



**SUNGARD**

PRECAUTIONS, NOT PANIC

White Paper Series

## Mitigating the Risk of a Pandemic

## OVERVIEW

When it comes to fires, floods and even technical failures, statistics can help organizations manage risk. With a known probability of a particular interruption, organizations can purchase insurance and develop effective availability and continuity plans. Those plans can leverage proven techniques for identifying and mitigating the potential impacts to physical infrastructure, IT assets, business processes and employees.

But even organizations with mature, sophisticated availability programs are struggling with the emerging threat of an Avian Flu pandemic.

Faced with a deluge of conflicting information, many organizations are grappling to define the right approach to this potential event. And, they're beginning to realize that an Avian Flu pandemic would be a distinctly human disaster. A widespread outbreak of this type of influenza wouldn't damage physical or IT assets the way a natural disaster does. However, it would have profound ramifications on employees, partners and the general public—creating a cascade of impacts throughout business and society.

The importance of people creates a multitude of challenges for organizations that serve the public, such as those in healthcare, banking, food delivery, retail, education, childcare and transportation. These organizations have a responsibility to serve the public, particularly during times of crisis. But fulfilling that responsibility could endanger the health and welfare of their employees.

The same is true of critical infrastructure entities in the public and private sectors. Businesses and, indeed, society at large, depend on these organizations for vital, day-to-day functions. Yet, they—and their employees—are equally vulnerable to a pandemic. Their inability to provide services and/or products could compound the damage of such an event.

The fact is, no individual or organization can secure "immunity" from Avian Flu. Thus, even organizations that don't work face to face with the public or have a role as a critical-infrastructure entity must consider and prepare for the unique ramifications of a pandemic.

In this white paper, SunGard Availability Services distills important information about influenza in general and Avian Flu in particular, outlines key planning considerations for organizations, and provides common-sense tips for individuals. Ultimately, taking proper precautions—rather than falling prey to panic—will help everyone mitigate the risk associated with a pandemic event.

## EPIDEMIC VS. PANDEMIC

An **epidemic** is an outbreak of an infectious disease that simultaneously affects many individuals in a community. A pandemic is a global epidemic—an infectious disease that simultaneously affects an entire country, region or continent.

A **pandemic** is likely to be prolonged and widespread, requiring temporary changes in many areas of society—including schools, work, transportation and other public services. Organizations in the public and private sectors can take steps to mitigate the risk of a pandemic event. Likewise, an informed and prepared public can take appropriate actions to decrease their individual and familial risk during a pandemic.

## THE CHALLENGE OF INFLUENZA

Science has been able to develop highly effective vaccines and treatments for many infectious diseases that threaten the public health. But because influenza viruses are notable for their resilience and adaptability, acquiring public-health tools has been an ongoing challenge. In fact, changes in the genetic composition of the virus require the development of new vaccines on an annual basis—along with the forecasting of which strains are likely to be predominant.

The threat of an influenza pandemic is hardly new. In fact, the 20th century saw three pandemics of influenza (see table). And, despite annual vaccinations, the United States still sees approximately 36,000 deaths and more than 200,000 hospitalizations annually due to influenza.<sup>1</sup> In addition to inflicting a human toll, influenza costs the United States over \$10 billion each year.<sup>2</sup>

### Influenza Pandemics in the 20th Century<sup>3</sup>

YEAR	TOLL
1919	At least 500,000 deaths in the United States and up to 40 million worldwide
1957	At least 70,000 deaths in the United States and 1-2 million worldwide
1968	About 34,000 deaths in the United States and 700,000 worldwide

Of course, the current threat comes in the form of influenza A (H5N1)—also known as “Avian Flu” or “Bird Flu.” This strain was first reported in Hong Kong in 1997, when both people and poultry were infected. That report marked the first known occurrence of an Avian Flu virus being transmitted directly from birds to humans. The virus killed six of 18 people infected, and all poultry in Hong Kong was destroyed.

Eight years later, in 2005, there were confirmed human cases of Avian Flu in Cambodia, Indonesia, Thailand and Vietnam. By November 14, 2005, 64 of the 126 confirmed cases had proven fatal—fueling concerns that the virus could mutate into a version easily transmitted from person to person.<sup>4</sup> And by early 2006, human cases had been detected in the Middle East, with poultry infections surfacing across Europe.

In humans, the H5N1 virus causes classic flu-like symptoms, which may include cough (dry or productive), sore throat, fever of greater than 100.4° Fahrenheit (38° Celsius), difficulty breathing, diarrhea, runny nose, headache, muscle aches and malaise. Treatment with the antiviral medication Oseltamivir (brand name: Tamiflu®) and perhaps Zanamivir (brand name: Relenza™) may decrease the severity of the disease—but only if medications are started within 48 hours of when symptoms appear. In addition, Oseltamivir may be prescribed to household contacts of people diagnosed with Avian Flu.<sup>5</sup>

However, samples of H5N1 from human infections have proven resistant to other antivirals, such as Amantadine (brand name: Symmetrel®) and Rimantadine (brand name: Flumadine®). Thus, these medications cannot be used in the event of an outbreak.

Even Oseltamivir and Zanamivir merely treat symptoms; they do not “cure” people infected with the H5N1 virus. Thus, the virus could still potentially be spread among people.

In the July/August 2005 issue of *Foreign Affairs* magazine, Michael T. Osterholm, director of the University of Minnesota’s Center for Infectious Disease Research and Policy, wrote, “The arrival of a pandemic influenza would trigger a reaction that would change the world overnight.” In his article, Osterholm painted a grim picture for healthcare systems, medical suppliers, food providers and transportation systems.<sup>6</sup>

Osterholm’s prediction underscores the importance of proper planning and preparation for organizations of all sizes and industries. Indeed, results of a 2005 Continuity Central survey suggest that continuity managers recognize the importance of planning for a pandemic. Some 83 percent of respondents indicated that “It is important that pandemic impacts are covered by business continuity plans.”

But when questioned about actual level of preparedness, far fewer respondents said that they have already prepared for the threat of a pandemic. Across sectors, preparedness levels varied, as suggested by the percent of respondents who indicated that their plans already address the potential impact of a pandemic:

- Public sector: 42 percent
- Computing: 40 percent
- Transport: 33 percent
- Banking: 30 percent
- Financial: 26.5 percent
- Healthcare: 20 percent
- Insurance: 17 percent<sup>7</sup>

Clearly, organizations acknowledge the importance of planning for an Avian Flu or other pandemic event—but need guidance about how to approach it.

## HOW TO PREPARE: ORGANIZATIONS

In many ways, preparing for a pandemic event is like building any other availability or continuity plan. Top-level, executive buy-in is critical. So is the formation of a core team with members from each major business unit or department. And, as always, communication and awareness are paramount to successful execution.

### WHAT ABOUT VACCINES?

In April 2005, the National Institute of Allergy and Infectious Diseases (NIAID) began a clinical trial of an H5N1 vaccine produced by Sanofi Pasteur. The trial involves 451 healthy adults age 18 to 64. In October 2005, another trial—this one focused on elderly subjects—was initiated. These trials are investigating the safety of the vaccine and its ability to generate an immune response (immunogenicity). However, at the time of this writing, there is no vaccine for Avian Flu approved for use in the United States.

Source: [www.clinicaltrials.gov](http://www.clinicaltrials.gov)

But there are also some specific tactics that will help increase the effectiveness of preparations. Best practices suggest that organizations map planning strategies and tactics to the six pandemic phases identified by the World Health Organization (see table). For each phase, organizations should:

- Perform employee demographic studies modeling the impacts of conservative and worst-case-scenario attack rates.<sup>8</sup>
- Evaluate the reliability of the supply chain given conservative and worst-case-scenario attack rates; diversify sources and/or negotiate priority position with current suppliers.
- Identify the non-essential activities that can be suspended and document how essential functions can be continued (e.g., cross-training of staff, work-from-home arrangements, use of former employees and/or retirees).
- Create communication plans targeting employees and their families, suppliers, customers, shareholders and the public.
- Adapt human resources policies and procedures to account for higher rates of absenteeism caused by illness among employees and their families—as well as by the closure of schools and/or childcare facilities.
- Develop and publish policies for enforcement of quarantine or isolation orders issued by government or healthcare agencies.
- Create contingency plans for responding to a reduction in or interruption of key public services—including healthcare, law enforcement and fire protection, pharmacy, communications, transportation and utilities.
- Devise policies that require staff—particularly those responsible for cleaning and food preparation—to strive for high levels of hygiene and cleanliness; special attention should be paid to coffee areas, cafeteria tables, door knobs, restrooms, copiers and fax machines, phones and desktop computers.<sup>9</sup>

In addition to developing phase-by-phase response plans, organizations should take some proactive measures with employees. Employee

### INTERPANDEMIC PERIOD

**Phase 1:** No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.

**Phase 2:** No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

### PANDEMIC ALERT PERIOD

**Phase 3:** Human infection(s) with a new subtype, but no human-to-human spread or, at most, rare instances of spread to a close contact.

**Phase 4:** Small cluster(s) with limited human-to-human transmission, but spread is highly localized, suggesting that the virus is not well adapted to humans.

**Phase 5:** Larger cluster(s), but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not be fully transmissible (substantial pandemic risk).

### PANDEMIC PERIOD

**Phase 6:** Pandemic: increased and sustained transmission in general population.

Source: WHO Global Influenza Preparedness Plan, 2005

healthcare and prescription drug plans should be reviewed to help ensure that vaccinations, antiviral medications and other care would be covered. What's more, organizations should consider developing and implementing an education program for employees and their families. Such programs help promote a better understanding of the Avian Flu— including the identification of symptoms and the simple steps that can help prevent its spread.

Education is absolutely critical for employees who travel to areas where Avian Flu has been reported. These employees should be taught to increase their levels of hygiene in common areas, such as planes, hotels and restaurants. In addition, they need an understanding of the difference between cold and flu symptoms—and a clear directive to seek professional healthcare if they experience illness upon returning to the United States.

### HOW TO PREPARE: INDIVIDUALS

Indeed, individuals play a key role in curbing the spread of Avian Flu—and the panic that may accompany the disease. Business and government leaders should become familiar with precautions for individuals—not only for the protection of themselves and their families, but also so they can properly educate and communicate with employees.

The most powerful preparation is also the most basic: individuals should eat balanced diets, exercise daily, drink plenty of water and get sufficient rest. In addition, to prevent the spread of germs, health experts advise the following common-sense steps:

- Wash hands frequently with soap and water (alcohol-based sanitizer gels are a good alternative when water is not available).
- Use tissues to cover coughs and sneezes.
- When sick, stay away from others as much as possible.

What's more, any individuals who suspect they may have been exposed to Avian Flu should notify their healthcare providers before arriving for any visits. This allows medical staff to take proper precautions to protect themselves and other patients.

### CONCLUSION

As of this writing, there is neither a vaccine nor a "cure" for Avian Flu. In other words, no one is immune. Thus, the prospect of a pandemic is understandably frightening. An outbreak of this disease across a wide area could be a devastating— and uniquely human—disaster.

Both the "parts" and the "whole" of virtually every organization could be profoundly affected— and that's especially true for firms whose employees interact with or deliver critical services to the public. Even so, for the public welfare, these organizations must be prepared to carry on.

For those reasons, irrational fear and misguided behavior must be avoided and proper preparation must be embraced. Through knowledge and planning, organizations and individuals can alleviate fear and prevent a paralyzing "panic" reaction.

The recommendations outlined in this white paper provide a starting point for pandemic planning. In addition, SunGard advises everyone to take personal responsibility for staying informed. Some of the best approaches include consulting online resources frequently for national and international updates; following media reports about a flu pandemic; and, if an outbreak occurs, taking full advantage of national and local pandemic hotlines.

For more information on the Avian Flu pandemic, and for the latest updates, visit these websites:

[www.pandemicflu.gov](http://www.pandemicflu.gov)  
[www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)  
[www.cdc.gov/flu/avian/](http://www.cdc.gov/flu/avian/)

\*25 percent figure based on the IDC White Paper, "Ensuring Information Availability: Aligning Customer Needs with an Optimal Investment Strategy." Actual savings may vary depending on services selected.

## REFERENCES

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2. Homeland Security Council. National Strategy for Pandemic Influenza. November 1, 2005.
3. [www.pandemicflu.gov](http://www.pandemicflu.gov). November 20, 2005.
4. Ibid.
5. <http://www.nlm.nih.gov/medlineplus/ency/article/007263.htm>. MedLine Plus Medical Encyclopedia.
6. Osterholm, Michael T. "Preparing for the Next Pandemic." *Foreign Affairs*. July/August 2005.
7. [www.continuitycentral.com/feature0265.htm](http://www.continuitycentral.com/feature0265.htm). "Continuity Central Pandemic Planning Survey Results." November 11, 2005.
8. In devising scenarios, organizations should consider that the virus improves its transmissibility through both adaptive mutation (a gradual process that results in a lower spread rate) and reassortment (a much more rapid process that can result in explosive spread).
9. In addition, protective masks should be worn by employees who have contact with the public. To alleviate fearful or other negative reaction, organizations can use marketing/advertising and post "plain English" explanations where services are delivered. In fact, use of masks can be leveraged as evidence that an organization cares about its customers and employees.

## About SunGard Availability Services

SunGard Availability Services provides disaster recovery, managed IT, information availability consulting services, business continuity management software to over 10,000 customers in North America and Europe.

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