A Union of Professionals
Health and Safety Program

Pandemic Influenza

Introduction – There is no doubt. An influenza pandemic is in our future. The big questions are how virulent a strain will circulate around the world and when. Upon its arrival, already hard-pressed healthcare workers are likely to be well-represented in the numbers of infected and ill. The recent SARS epidemic reminds us that healthcare workers succumb to respiratory infections at a greater rate than the general population. Fortunately if certain effective practices are put in place, healthcare worker won't have to suffer high rates of infection, morbidity and mortality.

This fact sheet will review:

- Basic facts about pandemic influenza and avian influenza
- Comprehensive occupational safety and health programs that should be in place to protect workers from exposure to the influenza virus
- Contract implications in the event of a pandemic or any disaster
- Resources available for pandemic influenza planning

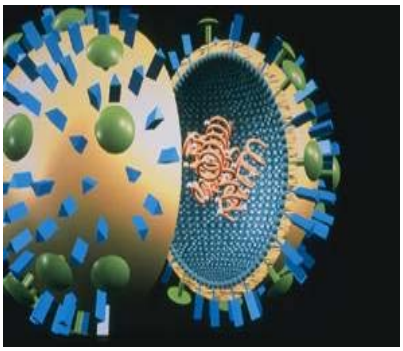
There is an enormous amount of information on pandemic influenza and avian influenza. New information is released almost everyday. AFT Healthcare recommends that you stay in touch with the department for the latest developments. In the meantime, we recommend that you use key resources recommended at the end of this document.

Pandemic influenza is only one of many disasters that healthcare workers and their institutions prepare to face. The call to action comes at a time when the entire healthcare system is at its most vulnerable. The public healthcare system has been in crisis for decades with little infra-structure to respond to a whole series of public health problems. The acute care system has fared little better – the number of hospital beds has dropped significantly and a recent report from the Institute of Medicine and corroborating studies has found the system of emergency room care in near collapse. To make matters worse, the federal government has promised precious little resources to state and local governments or

hospitals to take on the challenge of a pandemic. As of the summer of 2006, only 225 million federal dollars had been committed to state and local health departments to prepare for a pandemic.

The federal government lead by the Department of Health and Human Services (DHHS) has engaged in developing extensive guidelines for pandemic influenza planning. The assumptions that the federal government has made in the preparation of these guidelines has been called into question by at least one group[1]. The US government uses the Centers for Disease Control and Prevention (CDC) FluSurge 2.0 software to take into account attack rate, duration of an outbreak and hospitalization rates. In the Pandemic Influenza Plan, HHS applies1968-like assumptions adjusting only the hospitalization rate. By comparison, the state of California made assumptions based on an average of the 1918 and 1968 assumptions and predicted far higher rates of hospitalization of infected people and mortality.

Overview – Pandemic Influenza



An influenza pandemic is a unique natural disaster. Much like a hurricane or earthquake, a pandemic is inevitable with no absolute way to predict the timing or severity of the event. We do know that pandemics spread around the world in successive waves over months or one-two years. Pandemics tend to come every 30-50 years. There were three in the 20th century –

[1] Toner, Eric. "Severe Pandemic Planning Assumptions May be too Low". Clinicians' Biosecurity Network Report. June 2006.

1918, 1957 and 1968. The 1918 "Spanish flu" outbreak was devastating – killing millions of people; by comparison the 1957 and 1968 pandemics were fairly benign.

Name	Date	Strain	Fatalities
Spanish Flu	1918-1919	H1N1	Up to 50 million
Asian Flu	1957-1958	H2N2	2 million
Hong Kong Flu	1968-1969	H3N2	1 million

Pandemics vs. epidemics

Influenza is a serious respiratory disease that often leads to complications for the very young or very old. Epidemics of influenza occur world-wide every year resulting in 3-5 million cases of severe illness and up to 500,000 deaths (approximately 30,000 in the US alone). Influenza A strains are usually the culprit with new strains arising every 1-2 years from mutations of two viral surface proteins (hemagglutinin and neuraminidase). These mutations prevent us from developing any lasting immunity against the viruses, either after natural infection or after vaccination. In ordinary "garden variety" influenza virus, these changes or mutations are fairly small but steadfastly perennial and are responsible for regular occurrence of influenza epidemics. They are often referred to as "antigenic drift".

Pandemics have unique characteristics that separate them from epidemics. The mutations in a pandemic influenza virus are far more radical so that there is an "antigenic shift" in the surface proteins. The "shift" occurs when a novel or new virus emerges from an animal reservoir, for which no human immunity exists, and gains the ability to infect humans. A pandemic virus will also replicate efficiently in humans (in lung tissue) and cause significant illness and death. And the virus is able to spread efficiently from human to human.

Pandemics circulate around the world in successive waves and there is no way to prevent the spread of a new pandemic influenza virus. Almost every human on the earth will be infected

in a matter of a few years. After a pandemic hits, we can anticipate unusually high rates of deaths from influenza and pneumonia for many years to come. Even conservative estimates (based on the mild pandemic of 1968) project 2 million to 7.4 million cases during the next pandemic.

Viral mutations aren't the only shift we can expect during a pandemic. There is a shift in mortality towards younger age groups. For instance during the pandemics of 1918, 1957 and 1968, an excessively high proportion of influenza-related deaths occurred among persons younger than 65. Most of those who died during the 1918 pandemic were between 15-35 years old.

Current Concerns

One menacing candidate for the next influenza pandemic is the avian H5N1 influenza virus. The World Health Organization has tracked this virus for years and believes that even small mutations could make this highly pathogenic virus easily transmissible from human to human. H5N1 is now endemic in wild waterfowl and in domestic poultry in many parts of Southeast Asia. Most recently it has spread across Asia into Europe and Africa.

Right now, avian influenza is largely a disease of birds. Tens of millions of birds have been infected over large geographical areas for more than two years. Fortunately fewer than 200 human cases have been confirmed. Infection probably occurred because these individuals had close and frequent contact with domestic poultry. Very limited human to human transmission of the H5N1 virus or illness associated with the virus has been documented.

Researchers do not know the extent of asymptomatic infection or mild clinical disease in humans associated with the avian H5N1. Humans with severe illness have been primarily children and young adults; seventy five percent (75) have been younger than 30 years old.

Clinical Impact

Influenza is primarily transmitted from person to person via droplets from the nose and throat of an infected person who is coughing or sneezing. Most clinicians believe that the

droplets will fall 3-6 feet from an infected individual. However, some researchers believe that the virus can stay suspended in smaller aerosols and travel greater distances. Transmission may also occur through direct skin to skin contact or indirect contact with respiratory secretions. Infected individuals can spread influenza virus up to days before or roughly five days after onset of symptoms. Children may spread the virus for 10 days or longer.

The impact of infection with influenza- pandemic or epidemic- varies. About half of those infected will have no clinical symptoms or signs. Those who become ill may have mild symptoms similar to a cold. Typically some will have a mild illness with fever. Others will have a debilitating disease that may lead to disorders affecting the lung, heart, brain, liver, kidneys and muscles. The clinical course is influenced by the patient's age, pre-existing immunity, smoking, other illnesses and pregnancy. A primary viral pneumonia or secondary respiratory bacterial infections may lead to death. The very old and young usually have the highest risk of developing serious complications; however during pandemics, there is a mortality shift towards younger age groups.

There are three basic clinical "wisdoms" or tenets in the management of influenza:

1. Elimination or reduction of exposure to the virus: The most effective prevention methods observed to date include regular hand-washing. Other precautions include "social distancing" – avoiding hand-shaking or crowded conditions. Training children and others to avoid touching their eyes, nose and mouth may also reduce the risk of infection. Cultural or institutional changes that encourage sick workers or students to stay home may also reduce exposure and/ or infection.

2. Vaccination: We don't currently have a vaccination for H5N1; however there are vaccinations for other predominant circulating strains available every year. Annual vaccination is important for all healthcare workers, those with chronic illnesses and those aged 65 years or older.

   Research is underway to develop a system for rapidly developing a vaccine for novel viruses. However, in the US, there is currently little infrastructure to mass produce vaccine in the event of a pandemic. The US government is attempting to create

incentives for drug manufacturers to produce vaccine including reducing or eliminating their liability risks.

3. **Antiviral drugs:** Antiviral drugs may help prevent or alleviate symptoms in many individuals. However, they are no substitute for an effective vaccine. The antiviral drug, Tamiflu® taken early in the course of infection has been shown to ameliorate the impact of infection. The US government has stockpiled the drug for approximately 30 million people – not enough to protect many if there is a pandemic.

Healthcare: Occupational Protection

It is imperative that health care facilities expand their emergency preparedness plans to protect the health and well-being of healthcare workers. They cannot respond to a pandemic if they are sick. The AFT and other unions have petitioned OSHA for an emergency standard to protect workers from pandemic influenza. The petition calls for a standard that at a minimum mandates:

1. an employer develop a written exposure control plan *before* there is an outbreak to detail measures that will be put in place to protect workers from exposure and infection
2. isolation rooms (airborne) and other engineering controls to reduce exposure to viruses
3. a respiratory protection program for workers with fit-tested N-95 respirators and adequate training on storage and use in accordance with the OSHA Respiratory Protection Standard (1910.134). **Surgical masks are not protective.**
4. Other appropriate personal protective equipment (PPE)
5. Medical monitoring and care for all workers who are exposed
6. Continuation of workers' regular rate of pay with no loss of benefits (medical removal) when they are ill or identified as infected
7. Adequate environmental hygiene to reduce sources of infection
8. Training and communication of hazards through the use of signs and other means
9. Vaccination of workers if a safe and effective vaccine becomes available.

OSHA has yet to give the unions a response to this petition – even after several months. We can't wait for federal leadership to protect workers. We have to engage healthcare employers at the local level on several levels. The union should insist that front-line workers participate

on any facility-wide committees to plan for a pandemic and the safety of the healthcare workers. Union leaders may also want to discuss preparedness planning in joint labor-management committee meetings.

We need to alert our members that certain issues may arise in the event of a pandemic that could have an adverse impact on their working conditions and personal lives such as:

- Mandatory overtime: During a pandemic, workers may be asked to work long hours and days without a respite because a large percentage of workers will be sick or absent
- Lock-downs of institutions: Some facilities predict that they will quickly exceed capacity during a pandemic and may have to make a painful decision to take no more patients. If the situation becomes critical they may literally have to lock the doors and allow no one in or out of the facility
- Child or family care: Workers may have critical decisions to make about childcare if they are required to stay at work. Similarly, they may have sick family members at home to care for that may conflict with work demands
- Community Infra-structure issues: Institutions such as banks may have service interruptions which may result in the suspension or delay of pay and/or benefits. Fuel deliveries may be disrupted which could have an enormous impact on personal or mass transportation.

Every aspect of the current contract should be reviewed – first by leadership and then with management- for clauses that may be potentially affected by a pandemic.

Resources:

Pandemic Influenza Preparedness is an enormous issue. There are a variety of resources that may assist a union leader in tackling this difficult issue. Important resources (available on the internet or from AFT Health and Safety) include:

1. WHO Interim Guidelines for Health Care Facilities
2. Veterans Administration Influenza Plan (perhaps the most comprehensive)
3. California Health Department Pandemic Influenza Plan
4. Dartmouth Hospital Readiness Plan (good example of a hospital approach)
5. Infection Control Guidelines – Department of Health and Human Services
6. Kamps, Hoffman, Presier. Influenza Report 2006 http://www.influenzareport.com

7. Center for Biosecurity Conference Report

For more information, contact AFT Health and Safety at 800-238-1133 extension 5677, 5674 or 4365.