

QUESTION & ANSWER

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Preparing Your Business For The Impact Of A Bird Flu Pandemic

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EXECUTIVE SUMMARY

It's difficult to tell just how credible and imminent a threat an avian flu pandemic poses. The World Health Organization (WHO) has already confirmed 241 human cases of today's avian influenza A (H5N1) virus in 10 countries worldwide. The virus has met two of the three necessary preconditions for a pandemic but thankfully cannot yet be easily and sustainably transmitted between humans. Pandemics are recurring events — thus, even if today's strain doesn't make the leap, a future virus will. Many firms' business continuity plans focus on recovering processes and IT systems in alternate locations and may not take into account a pandemic that will rapidly affect all of your staff, suppliers, partners, and customers worldwide. But just because an influenza pandemic is inevitable doesn't mean that you can't minimize its damage. From clear communication of plans to protecting employees and their families with medical supplies and notification programs, there are many steps you can and should take. Here we address security and risk professionals' top questions about preparing for a pandemic.

QUESTIONS

- 1. What is avian flu, exactly, and what impact has it had thus far?**
- 2. Is the threat of a bird/avian flu pandemic credible?**
- 3. If we have survived pandemics before, what makes planning different today?**
- 4. Where does business start in planning communication internally for a flu pandemic?**
- 5. Are my current business continuity plans adequate?**
- 6. What is the first step my organization should take to plan for a pandemic?**
- 7. What are the subsequent steps in pandemic planning?**
- 8. What is important to understand regarding the human resources impact of a pandemic?**
- 9. Who takes which role in pandemic planning?**
- 10. What resources does Forrester recommend for pandemic planning?**

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IT’S A QUESTION OF WHEN, NOT IF — BUT PREPARATION CAN HELP

We at Forrester aren’t epidemiologists either — thus, we understand your anxiety about the possibility of an outbreak of avian flu. First, keep in mind that influenza pandemics are recurring events; the world has suffered two lesser-known pandemics since the infamous “Spanish Flu” of 1917 to 1918 that killed as many as 50 million people worldwide (see Figure 1).¹ Also, the ordinary human influenza virus that a few of our colleagues contract each year is a bigger problem than you think; in the US alone, approximately 36,000 people succumb to seasonal flu each year.² Here are our answers to the top ten questions about preparing your company and your staff for a flu pandemic:

1. What is avian flu, exactly, and what impact has it had thus far?

Today’s strain of highly pathogenic avian influenza is known as influenza A virus subtype H5N1 (often written as “A (H5N1)” or “H5N1,” and researchers noticed its first outbreaks in birds in Southeast Asia in 2003 (see Figure 2). As of August of 2006, the WHO has confirmed 241 total human cases of influenza A (H5N1) in 10 countries, and 141 of those patients have since died.³ And that high mortality rate is indeed cause for concern — but the disease does not cross the species barrier easily, and human-to-human transmission has been limited.⁴ The 241 confirmed cases make up a very small number compared with the WHO’s estimate of 150 million infected birds, especially when you consider that backyard poultry flocks are common all over Asia.

Figure 1 Influenza Pandemics

Year	Influenza strain common name	Global impact
1918	Spanish flu	Between 20 to 40% of the world’s population became ill. Caused between 20 and 50 million deaths.
1957	Asian flu	2 million deaths.
1968	Hong Kong flu	1 million deaths.

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Source: Forrester Research, Inc.

Figure 2 Explanations Of Commonly Used Terms

Term	Explanation
Epidemic	An outbreak of disease that occurs in more cases than you would normally expect.
Pandemic	An outbreak of disease that occurs over a wide geographic area and affects an exceptionally high percentage of the population (implies a higher infection rate than an epidemic as well as a wider geographic area).
Influenza A	The 3 types of influenza viruses are called A, B, and C. Only types A and B affect human health significantly, and only type A viruses can cause pandemics.
Subtype H5N1	Influenza A viruses have 16 possible H subtypes and nine possible N subtypes. H subtypes govern the virus’s ability to bind to and enter cells. N subtypes control the release of new copies of the virus from the infected cells.

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Source: Forrester Research, Inc.

2. Is the threat of a bird/avian flu pandemic credible?

Yes. According to the US's Center for Disease Control and the WHO, the influenza A (H5N1) virus has the potential to develop into a pandemic. According to the WHO, a pandemic can start when the virus meets three conditions: 1) a new virus subtype emerges; 2) the virus can infect and cause serious illness in humans; and 3) the virus spreads easily and sustainably among humans. Of those three conditions, the first two have already been met: 1) Humans have not been widely exposed to A (H5N1) viruses, and 2) more than half of the 241 known patients infected with A (H5N1) have died from the disease. However, the virus cannot yet transmit itself efficiently between humans — which has kept it from becoming a pandemic. Despite large programs for the disposal of infected birds in many countries, A (H5N1) has become endemic in bird populations, which creates new opportunities for infecting humans. Each successful infection of a human host gives the virus an opportunity to improve its human-to-human transmissibility — and thus satisfy the third and final condition for an influenza pandemic.⁵

Since we're only one condition short of a pandemic, and the world's pharmaceutical industry can't quickly produce nearly enough drugs to treat a substantial portion of the world's population, why *not* panic?⁶ Because a pandemic may or may not materialize from today's A (H5N1) strain, and the severity of a pandemic is speculative and nearly impossible to accurately predict. Nevertheless, organizations should be prepared. The current conservative estimate by the WHO is that if a pandemic occurs, the world will suffer between 2 and 7.4 million deaths.⁷

3. If we have survived pandemics before, what makes planning different today?

Today, even the smallest of organizations have supplier relationships that span the globe; your ballpoint pens come from China, your spare copier parts from Hungary, and your printer paper from Uruguay. A pandemic of the current strain of influenza A (H5N1) would sweep the world very quickly — the pandemics of the last century traveled the globe in less than nine months. Considering today's far more rapid travel means, experts project that a flu pandemic could mean human infections on all continents within three months.⁸ And quarantining people with flu symptoms at borders will help but won't contain influenza's spread fully. This is because the incubation period for normal human influenza typically lasts between one and four days (and experts estimate that humans develop symptoms between one and five days after being exposed to influenza A (H5N1)).⁹ Infected adults can transmit the virus to others the day before their symptoms begin, while infected children will carry viruses that can infect others for several days before they become ill themselves.¹⁰

An important element to factor into that pandemic planning is just-in-time manufacturing. Engineering processes and supply chains to keep as little idle inventory on hand as possible has created tremendous efficiencies for companies and lowered end prices for customers, but those low inventories will prove to be liabilities in the event of a pandemic. Why? Because a pandemic will cause widespread disruption in logistics and supply chains across all industries. Medical equipment and pharmaceutical firms operate under those same just-in-time principles, and those firms will be heavily taxed to provide essential medical supplies in the midst of a pandemic.

4. Where does business start in planning communication internally for a flu pandemic?

There are three critical items that set the stage for flu pandemic planning:

1. **Tone at the top.** Communication about the firm's plan for continuing to operate in the event of a flu pandemic must come from your executive team.
2. **Rationality is critical.** Although a pandemic is a frightening prospect, your executives must present a logical and rational approach to communication, preparedness, and stability.
3. **Employee and family health and safety come first.** As with any crisis, in the midst of a pandemic, your employees' first thoughts will be for their families, not their jobs. To help your healthy employees be productive, provide them with all the information they'll need: community health reports, information about school closings and arrangements for alternate childcare, and formal spousal/emergency contact notification programs.

5. Are my current business continuity plans adequate?

Probably not. Business continuity plans tend to focus on recovery of the technology environment in the event of a disruption, and most don't address the human resource issues that a flu pandemic introduces. Technology is merely a support element in planning for pandemic flu.

Furthermore, firms have typically developed their business continuity plans with regional events like power outages, equipment failures, and storms in mind. Even severe natural disasters like the Asian Tsunami of December 2004 and US Hurricanes Katrina and Rita in August 2005 affect only discrete areas (albeit very large discrete areas) and allow business to recover operations somewhere else. Because a worldwide flu pandemic could impact all continents in as little as three months, it won't be possible to move your recovery out of the path of the disease. Travel bans and localized quarantines will help retard the spread of the disease, but they'll also impair the ability of organizations to react — you may not be able to move your skilled staff around to compensate for illness-related shortages.

Firms like HSBC Group, BP, and a leading investment bank are actively revising their business continuity plans to include a global pandemic. HSBC conducted a business impact analysis and is actively taking steps to address a pandemic.¹¹ BP is actively engaged in what the oil firm calls "major dislocation planning" and is bringing together key executives and external speakers to address this and other potential large-scale business disruptors at an internal BP seminar this fall. The leading investment bank has also kicked off a "business resiliency" project to handle scenarios like an avian flu pandemic.

6. What is the first step my organization should take to plan for a pandemic?

Planning for a pandemic requires a deep understanding of your business processes and relationships and of how reduced logistics capacity and scarcity of people and parts will impair operations. Organizations must begin by modeling business operations, conducting a business impact analysis, and conducting scenario planning. Start by looking at:

1. **Critical business processes and operations.** Sort your business processes into three categories: 1) those that need to stay running at all costs; 2) those that you'd strongly prefer to keep running; and 3) those which can wait until after the crisis has passed.
2. **Supplier/partner relationships.** Understand the restrictions on logistics for business supplies/ parts, as well as relationships. Remember, logistics providers like DHL International, FedEx, and United Parcel Service of America (UPS) will also have to operate under travel restrictions and with short staff and may not be able to meet their normal delivery commitments. Identify and keep inventories of critical parts and prioritize your most important business partner relationships so that those partners get first claim on help from your staff.
3. **Customer relationships.** When you're operating with scarce resources — you'll have less product and far fewer customer service representatives available — make sure your company knows which customers should receive priority service.
4. **Human resources issues — providing workforce continuity.** A flu pandemic will impact all of your employees, regardless of job type or location. Some experts estimate that an average of 20% of working age adults will become ill during an outbreak. But absenteeism among your employees could reach as high as 40% during an outbreak — because many healthy workers will have to stay home to care for ill family members, and others may stay away for fear of becoming infected.¹²
5. **Government infrastructure.** The ability of local government to respond to crisis and provide emergency services will impact your local operations.

7. What are the subsequent steps in pandemic planning?

After you've examined your business operations and modeled scenarios for the impact of a pandemic, here are your next steps:¹³

1. **Allocate resources.** Budget money and staff time for creating and communicating the formal pandemic flu plan. Monitor for avian flu spread and for outbreaks in areas where you or your partners have operations, and work with industry and government to prepare.
2. **Establish policies.** Update all of your business continuity plans to account for widespread geographic disruption and recovery with reduced staff resources.

3. **Develop a response plan.** Link the implementation of your response plans to pandemic threat levels defined by the WHO.
4. **Build infrastructure.** Extend your business and technical infrastructure capabilities to satisfy your response plan requirements. For the business side of the house, this means stocking emergency supplies like respiratory masks. For IT, this means working with local service providers to expand your telecommuting/remote access infrastructure — remote broadband access using personal PCs or company-issued laptops will mean that employees at home caring for sick family members can still pitch in. Another large oil firm has a plan to issue laptops to up to 9,000 employees all over Asia so that they can work remotely in the event of a pandemic.
5. **Communicate.** Communication is critical — both before and during a pandemic. In a distributed business, organizations should particularly leverage eLearning technologies to communicate response plans to employees. For example, global consultancy Deloitte uses its employee eLearning Course — Avian Influenza: Understand, Plan, and Prepare.

8. What is important to understand regarding the human resources impact of a pandemic?

People are your most important resource, and an influenza pandemic — whether of today's A (H5N1) strain or any other — poses risk to your people, not to your infrastructure. Particular issues include:

1. **Short staff.** Understand what roles are critical for your organization's operations, and define who can fill those roles when the current individual(s) falls ill. Pay particular attention to assigning backups for critical business decision-makers because you won't be able to wait until they recover from the illness.
2. **Sick leave and flexible working arrangements.** Your employees need to feel confident that the organization will support them when they're sick or caring for seriously ill family members. Establishing guidelines ahead of time will reassure your employees that they won't have to worry about losing their livelihoods in the midst of a crisis.
3. **Medical stockpiles.** Organizations with employees in regions with less mature healthcare delivery systems are considering purchasing their own stockpiles of drugs to treat employees.

9. Who takes which role in pandemic planning?

Here's how responsibilities shake out:

- **Government.** Government's role is to develop regional preparedness, surveillance of a pandemic's spread, local and regional crisis response, containment and quarantine, communication, and planning for medical surge capacity.

- **Individuals.** Each of us needs to make sure she has enough supplies at home both to ward off illness (soaps and disinfectants) and to last through the initial stages of an illness (staple foods, medicines, tissues, etc.).
- **Business.** The role of business is to focus on supply chains, production capacity, labor pools, reacting to increase/decrease in demand for products and services, partner reliability, and overall ability to meet obligations.

10. What resources does Forrester recommend for pandemic planning?

Start with the WHO (www.who.int/csr/disease/avian_influenza/en/). You can also find helpful planning checklists at national government health authorities, such as the US's Center for Disease Control (www.pandemicflu.gov/). Consulting and advisory firms like Deloitte and IBM Global Services are great resources for organizations to turn to for guidance. These firms have dedicated teams focused on business continuity, resiliency, and risk intelligence addressing the avian flu pandemic. Deloitte, in particular, has been on the frontline of addressing preparedness internally.¹⁴ Forrester has compiled a list of additional helpful pandemic planning resources in the Supplemental Material section of this report.

SUPPLEMENTAL MATERIAL

Additional Resources

Global Resources To Monitor And Track Avian Influenza:

- Food and Agriculture Organization of the United Nations (FAO) (www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html)
- World Organization for Animal Health (OIE) (www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm)
- World Health Organization (WHO) (www.who.int/csr/disease/avian_influenza/en/)
- International SOS (ISOS) (www.internationalsos.com/members_home/pandemicpreparedness/index.cfm?content_id=117&language_id=ENG)

Regional Resources To Monitor And Track Avian Influenza:

- European Commission: Avian Influenza (europa.eu.int/comm/food/animal/diseases/controlmeasures/avian/index_en.htm)
- European Center for Disease Control and Prevention (www.ecdc.eu.int/)

- WHO European (www.euro.who.int/flu)
- WHO Western Pacific (www.wpro.who.int/health_topics/avian_influenza/)
- WHO SE Asia (w3.whosea.org/index.htm)
- Pan American Health Organization (www.paho.org/)
- WHO Africa (www.afro.who.int/)

Country Resources To Monitor And Track Avian Influenza — Country Sources:

- UK Department of Health_ (www.dh.gov.uk/PolicyAndGuidance/EmergencyPlanning/PandemicFlu/fs/en)
- UK Government Emergency Preparedness (www.preparingforemergencies.gov.uk/business/)
- Hong Kong Government (www.info.gov.hk/info/flu/eng/)
- Singapore Ministry of Health (www.moh.gov.sg/corp/hottopics/influenza/detail.do)
- Australian Government Department of Health and Ageing (www.health.gov.au/internet/wcms/Publishing.nsf/Content/ohp-pandemic-ahmppi.htm)
- Public Health Agency of Canada (www.phac-aspc.gc.ca/cpip-pclcpi/index.html)
- U.S. Center for Disease Control — Site #1 (www.pandemicflu.gov/)
- U.S. Center for Disease Control — Site #2 (www.cdc.gov/flu/avian/index.htm)

Academic And Health Resources To Monitor And Track Avian Influenza:

- Center for Infectious Disease Research and Policy (CIDRAP) (www.cidrap.umn.edu/cidrap/content/influenza/avianflu/index.html)
- International Market Assessment — Asia (www.imaasia.com/)
- Heath Services Australia Group (www.avianinfluenza.com.au/about_us/index.html)
- Mayo Clinic (www.mayoclinic.com/health/bird-flu/DS00566)

Companies Interviewed For This Document

Deloitte

ENDNOTES

- ¹ Source: Historical information regarding 20th century flu pandemics (www.hhs.gov/nvpo/pandemics/flu3.htm and www.who.int/csr/disease/influenza/pandemic10things/en/index.html). Further flu facts can be found in the Deloitte Center for Health Solutions research piece “Pandemic Flu Roundtable on Preparation, Productivity and Profitability” (www.deloitte.com/dtt/article/0,1002,sid%3D15527%26cid%3D117673,00.html), as well as in the Algorithmics OpFirst analysis of the Avian Flu “Fitch Risk FIRST Report for Loss Event 6177.”
- ² Season flu also results in an estimated 200,000 hospitalizations in the US alone. Source: National Strategy for Pandemic Influenza (www.whitehouse.gov/homeland/pandemic-influenza.html).
- ³ The 10 countries with confirmed cases are: Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia (second largest number), Iraq, Thailand, Turkey, and Vietnam (largest number). Source: Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO (www.who.int/csr/disease/avian_influenza/country/cases_table_2006_08_23/en/index.html).
- ⁴ The virus has not spread beyond a first generation of close contacts or caused disease in the wider human community. Source: Avian Influenza Frequently Asked Questions (www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html).
- ⁵ There are two ways for the virus to improve its transmissibility between humans. The first is “reassortment,” where a human or pig contracts both A (H5N1) and a human seasonal flu virus, and the two viruses exchange genetic material while infecting the same cell. The second is a process of adaptive mutation, in which each infection of a new person increases the A (H5N1) virus’s ability to bind to human cells. Source: Avian Influenza Frequently Asked Questions (www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html).
- ⁶ Although vaccines against A (H5N1) are in clinical trials in many countries, no vaccine is yet ready for commercial production. In part, that’s because an effective vaccine must closely match the pandemic strain — which hasn’t emerged yet. The relevant drugs for pandemic flu are: a) oseltamivir (commercially known as Tamiflu) and zanamivir (commercially known as Relenza), and b) older antivirals amantadine and rimantadine. The drugs in category A are expensive and difficult to manufacture (the WHO estimates that at present manufacturing capacity, it would take 10 years to make enough oseltamivir to treat 20% of the world’s population), and many current A (H5N1) viruses have proven resistant to the drugs in category B. Source: Avian Influenza Frequently Asked Questions (www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html#control), Vaccine Research and Development: Current Status (www.who.int/csr/disease/avian_influenza/vaccineresearch2005_11_3/en/index.html) and H5N1 Avian Flu Vaccine Trials (www3.niaid.nih.gov/news/newsreleases/2005/H5N1QandA.htm).
- ⁷ The WHO has based this estimate on the comparatively mild 1957 to 1958 pandemic. Estimates based on the 1917 to 1918 pandemic would be much higher. Source: Ten Things You Need To Know About Pandemic Influenza (www.who.int/csr/disease/influenza/pandemic10things/en/index.html).

- ⁸ Source: Ten Things You Need To Know About Pandemic Influenza (www.who.int/csr/disease/influenza/pandemic10things/en/index.html).
- ⁹ The exact incubation period for influenza A H5N1 in humans isn't yet clear. Source: Cnn.com(www.cnn.com/HEALTH/library/DS/00566.html).
- ¹⁰ Source: Clinical Signs and Symptoms of Influenza (www.cdc.gov/flu/professionals/diagnosis).
- ¹¹ According to the Algorithmics OpFirst analysis of the avian flu — Fitch Risk FIRST Report for Loss Event 6177 — “In an early indication of what a pandemic would cost global financial institutions, HSBC announced on January 9, 2006, that an outbreak of avian influenza or “bird flu” could have a potentially devastating impact on its business model. In what it characterized as a “worst case” scenario, the bank indicated that such an outbreak could result in as many as 50% of its staff becoming unavailable for work.”
- ¹² Source: Pandemic Flu (pandemicflu.gov/plan/pandplan.html).
- ¹³ Source: Business Pandemic Influenza Planning Checklist (www.pandemicflu.gov/plan/businesschecklist.html).
- ¹⁴ In an interview for this report, Deloitte provided Forrester with two reports aimed at organizational preparedness for the avian flu. The Deloitte Center for Health Solutions has developed a report entitled “Pandemic Flu Roundtable on Preparation, Productivity and Profitability.” Most recently, Deloitte has developed a paper focused on the risk management side of pandemic planning, “Risk Intelligence in the Age of Global Uncertainty: Addressing Myriad Threats Through Prudent and Practical Preparedness.” Both of these reports are available from Deloitte.