

Maine Frequently Asked Questions on Avian and Pandemic Influenza November 2005

What is Avian Influenza (Bird Flu)?

Bird flu is an infection caused by avian (bird) influenza (flu) viruses, normally a subtype of a type A influenza virus. Occurring naturally among birds, these viruses are often carried by wild birds in their intestines, causing few if any symptoms. However, they can cause some domestic birds, including chickens, to be very ill and even die. Although bird flu viruses do not usually infect humans, occasionally some strains can. Symptoms of bird flu in humans depend on the subtype and strain of bird flu, but can range from conjunctivitis to typical flu-like symptoms to severe respiratory disease and sometimes even death. For more information (FMI), visit www.cdc.gov/flu/avian/ and www.usda.gov/birdflu.

How are bird flu viruses different from human flu viruses?

There are different subtypes of influenza A viruses, based on viral surface proteins. The hemagglutinin or "HA" protein and the neuraminidase or "NA" protein are responsible for the "H" and "N" designations, respectively. Each combination of HA and NA proteins result in a different subtype. Within each subtype there are different strains. Although all known subtypes can be found in birds, those that are referred to as "bird flu" viruses are those that are chiefly found in birds. Likewise, when a subtype is referred to as a "human flu" virus, is it one that occurs widely in humans. There are only three known major influenza A subtypes of human flu viruses – H1N1, H1N2, and H3N2. Within each of these subtypes are often numerous strains.

What is Avian Influenza A (H5N1) Virus?

Influenza A (H5N1) virus, also called H5N1 virus, is an avian flu subtype that has been known to circulate among birds since 1961. Although it does not normally infect humans, since 1997 several dozen people have been identified as infected with H5N1. These infections have been associated with H5N1 outbreaks among poultry in Asia and with high human mortality rates. Limited person-to-person spread has also occurred.

What is the relationship between H5N1 and a possible pandemic?

Because all influenza viruses have the ability to easily mutate, scientists are concerned that the H5N1 virus one day could change to more easily spread from one person to another. Since there is little or no immune protection against H5N1 in humans, if the virus were able to infect people and easily spread from person to person, an influenza pandemic (worldwide outbreak of disease) could begin. However, no one can predict when a pandemic might occur, or how severe it may be. FMI, visit www.cdc.gov/flu.

Has H5N1 been seen in the U.S.?

The strain of H5N1 found currently in Asia and Europe has not been found in the U.S., and there have been no human cases in the U.S.

What type of surveillance for H5N1 exists in Maine?

Currently, the Maine Department of Agriculture actively tests domestic birds such as poultry flocks for bird flu strains, including H5N1. No H5N1 has been detected. Additionally, every flu season, the Bureau of Health/Maine CDC tests a variety of samples of influenza virus from infected people for subtyping and strain identification as part of CDC and WHO worldwide influenza surveillance. Again, no H5N1 has been detected through this mechanism in the U.S.

What about traveling to affected areas of Asia and Europe?

Although there are currently no travel restriction to affected countries, travelers to countries with known outbreaks of influenza A (H5N1) are recommended to avoid poultry farms, contact with animals in live food markets, and any surfaces that appear contaminated with animal feces. Updated recommendations can be found at www.cdc.gov/travel.

Is there a vaccine against H5N1?

There is currently no commercially available vaccine to protect humans against H5N1 virus that is being seen in Asia and Europe. However, vaccine development and testing is taking place in the U.S. FMI, visit <http://www3.niaid.nih.gov/news/newsreleases/2005/H5N1QandA.htm>.

What about this year's influenza vaccine?

This year's trivalent vaccines, including injectable (inactivated) and the live attenuated influenza vaccine (LAIV or nasal spray vaccine), reflect specific strains within the H3N2 and H1N1 subtypes of influenza A, and a type B influenza strain (type B influenza is not subtyped). Immunity to the surface antigens, especially the hemagglutinins, reduces the likelihood of infection and severe disease if exposure occurs.

What about anti-viral medications?

Some antiviral drugs are an adjunct for treatment and/or prevention of influenza. Amantadine and rimantadine, known as the adamantanes, normally show activity against influenza A viruses, but not influenza B viruses. Zanamivir and oseltamivir, known as neuraminidase inhibitors, normally show activity against both influenza A and B viruses. Tests indicate the H5N1 strains seen in Asia are resistant to adamantanes. It is unclear how effective the neuraminidase inhibitors are against this infection.

Should people stockpile anti-viral medications?

We strongly discourage personal stockpiling of oseltamivir (Tamiflu) or zanamivir (Relenza) because:

- There has been no sustained person-to-person transmission in Asia of the avian H5N1 influenza virus;
- There is no H5N1 in U.S. or North American poultry;
- Supplies of these medications are limited and should go to persons who will need it for the regular influenza this season;
- The U.S. pandemic influenza plan recommends using them for priority groups rather than personal stockpiles; and
- Inappropriate use may lead to resistance.

We ask that physicians do not provide prescriptions for antivirals for personal stockpiling, as these medications should be reserved for the treatment of patients during this upcoming influenza season. There is some national stockpiling of antiviral medications through the Strategic National Stockpile that Maine participates in.

When will the next pandemic flu occur and how severe will it be?

One thing that is predictable about influenza is its unpredictability. No one knows exactly when the next pandemic (worldwide) flu outbreak will occur and how severe it will be. The last very severe pandemic was the Spanish flu in 1918-1919 that was caused by an avian strain of H1N1. It is estimated that 5,000 people died in Maine as a result of this pandemic. Nearly half of those who died in the U.S. were young, healthy adults, many of whom died within the first few hours of becoming ill. However, the vast majority (over ¾ million) of people in Maine survived this pandemic, despite the lack of modern medicine. Basic hygiene measures and care at home often helped people to survive. Those measures can assist us today as well.

What will life be like during a pandemic of influenza?

No one can predict how a pandemic will affect us, but it will most likely last longer than other public health emergencies (months vs days); a number of health care workers and first responders available to work will be reduced because of illness or needing to care for family members; and basic resources could be limited.

Possible examples include: given the high level of global travel, a pandemic virus may spread very quickly, leaving little time to prepare; medical supplies may be in short supply and unevenly distributed; there may be no vaccine for several months; medical facilities may be quickly overwhelmed; illness and panic may result in sudden shortages of personnel to provide

community services such as health care and public safety; some workplaces and schools may be closed; and large gatherings may be banned.

As a result of these conditions, people who have been exposed to the virus may be asked to stay home. Those who are ill may be asked to stay home and be cared for by family members.

What can all of us do to prepare for a possible pandemic of influenza?

1. **Hygiene:** Practice and assure others practice Basic Hygiene Strategies of: frequent hand-washing; covering coughs and sneezes with sleeves or tissue; and staying home when ill. These strategies will help stop the spread of harmful germs.
2. **Home Emergency Kit:** Prepare a Home Emergency Kit that has at least 3-5 days of food, basic emergency supplies, plus rehydration fluids and fever-reducing medications. This kit will prepare a family for many types of emergencies, including possible home isolation and care for flu.
FMI visit: www.ready.gov/get_a_kit.html
or www.redcross.org/services/prepare/0.1082.0_239_00.html or
www.fema.gov/rrr/prep2.shtm
3. **Stay Connected:** It is important to be able to stay connected in multiple ways, such as by email and phone, with one's family, friends, and neighbors during an emergency, especially with those who are more vulnerable – those with low income, seniors, etc.

What is Maine doing to prepare for a possible pandemic?

Pandemic preparedness has been a priority at the Bureau of Health/Maine CDC for years. Federal public health emergency preparedness funds that were distributed to states after September 2001 increased Maine's ability to prepare for a pandemic. As a result, our early detection, communication, and response systems have greatly improved. However, recent Federal cutbacks in these funds are limiting our ability to expand these efforts. Maine's statewide Pandemic Influenza Response Plan was revised earlier this year, and can be found at www.mainepublichealth.gov. Currently, we and other state agencies such as the Department of Agriculture, Maine Emergency Management Agency (MEMA) and Maine Emergency Medical Services (Maine EMS) are working to increase active surveillance of avian flu, expand the state's pandemic response plan, and facilitate sub-state preparedness efforts.

Resources

For more information on influenza-related issues, visit www.mainepublichealth.gov or www.cdc.gov or the new Federal pandemic influenza website at www.pandemicflu.gov.

For information on obtaining influenza vaccine, call the Maine Immunization Program at 1-800-867-4775.

To report an outbreak of influenza or other reportable infectious disease or for Medical Epidemiology consultation, call the 24-hour Reportable Disease Line at 1-800-821-5821.