



Public Health Fact Sheet: Health Care Providers

**Boston Public Health Commission
Communicable Disease Control
1010 Massachusetts Avenue, Boston, MA 02118
617-534-5611 (phone) • 617-534-5905 (fax)**

Pandemic Influenza

Mayor Thomas M. Menino

What is an Influenza Pandemic?

An influenza pandemic occurs when a new influenza (flu) virus subtype appears in humans, against which there is little or no immunity in the population and is easily spread person-to-person. This may result in several simultaneous outbreaks worldwide with high rates of morbidity and mortality.

How Does a New Influenza Virus Cause a Pandemic?

Annual outbreaks of flu are caused by influenza A and B viruses. Influenza A infects and kills the greatest number of people each year and is the only type that causes pandemics. Although, the virus originates in wild birds (such as ducks), in most cases they do not become ill. However, they are able to spread the virus to other birds and mammals.

Pigs are susceptible to both avian and human influenza viruses. Historically, it was thought that the pig served as a “mixing vessel” where a human and bird strain mixed to form a new strain of the virus. In 1997 in Hong Kong, it was shown that the avian influenza virus can also directly infect humans and humans can serve as the “mixing vessel.” If the new virus has not been seen in humans before, the entire population will be at risk.

Have There Been any Global Pandemics in the Past?

Global pandemics have been reported for many hundreds of years. The best documented pandemics occurred in 1918 (H1N1, the Spanish Flu), 1957 (H2N2, the Asian flu) and 1968 (H3N2, the Hong Kong Flu).

What are the Chances that an Influenza Pandemic will Happen in the Near Future?

Influenza experts agree that another pandemic is likely to happen but are unable to say when. At the moment, experts are most concerned about the recent outbreaks of Avian Flu (H5N1). This virus has affected over 100 people mostly in Southeast Asia and is thought to be transmitted mainly from direct contact with infected birds. This virus is not yet capable of spreading easily from human to human. However, if the virus mutates to a subtype that can be spread easily between humans, the world population will be at risk because there is no immunity.

What are the symptoms of the avian influenza in humans?

Symptoms of avian influenza in humans include typical influenza-like symptoms (e.g., fever, cough, sore throat, and muscle aches), eye infections (conjunctivitis), pneumonia, acute respiratory distress, and other severe and life-threatening complications. The current H5N1 outbreak in Southeast Asia has caused severe respiratory disease with significant mortality. Updated information on this outbreak can be found at <http://www.cidrap.umn.edu/cidrap/content/influenza/avianflu/index.html>

Who should be tested for Avian Influenza?

Health care providers should obtain appropriate travel history in persons presenting with influenza-like illness. Patients with ILI and travel in the previous 10 days to an area affected with H5N1 should be reported to BPHC at 617-534-5611.) Visit www.bphc.org/cdc and view Health Care Provider Information or click [here](#) to view the H5N1 Surveillance Guidelines.

What are the consequences if there is pandemic influenza?

- If a new and virulent strain of influenza such as H5N1 were to acquire the ability to spread person-to-person, Massachusetts would not be spared from its impact. The severity of the next pandemic cannot be predicted, but modeling studies suggest that its effect in the United States could be severe.

What are the challenges that the medical system will face during a pandemic?

Influenza pandemics provide many unique challenges for public health and the health-care system.

- The pandemic will last much longer than most other emergency events (often 8-12 weeks) and may include second waves of influenza activity occurring three to 12 months after the first wave.
- The numbers of health-care workers and first responders available to work can be expected to be reduced as they will be at high risk of illness through exposure in the community and in health care settings, and some may have to miss work to care for ill family members.
- Resources in many locations are likely to be limited.

What Is the Boston Public Health Commission Doing to Prepare for Pandemic Influenza?

The BPHC has an emergency operations plan established to deal with any type of disaster, including an infectious disease outbreak. In addition, the Communicable Disease Control Division is involved in several planning efforts to deal with Pandemic Influenza should it occur in Boston. BPHC has a staff of medical doctors, public health nurses and other professionals that are working to protect the public.

Is there a Vaccine that Will Protect Against an Influenza Pandemic?

Right now there is no vaccine to protect humans because no one knows what virus will ultimately become the pandemic virus. Most experts think it would take 4-6 months from identification of a new virus to development of a vaccine. So during the early stages of the pandemic an effective vaccine would not be available. Once vaccine production is established there will be limited vaccine and early on priority groups will be established based on national criteria.

However, a H5N1 vaccine has been developed and is being tested in humans. Bird viruses, like human influenza viruses, change every year, so it is unknown whether this vaccine will provide any protection against the current bird flu virus in Asia. Most experts agree that you will need two doses one month apart in order to protect you against developing flu.

Should Antiviral Medicines be Used in a Pandemic?

Antiviral drugs are effective as therapy against susceptible influenza virus strains when used early in infection and can also prevent infection (prophylaxis). Analysis is ongoing to define optimal antiviral use strategies, potential health impacts, and cost-effectiveness of these drugs in the setting of a pandemic. Judicious use of these drugs is warranted as resistance can develop. The current strain of H5N1 circulating in Vietnam and Thailand is resistance to one class of antiviral drugs.

How Can I Protect Myself and My Family?

Before a pandemic strikes, get your annual flu shot. It is the best way to avoid getting and spreading the current human influenza virus. Cover your mouth and nose with a tissue when coughing or sneezing. Wash your hands frequently. Stay home when you are sick.

Additional Links:

CDC: Latest Information on Avian Flu

<http://www.cdc.gov/flu/avian/>

WHO: Avian Flu Fact Sheet

http://www.who.int/csr/don/2004_01_15/en/

CIDRAP: Center for Disease Research and Policy, University of Minnesota

<http://www.cidrap.umn.edu/cidrap/content/influenza/avianflu/index.html>

Current Outbreak Numbers:

Human Cases: http://www.who.int/csr/disease/avian_influenza/country/en/

Animal Cases: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm

Information for travelers:

CDC: Latest Avian Flu Travel Information

<http://www.cdc.gov/flu/avian/outbreaks/travel.htm>

**For more information contact:
Boston Public Health Commission
Communicable Disease Control Division
617-534-5611 or cdc@bphc.org
www.bphc.org/cdc**