have obtained programs that contain an endorsement originally developed in the London insurance market that covers the time-element loss resulting from closure of the premises by a public authority after one or more guests exhibit symptoms of a contagious disease. Again, this language is outside the narrower scope of the standard “physical loss or damage” verbiage and, therefore, may provide a counterargument to potential insurer arguments.

Although it is unlikely any insurer will immediately acknowledge coverage under a standard property policy for any of the avian flu scenarios discussed above, it is important that all such potential claims be reviewed. Where the insured can demonstrate that a public authority has closed or quarantined its premises as a result of an actual—provable—contamination by the avian flu, the potential claim should be reported to its property insurers for review.





## Conclusion

The question on the tip of everyone's tongue is, "Just how worried should we be about an avian flu pandemic?" The answer is not simple. Just as residents of San Francisco and Tokyo live with the knowledge they reside in an active earthquake zone, the entire world is becoming aware that we all live in a potential pandemic zone.

Even if the H5N1 avian flu strain fails to mutate into a form easily transmissible among humans, it will have raised awareness that pandemics are a natural part of the world. The issue has now become one that every corporate leader or board of directors must consider and take into account.

Coupled with the awareness is the reality that it's impossible to predict ahead of time just how severe an outbreak will be. Beyond fears over the possible loss of life, avian flu has raised concerns about governments' and businesses' readiness to deal with a crisis of enormous scale. However, there is still time to prepare for the contingency. Now is the time to check your company's preparedness for handling a pandemic crisis.





## Web Sites of Interest

More information on avian flu can be found at the following Web sites, most of which provide regular updates:

- American Medical Association  
<http://www.ama-assn.org> (see page 13)
- Asian Development Bank  
<http://adb.org>
- The Centers for Disease Control and Prevention  
<http://www.cdc.gov> (see page 15)
- Council of State and Territorial Epidemiologists (links to individual state avian flu/pandemic response plans)  
<http://www.cste.org>
- Official U.S. government Web site for avian flu and pandemic information  
<http://www.pandemicflu.gov>
- Trust for America's Health  
<http://Healthyamericans.org>
- UK Department of Health  
<http://www.dh.gov.uk>
- U.S. Department of Health and Human Services  
<http://www.dhhs.gov>
- United Nations  
<http://www.un.int> (see page 6)
- World Health Organization  
<http://www.who.int>

## **Abbreviations and Acronyms in This Issue**

- BCM: business-continuity management
- CDC: Centers for Disease Control and Prevention
- CGL: comprehensive general liability
- ICU: intensive care unit
- IT: information technology
- NCCI: National Council on Compensation Insurance
- SARS: Severe Acute Respiratory Syndrome
- WHO: World Health Organizations



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## Notes

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#### **Risk Alert:**

**Avian Flu: Preparing for a Pandemic**

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