Avian Flu: Business Readiness Plan

By Aruna Vadgama, RN, MPA, CSP, CPHQ, CPE, COHN-S

“Pandemics are global in nature, but their impact is local. When the next pandemic strikes, as it surely will, it is likely to touch the lives of every individual, family and community. Our task is to make sure that when this happens, we will be a nation prepared.”

—Michael O. Leavitt
Secretary, U.S. Department of Health and Human Services

Since the publication of the article “Avian Flu: Infection Control Guidelines” in the Vol. 5, No. 2 issue of HealthBeat, the author and ASSE have received many requests to publish planning guidelines for managing pandemics. The author has provided leadership in planning and implementing planning for an integrated healthcare facility. This article provides tools for developing a plan to manage the occupational health and safety of employees and the community. Although the article addresses the readiness plan for avian influenza pandemic, its principals can be used for planning biological hazard exposure control.

The Centers for Disease Control (CDC), OSHA, Joint Commission on Accreditation of Healthcare Organization (JCAHO), Centers for Medicare and Medicaid Services (CMS), Food and Drug Administration (FDA) and other public health experts have forecasted the possibility of a worldwide influenza pandemic in recent years with the identification and spread of H5N1 avian flu in birds in 16 countries.

World Health Organization (WHO) reports that 122 humans have contracted the infection via contact with infected birds. This has heightened the level of concern from worldwide public health experts. Experts report that avian flu will occur only if the H5N1 mutates into an organism that is transmissible from human to human. In the latest U.S. government pandemic update, DHHS Secretary Leavitt warns that the discovery of H5N1 in America is inevitable, possibly as soon as within the next several months. However, he urges Americans not to panic. Rather, this information should “motivate us to pick up the pace to renew pandemic preparations on every front at every level.”

Managing Employee Health & Benefit Plans

The author believes this information should provide an impetus for businesses to start reviewing their healthcare benefit plans, occupational safety and health resources and their first responders’ competence in managing a surge in employee illness. Traditionally, health plans offer benefits for hospital care and treatment. However, projected data show that a potential pandemic can limit access to healthcare service and can reduce the number of available hospital staff, medications and other infection control resources because of the influx of patients.

Businesses should review their healthcare benefit plans to enhance benefits for outpatient service access and homecare treatment, and they should build preferred providers with pharmaceutical organizations to make available needed services and medications for their employees and their families.

Hospitals will be overwhelmed with flu cases, so outpatient and homecare treatment agencies will be expected to care for the overflow of patients. Additionally, they must create alliances with local, state and federal government agencies to leverage their support for assisting employees and their families during a pandemic.

Based on historical patterns, influenza pandemics can be expected to occur, on
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average, three to four times each century when new virus subtypes emerge and are readily transmitted from person to person. However, the occurrence of influenza pandemics is unpredictable. In the 20th century, the great influenza pandemic of 1918-19, which caused an estimated 40 to 50 million deaths worldwide, was followed by pandemics in 1957-58 and 1968-69.

Experts agree that another influenza pandemic is inevitable and possibly imminent. Most influenza experts also agree that the prompt culling of Hong Kong’s entire poultry population in 1997 probably averted a pandemic.

Current Strategies for Infection Control for Influenza

Every year, five to 20% of the U.S. population gets influenza. More than 200,000 people are hospitalized from complications. Between 1990 and 1999, 36,000 died, 90% over the age of 65.

Pneumonia due to influenza is the fifth leading cause of death in the U.S. The cost of treating people with influenza is estimated at $71 to $167 billion each year. Influenza vaccination reduces hospitalization and complications for the elderly by 57% and deaths by 30%.

CMS, in conjunction with the Quality Improvement Organization, CDC and JCAHO, developed the infection control initiative to increase immunization for healthcare workers, the elderly and communities. It recommends incorporating influenza and pneumococcal immunization into the workplace as well as a healthcare providers’ comprehensive assessment and health promotion program. The 2007 JCAHO Infection Control standard mandates that accredited healthcare organizations develop influenza vaccination programs for their employees. JCAHO’s proposed standard and the elements of performance will require accredited healthcare organizations to identify high-risk patient populations and to offer influenza vaccinations. The influenza vaccination does not prevent contracting the avian flu.

Factors to Consider when Planning for a Pandemic

Since public health experts have projected that everyone, including the healthy adult population, may be at risk of contracting avian flu, there is potential for widespread disruption in our infrastructure and daily life.

Where to Begin?

Organizations must designate a multidisciplinary committee to spearhead efforts to manage the pandemic influenza and emergency response strategies. Health and SH&E professionals may chair the committee; however, I recommend that a member of an executive committee and/or the healthcare industry, such as a physician, should be a co-chair. The committee must have executive members who have responsibility and authority for planning budgets. These members will be a conduit to obtain resources for stockpiling and contingency planning process.

The organizational committee must collaborate with local, state and federal pandemic response plans. The committee should send representatives to regional pandemic planning meetings.

It should be noted that each state has been allocated federal funds for regional pandemic response plans. This funding is used for stockpiling medical supplies, personal protective equipment, medications and training personnel. Additionally, funding is available to purchase isolation and decontamination tents for the healthcare facilities should they need to quarantine infected individuals.

Essential Elements of Planning for Pandemic Influenza

Planning for pandemic influenza should be an integral part of a business strategy. DHHS developed checklists to help organizations identify key areas for pandemic influenza planning. Businesses can use the following checklist to identify the strengths and weaknesses of current planning efforts. Three key components—structure for planning and decision making, development of a written pandemic influenza plan, and elements of an influenza pandemic plan—should be

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<table>
<thead>
<tr>
<th>TABLE 1 Differences Between Seasonal Flu &amp; Pandemic Flu</th>
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<tbody>
<tr>
<td><strong>Characteristics</strong></td>
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<tr>
<td>Caused by influenza viruses that are similar to those already affecting people. Outbreaks follow predictable seasonal patterns and usually occur annually in winter in temperate climates.</td>
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<tr>
<td>Symptoms include fever, cough, runny nose and joint and muscle pain. Deaths can be caused by complications such as pneumonia.</td>
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Source: CDC

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<tr>
<th>TABLE 2 Differences Between a Moderate &amp; Severe Pandemic</th>
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<tr>
<td><strong>Characteristics</strong></td>
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<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Infected</td>
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<tr>
<td>Outpatient Medical Care</td>
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<tr>
<td>Hospitalized</td>
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<tr>
<td>Need ICU Care</td>
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<tr>
<td>Need Mechanical Ventilation</td>
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<td>Deaths</td>
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Source: United States Department of Health and Human Services. Estimates are based on extrapolation from past pandemics in the United States. Note: These estimates do not include the potential impact of interventions not available during 20th-century pandemics.

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addressed. Within these components are four elements—not started, in progress, completed and comment—that need to be assessed for each task.  

1) Structure for Planning & Decision Making

Tasks
- Pandemic influenza has been incorporated into emergency management planning for the organization.
- A planning committee has been created to specifically address pandemic influenza preparedness.
- A person has been assigned responsibility for coordinating preparedness planning (hereafter referred to as the pandemic response coordinator) for the organization (insert name, title and contact information).
- Members of the planning committee include the following: (insert name, title and contact information).
- A point of contact has been identified for questions/consultation on infection control (e.g., hospital, state health department-based infection control professional, health epidemiologist (insert name, title and contact information).

2) Development of a Written Pandemic Influenza Plan

Tasks
- Copies of relevant sections of the DHHS pandemic influenza plan have been obtained from www.hhs.gov/pan demicflu/plan.
- Copies of state and/or local pandemic influenza plans have been obtained.
- A written plan has been completed or is in progress that includes the elements listed in the third component (Elements of an Influenza Pandemic Plan).
- The plan describes the organizational structure (e.g., lines of authority, function, assignment of responsibility) that will be used to operationalize the plan.
- The plan complements local response plans.

3) Elements of an Influenza Pandemic Plan

Tasks
- A plan is in place for monitoring pandemic influenza in the population served.
- Responsibility has been assigned for monitoring national and state public health advisories (e.g., www.cdc.gov/flu/weekly/fluactivity.htm).
- Updating members of the pandemic influenza planning committee when cases of pandemic influenza have been reported in U.S. and in the geographic area (insert name, title and contact information).
- A system has been created to monitor influenza-like illness in patients cared for at the facility (e.g., weekly or daily number of patients with influenza-like illness) www.cdc.gov/flu/professionals/diagnosis.
- A tracking system and trending of illness during seasonal influenza will ensure that organizations can detect stressors which may affect operating capacity, including staffing and supply needs during a pandemic.
- A system is in place to report unusual cases of influenza-like illness and influenza-related deaths to local health authorities.
- A communication plan has been developed and includes the following information with appropriate contact details: key public health contacts for pandemic influenza; local health department; local emergency management; state health department; the organization’s point person for external communication (e.g., with media, healthcare providers, hospitals, social service agencies, home healthcare agencies, emergency medical services, health centers and rural community organizations, residential care facilities).
- A list has been created of healthcare entities and their points of contact.
- The pandemic response coordinator has contacted local or regional pandemic influenza planning groups to obtain information on communication and coordination of plans.

- The pandemic response coordinator has contacted other similar services and/or business industries to collaborate.
- An education and training program has been developed to ensure that all personnel understand the implications of and control measures for pandemic influenza and the community response plan (www.hhs.gov/pandemicflu/plan/sup3.html#edutrain).
- A person has been designated to coordinate education and training (e.g., identify and facilitate access to education and training to ensure that all personnel attend and maintain record of attendance.
- Current and potential long distance (e.g., web-based education training opportunities) are identified (www.cdc.gov/flu/professionals/training).
- Language- and reading-level-appropriate materials have been identified on pandemic influenza. These materials are available through local and federal public health organizations. A plan is in place to obtain them.
- The education and training program includes information on infection control, including on how to prevent acquisition of occupational exposure/infections, and proper use of PPE and hand hygiene practices (www.hhs.gov/pandemicflu/plan/sup4.html#care).
- Informational materials on pandemic influenza for patients and their families.

<table>
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<th>TABLE 3 Factors to Consider when Planning for a Pandemic</th>
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<tbody>
<tr>
<td><strong>Factor</strong></td>
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<tr>
<td>Social Disruption</td>
</tr>
<tr>
<td>Widespread Infection &amp; Sickness</td>
</tr>
<tr>
<td>Loss of Income</td>
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<tr>
<td>Schools May be Closed</td>
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<tr>
<td>Transportation Disruption</td>
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<tr>
<td>Communication</td>
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<tr>
<td>Medical Supplies</td>
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have been identified that are language-
and reading-level-appropriate for the pop-
ulation served and a plans are in place to
obtain and disseminate these materials.

• Materials have been identified or
developed to guide family members in
infection control and care of patients with
pandemic influenza at home.

• Patients and family members are
encouraged to maintain a 30-day supply
of medications and medical supplies as
well as a 2-week supply of nonperishable
food.

• The plan considers how social service
agencies (Red Cross, Salvation Army)
will help meet the needs of people who
live in the community (e.g., providing
child or elder care meals, shopping serv-
ices, transportation).

• An infection control plan is in place
and includes the following: an infection
control policy for the care of pandemic
influenza patients and employees (www
.hhs.gov/pandemicflu/plan/sup4.html;
www.cdc.gov/flu/professionals/infection
control).

• The policy requires healthcare person-
nel to use precautions, isolation standards
and droplet precautions (www.cdc.gov/
ncidod/dhqp/gl_isolation_standard.html;a
www.cdc.gov/ncidod/dhqp/gl_isolation
droplet.html).

• A list has been developed of supplies,
(e.g., surgical masks, N-95 masks, gloves,
alcohol-based hand hygiene products) that
will be used during home care, occupa-
tional and hospital settings to care for infected
individuals with pandemic influenza.

• An occupational safety and health plan
has been developed that includes: a non-
punitive sick leave policy for employees
who may have symptoms of or are diag-
nosed with pandemic influenza to prevent
the spread of infection among other work-
ers; and a vaccine and antiviral use plan.

• Websites offering current state and fed-
eral health and human service department
recommendations for use and availability
of vaccines and antiviral medications have
been identified (www.cdc.gov/flu/profes-
sionals/vaccination).

• An estimated number of targeted per-
sonnel as first and second priority for
receipt of available pandemic influenza
vaccine and antiviral prophylaxis has
been developed to ensure that personnel
at risk will be immunized so that they
may continue to provide care for sick
individuals. Refer to the DHHS guide-
lines in developing the list (www.hhs.
gov/pandemicflu/plan/appendixd.html).

• Issues related to surge capacity during
a pandemic have been addressed.

• A plan is in place to address staffing
issues (illness, shortage).

• Priority for providing care has been
developed.

• A plan for discharging patients has
been developed.

• A staffing contingency plan has been
developed that includes shutting units,
reducing and canceling routine services,
and using temporary staff.

• A plan for using available staff to pro-
vide essential duties has been developed.

In early pandemic stages,

it may not be clear

whether patients with a

high fever and severe

respiratory illness have

pandemic influenza.

• A collaborative plan with other
healthcare providers such as outpatient,
home health and visiting nurse services
has been developed to refer patients for
continued care and treatment.

• A list of PPE, medical supplies and
medication has been developed.

• These products are stockpiled.

• A contingency plan for replenishing
these supplies and products has been
developed.

• A plan has been developed to handle
local, state and federal resources to man-
age and handle mass mortalities, includ-
ing removal of deceased.

Managing Infectious Individuals

Infection control processes and practices
are universal. Thus, infection control prac-
tices for pandemic influenza are the same
as for other influenza viruses. The primary
method for preventing airborne droplet
infection is standard. This includes asking
the infected individual to wear a mask,
using masks during treatment and while in
a patient’s room, using good personal
hygiene, washing hands with an antiseptic
soap for a minimum of 60 seconds before
and after treating patients, properly dis-
posing of biohazardous products, and
decontaminating and cleaning all medical
equipment and rooms.

Precautions for Early
Stages of Pandemic

In early pandemic stages, it may not be
clear whether patients with a high fever
and severe respiratory illness have pan-
demic influenza. Thus, during this time, a
patient may be isolated and airborne/
bloodborne pathogens infection control
practices may be practiced until diagnosis
is confirmed.

Standard Precautions

Healthcare personnel, emergency respon-
ders and/or anyone caring for infected
individuals should avoid touching their
mucous membranes, eyes, mouth and/or
nose with contaminated hands (gloved or
nongloved).

They should be trained in proper usage
of personal protective equipment. They
should ensure that PPE is adjusted before
tending to a patient to prevent self-contam-
ination during use. Careful removal and
disposal of PPE is important in preventing
the spread of infection to their co-workers.

They should remove their PPE in a
contaminated area to prevent contamina-
ting the environment, doorknobs, light
switches, etc.

Respiratory Infection
Control Program

Respiratory Hygiene Etiquette

Health experts have promoted cough and
respiratory etiquette as a key strategy in
containing respiratory viruses at their
source and in limiting the spread of infec-
tion through droplet means. Although
there are no scientific studies to validate
this theory, scientists suggest that any
measure which limits the dispersal of
droplets should reduce the opportunity for
transmission of infectious agents.

The elements of droplet infection con-
trol strategies include educating staff,
patients and visitors on the importance of
preventing the spread of airborne
pathogens and containing respiratory
viruses. Education resources should be
developed in simple language that uses
visuals and diagrams, and it should be
available in languages appropriate for the
populations served. Education resources
must emphasize the importance of early
reporting and intervention to contain the
infection at its source.

Source control methodology includes:

• Covering the mouth and nose with a

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tissue when coughing, sneezing or whenever there is potential for spreading droplets;
• properly disposing of infected tissues, not leaving them on a bed or counter where someone else may be put at risk;
• encouraging infected individuals not to shake hands;
• using masks if they can tolerate them and if appropriate;
• ensuring proper hand hygiene after contact with respiratory secretions;
• maintaining at least a 3-ft separation between patients in common areas.

Hand Hygiene
Hand hygiene has been cited as the single most important practice for reducing and preventing the transmission of infections in healthcare settings and in communities. Hand hygiene is an essential standard precaution. Hand washing with antibacterial soaps and/or alcohol-based products is recommended.

Droplet Precautions & Patient Placement
• If possible, keep more than a 3-ft separation between patients in common areas.
• Place patients with confirmed or suspected pandemic influenza in isolation rooms.
• Place such patients on droplet precautions for a minimum of 5 days from the onset of symptoms.
• Place immunocompromised individuals, who may take longer to shed the virus, on droplet precautions for the duration of their illness.
• Healthcare personnel and other caregivers should use appropriate personal protective equipment.

Laboratory Specimens
• Use bloodborne pathogens and airborne infection precaution practices.

Patient Transport
• Contain patients in one room/area.
• If transport is necessary, the patient should be instructed to wear a mask to prevent the spread of infection through droplet infection.
• Practice hand hygiene.

Disposal of Biological Contaminated Waste
Standard precautions are recommended for disposal of medical and nonmedical products that are potentially contaminated with the pandemic influenza virus. The procedure is as follows:
• Contain the contaminated products in a plastic bag and dispose of it according to the facility-specific procedure and with state and local regulations for medical waste.
• All contaminated sharps should be disposed in sharps containers.
• Wear proper PPE.
• Practice hand hygiene after removal of gloves.

Linen & Laundry
Standard precautions are recommended for linen and laundry that are potentially contaminated with biological secretions, including respiratory secretions from patients with pandemic influenza.
• All contaminated and soiled laundry and linen should be placed directly into a laundry bag in the source’s room. Prevent linen from overflowing. Close the bag during transportation to prevent spilling the linen.
• Wear appropriate PPE while handling and transporting the laundry.
• Do not shake laundry to prevent spreading virus.
• Practice hand hygiene.

Dishes & Eating Utensils
Standard precautions are recommended for handling dishes and eating utensils used by a patient with known or possible pandemic influenza infection.
• Wash reusable dishes and utensils in a dishwasher at DHHS-recommended temperature.
• If disposable utensils and dishes are used, they should be disposed of as waste in plastic bags.
• Wear gloves while handling patients’ dishes, trays, utensils, and paper or linen towels.
• Practice hand hygiene.

Patient Care Equipment
• Standard precautions are recommended for handling and cleaning medical devices and equipment that are potentially contaminated with biological secretions, including respiratory secretions from patients with pandemic influenza.
• Use proper PPE.
• Use disinfectant recommended by the manufacturer to ensure decontamination.
• Large medical equipment, like X-ray machines should be wiped down with 70% alcohol or 10% bleach using gloves.
• Practice hand hygiene.

Environmental
Disinfecting, cleaning and decontaminating rooms, stretchers, beds, walls, curtains, etc., require standard precautions and are essential parts of the infection control process.

Postmortem
• Follow universal precautions for bloodborne and airborne precautions standards.
• Use appropriate PPE.

Conclusion
This article outlines infection control practices for pandemic influenza virus. Readers are encouraged to use the principals described to plan their readiness program for pandemic influenza or other biological hazards. Look in the Spring 2007 issue of HealthBeat for the author’s pandemic surge population plans.

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