

Americans have grown increasingly concerned about avian influenza and its potential to emerge into the next pandemic. Health officials believe it is only a matter of time before the most commonly circulating avian influenza virus, H5N1, will make its appearance in the U.S. Reporting this event could spark widespread panic unless communications from both health officials and the news media provide the appropriate context and public health guidance. For example, even if sporadic animal or human cases of avian influenza appear in the U.S., it does not mean we are or definitely will be in a pandemic situation.

In the meantime, it is important not to lose sight of the severity of seasonal influenza, which, on average, claims the lives of 36,000 people and results in more than 200,000 hospitalizations in the U.S. each year. In the event of pandemic

influenza, many of the same preventive measures will apply—washing hands frequently, covering mouths when sneezing or coughing, and staying home when feeling sick.

The chart below provides an at-a-glance perspective of seasonal versus avian influenza.

### All Eyes on Avian Influenza

The H5N1 avian influenza strain is considered to be the greatest threat for the next pandemic. The circulating strain kills domestic fowl and can be transmitted from birds to humans. As of July 2007, there have been a total of 319 confirmed human cases of avian influenza (H5N1) (none in the U.S.), resulting in 192 deaths. These cases span 12 countries in East Asia and the Pacific, Europe and Eurasia and the Near East.

#### At-a-Glance Perspective of Seasonal vs. Avian Influenza

Seasonal Influenza	Avian (Bird) Influenza
<ul style="list-style-type: none"> <li>• Respiratory illness that is easily transmitted person-to-person</li> <li>• Most people, with young children as an exception, have some immunity since similar virus strains circulate each year</li> <li>• Annual vaccination is highly recommended, especially for certain groups at increased risk for influenza and its complications</li> <li>• The majority of circulating strains since October 2005 are influenza A viruses; of those viruses that have been subtyped, most are influenza A (H3N2), which causes the most severe cases of seasonal influenza infection</li> <li>• Each year there are approximately 36,000 deaths and more than 226,000 hospitalizations due to seasonal influenza in the U.S.</li> </ul>	<ul style="list-style-type: none"> <li>• Caused by influenza viruses that occur naturally among wild birds</li> <li>• There is no human immunity</li> <li>• Vaccine has been produced and is stockpiled by the U.S. government</li> <li>• As of July 2007, 392 confirmed human cases of avian influenza (H5N1) have been reported worldwide (none in the U.S.), resulting in 192 deaths</li> </ul>

Pandemic influenza occurs when a new influenza virus emerges for which people have little or no immunity. The disease spreads easily from person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time.

Source: [www.pandemicflu.gov](http://www.pandemicflu.gov), [www.cdc.gov/flu](http://www.cdc.gov/flu), [www.who.int](http://www.who.int)

Direct contact with infected poultry and contaminated surfaces is the main route of human infection. Human to human transmission of avian influenza is rare and, as of August, 2007, H5N1 has not been seen in the U.S. Influenza A viruses (including H5, H7 and H9) are the predominant subtypes that infect birds.

### What's Needed for a Pandemic to Emerge?

For a pandemic to occur, H5N1 or another strain would have to mutate in such a way to trigger and support efficient and sustained human-to-human transmission (this is an example of an antigenic shift). This can occur in one of two ways:

Reassortment, in which the virus produces new variant strains; this can occur through pigs, which are thought to be the "mixing vessels" for influenza viruses to exchange their genetic make up, thereby creating a new virus. If a pig is co-infected with a human and avian influenza virus, the stage is set for reassortment. This would prompt a more immediate disease outbreak.

Adaptive mutation, through which the virus slowly improves its transmissibility during subsequent human infections.

Pandemic influenza would result in virulent human-to-human transmission and cause a global outbreak of serious dis-

ease. In this case, there would be very little if any pre-existing immunity, so the virus would spread rapidly throughout the population.

### Global Public Health Response

Health officials across the globe are coordinating efforts to monitor and respond to human cases of H5N1 avian influenza and assess the potential threat of pandemic influenza. In May 2006, the White House unveiled its pandemic flu plan, titled: "Implementation Plan for The National Strategy for Pandemic Influenza." The document, which calls for global, national and local preparedness, outlines more than 300 action steps, including plans to stockpile vaccines and drugs, preventive actions individuals can take, as well as the need for collaboration across all sectors of government and private industry. One of the steps in the plan is to urge seasonal influenza immunization to encourage vaccine production and improve the infrastructure for vaccine delivery.

To access the full report, visit: [www.whitehouse.gov/homeland/nspi\\_implementation.pdf](http://www.whitehouse.gov/homeland/nspi_implementation.pdf).

### Resources

**Department of Health and Human Services**  
[www.pandemicflu.gov](http://www.pandemicflu.gov)

**Centers for Disease Control and Prevention**  
[www.cdc.gov/flu/avian](http://www.cdc.gov/flu/avian)

**Council of State and Territorial Epidemiologists State Pandemic Influenza Plans**  
[www.cste.org/Influenza/avian.asp](http://www.cste.org/Influenza/avian.asp)

**National Association of County and City Health Officials**  
<http://www.naccho.org/topics/infectious/influenza.cfm>

**The White House National Strategy for Pandemic Influenza**  
[www.whitehouse.gov/homeland/pandemic-influenza-implementation.html](http://www.whitehouse.gov/homeland/pandemic-influenza-implementation.html)

**World Health Organization**  
[www.who.int/en](http://www.who.int/en)