



PANDEMIC INFLUENZA U • P • D • A • T • E



Public Health Prepares

December 7, 2005

Fast Facts

1918-19 pandemic, [influenza type A (H1N1)], caused the highest number of known influenza deaths. More than 500,000 people died in the United States, and up to 50 million people may have died worldwide.

1957-58 pandemic, [influenza type A (H2N2)], caused about 70,000 deaths in the United States. First identified in China in late February 1957, the virus spread to the United States by June 1957.

1968-69 pandemic, [influenza A (H3N2)], caused about 34,000 deaths in the United States. This virus was first detected in Hong Kong in early 1968 and spread to the United States later that year.

Sometimes a novel strain of influenza virus emerges in humans, but unexpectedly causes relatively few cases of serious illness or death. The 1976 swine flu disease in this country was such an example.

If You Are Asked . . .

"I hear people talk about the 'flu,' and 'bird flu' and 'pandemic flu.' What's the difference?"

Would you believe there are differences? It's worthwhile to understand them now and help others to make the distinction.

"Flu" or "seasonal flu." When most people refer to the "flu" they are talking about seasonal influenza illness. This is a contagious respiratory illness caused by influenza viruses and occurs every year. It can cause mild to severe illness. It is responsible for about 36,000 deaths each year in the United States, mostly among persons 65 years of age or older. The best protection against seasonal flu is vaccination. There is still time to be vaccinated for the 2005-06 flu season.

"Bird flu" or "avian influenza." There are important points here that will make following the news easier. "Bird flu" is an infection caused by avian (bird) influenza (flu) viruses. There are many subtypes of avian influenza viruses that occur naturally among birds. One such subtype is H5N1. Some strains of H5N1 are highly pathogenic. In other words, they make birds seriously ill and die. This severe strain of H5N1 is killing birds in Asia and parts of Europe. Sometimes a bird flu strain will change so that it can also make people or other animals very sick or die. This H5N1 strain has sickened about 132 people in Asia who came into direct or close contact with the sick birds, and 68 have died. Public health experts are concerned that if this strain changes and is easily transmitted between humans, it could cause a pandemic.

"Pandemic flu" or "pandemic influenza." An influenza pandemic is a global outbreak of disease that occurs when three conditions are met: a new influenza type A virus appears or "emerges" in the human population, it causes serious human illness, and it spreads easily from person to person worldwide. Currently there is no pandemic influenza in the world.

Remember, the H5N1 avian influenza or "bird flu" covered in the news has not qualified as a pandemic strain of influenza. Importantly, scientists cannot predict if or when this might happen. There is some uncertainty at this point. However, the H5N1 continues to spread in birds and from birds to some people, so public health experts are on high alert.

To learn more about pandemic influenza preparedness, link to: www.pandemicflu.gov.

Public Health Prepares . . .

An influenza pandemic may emerge with little warning, affecting a large number of people within a short space of time. During the first wave of the pandemic, outbreaks may occur simultaneously in many locations throughout the nation—requiring each locality to depend in large measure on its own resources to respond. A vaccine will not yet be available, and the supply of antiviral drugs be limited. Local outbreaks may last for weeks or months, and widespread illness in a particular community could lead to shortages in the healthcare sector as well as in essential services.

An effective local response will depend on pre-established partnerships and collaborative planning by public health officials, hospital administrators, and community leaders, who have considered a range of best-case and worst-case scenarios. It will require flexibility and real-time decision-making, guided by epidemiologic information on the pandemic virus. It will also depend on a well-informed public that understands the dangers of pandemic influenza and accepts the potential need for control measures like self-isolation and quarantine that prevent disease spread by reducing social contact.

The public must also understand and accept the rationale in prioritizing the use of limited supplies of antiviral drugs and initial stocks of vaccines. The public health community at the local, state and federal levels are working together to prepare for a pandemic's first wave.

Upcoming newsletters will highlight activities in these areas. For more information now please link to: www.pandemicflu.gov.

Update on H5N1: Global Activity Humans and Birds

Humans: During recent outbreaks (since 2004) the 133 confirmed cases in humans and 68 deaths occurred in the following nations: Vietnam 93 cases and 42 deaths; Thailand 21 cases and 13 deaths;

Indonesia 12 cases and 7 deaths; China 3 cases and 2 deaths; and Cambodia 4 cases and 4 deaths.

Birds: From January 2004 through November 28, 2005, active outbreaks among birds have been confirmed in Vietnam, Thailand, Indonesia, China, Cambodia, Russia, Croatia, Kazakhstan, Mongolia, Turkey and Romania. South Korea and Japan have had no active outbreaks since March 2004. Hong Kong has had no active outbreaks since January 2005.

For the most recent reports, please go to the following link:

www.who.int/csr/outbreaknetwork/en/

CDC Recommends . . .

Pandemic influenza: New checklist to prepare communities now for legal requirements

State and local public health officers need to be familiar with the legal requirements in their jurisdictions regarding isolation of infectious persons and quarantine of exposed persons. The challenge of the public health response is to protect the health of many, while safeguarding the rights of the individual. An integrated and coordinated response by attorneys at all levels in the community is essential to achieving this goal.

Although most states have laws to compel isolation and/or quarantine, procedures may vary widely from jurisdiction to jurisdiction. Key persons, such as legal counsel, judges, and policymakers, should be identified and made part of your jurisdiction's planning for pandemic influenza. HHS has statutory authority, which has been delegated to CDC, to quarantine or isolate individuals who have been exposed to or infected with pandemic influenza. President Bush added pandemic influenza to the list of quarantineable diseases by Executive Order 13375 on April 1, 2005.

State and local public health officers should consider drafting key documents in advance of an

emergency. These template documents can be critical time savers in an emergency. Documents that jurisdictions should consider preparing in advance include: draft quarantine and/or isolation orders; supporting declarations and/or affidavits by public health and/or medical personnel; and an explanation of the jurisdiction's due process procedures for persons subject to an isolation/quarantine order. Examples of documents created by other jurisdictions are found at: www.cdc.gov/phlp/

CDC has prepared a checklist as a planning tool. The checklist highlights the relevant partners, resources, planning considerations, due process considerations, and issues of legal liability and immunity that may arise in the context of pandemic influenza. On the checklist, next to each consideration are listed the legal partners (e.g., public health, hospitals, public safety, emergency management, judiciary) that may be called upon to address these considerations as part of the affected community's response.

To obtain the legal checklist, link to www.hhs.gov/pandemicflu/plan/part2.html#apd1.

Pass this on . . .

How pandemic influenza viruses appear or "emerge": Know your HAs and NAs

There are many different subtypes of influenza or "flu" viruses. The subtypes differ based upon certain proteins on the surface of the virus (the hemagglutinin or "HA" protein and the neuraminidase or "NA" protein).

Pandemic viruses emerge as a result of a process called "antigenic shift," which causes an abrupt or sudden, major change in influenza A viruses. These changes are caused by new combinations of the HA and/or NA proteins on the surface of the virus. Such changes result in a new influenza A virus subtype. The appearance of a new influenza A virus subtype is the first step toward a pandemic; however, to cause a pandemic, the new virus subtype also must

have the capacity to spread easily from person to person. Once a new pandemic influenza virus emerges and spreads, it usually becomes established among people and moves around or "circulates" for many years as seasonal epidemics of influenza.

CDC and the World Health Organization (WHO) have large surveillance programs to monitor and detect influenza activity around the world, including the emergence of possible pandemic strains of influenza virus.

Pandemics are different from seasonal outbreaks or "epidemics" of influenza. Seasonal outbreaks are caused by subtypes of influenza viruses that already circulate among people, whereas pandemic outbreaks are caused by new subtypes, by subtypes that have never circulated among people, or by subtypes that have not circulated among people for a long time. Past influenza pandemics have led to high levels of illness, death, social disruption, and economic loss.

Where to Find Out More . . .

Migratory Birds and H5N1: The global spread of highly pathogenic avian influenza (H5N1) among birds increases the likelihood that it will eventually be detected in North America. There are a number of pathways through which the virus could be brought to this continent; introduction by wild migratory birds is one possible pathway that the U.S. Department of Agriculture and the Department of the Interior are working together to address (See bird flyway map below).

The U.S. Geological Survey (USGS) is the scientific arm of the Department of Interior, with a long history of responding to wildlife disease emergencies and conducting wildlife disease investigations.

USGS scientists from the National Wildlife Health Center and the Alaska Science Center, in conjunction with the U.S. Fish and Wildlife Service and the State of Alaska, have been strategically sampling migrating birds for H5N1 in the Pacific

PANDEMIC INFLUENZA UPDATE

Flyway. USGS is also monitoring reported migratory waterfowl and shorebird mortality events for the presence of H5N1.

The USGS, U.S. Fish and Wildlife Service, and U.S. Department of Agriculture are already planning a coordinated, more comprehensive bird surveillance and detection program for 2006. This program is being designed to provide an early warning to the agriculture, public health, and wildlife communities should migratory birds be found to carry the virus.

For more information about the Department of Interior's activities, link to www.nwhc.usgs.gov/research/avian_influenza/avian_influenza_doi.html.

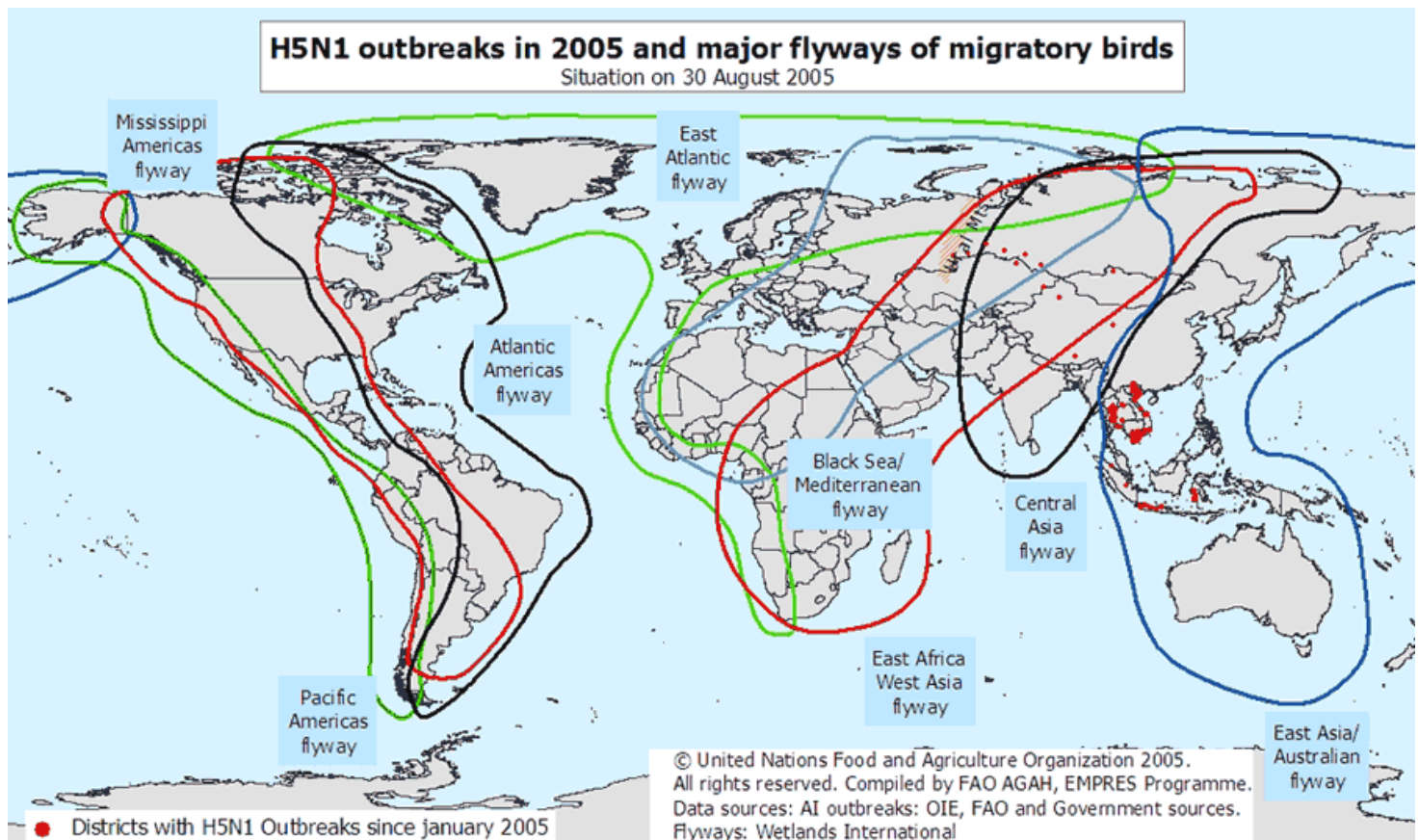
The national website for information and updates about pandemic influenza is: www.pandemicflu.gov.

More Fast Facts (Week of Nov. 28) . . .

- CDC website activity: 264,000 (700,000+ previous week)
- CDC public inquiries (toll-free information line): 100 (99 previous week)

Pandemic Influenza Update: Reader's Feedback

The twice-monthly *Pandemic Influenza Update* is prepared by CDC's Priority Communication System. Information in this newsletter is time sensitive and evolving. Readers are welcome to comment by email to: PANUPDATE@CDC.GOV



[Please note: Bird flyways (migratory routes) are shown in blue, black, green and red. The land districts where H5N1 outbreaks in birds have occurred since January 2005 are depicted by red dots. The red flyways are *not* meant to indicate H5N1 activity.]