

EPI CONNECTIONS

A Bimonthly Newsletter of the Communicable Disease Control Division

December 2005

Preparing for Pandemic Influenza

The World Health Organization's pandemic influenza world assessment, as of November 2005, is that we are in Phase 3 of the Pandemic Alert Period ["a new influenza virus subtype is causing disease in humans but is not yet spreading efficiently and sustainably among humans"]. Preparing now for a pandemic caused by the H5N1 is apropos, especially since the demand for barrier materials, such as masks, gloves, gowns, sanitizer, may exceed the supply during a pandemic. Furthermore, there are many unknowns concerning the availability and use of a vaccine and antiviral therapies during a pandemic. What is known, however, is that infection control (IC) measures and personal protective equipment (PPE) will be essential for minimizing exposure to circulating influenza virus. Every health care worker should now become familiar with pandemic influenza-specific recommendations for IC and PPE. Such recommendations are published in Supplement 4 of the U.S. Department of Health and Human Services (HHS) Pandemic Influenza Plan (<http://www.hhs.gov/pandemicflu/plan/sup4.html>). We present a summary of the recommendations in this article.

The epidemiology of the virus is the basis for IC and PPE recommendations. It is commonly accepted that influenza transmission requires close contact—via exposure to large droplets (droplet transmission), direct contact (contact transmission), or near-range exposure to aerosols (airborne transmission)—the relative clinical importance of each of these modes is not known, and the amount of direct scientific information is very limited. There is, however, little evidence of airborne transmission over long distances or prolonged periods of time in a manner similar to *M. tuberculosis*. A person infected with influenza virus may become contagious prior to the onset of symptoms, but they are clearly more infectious when coughing and sneezing.

The basic infection control strategies for preventing the spread of pandemic influenza, especially in health care settings, are as follows:

- Limit contact with infected persons and **promote spatial separation** (sit or stand as far apart as possible—at least 3 feet) between infectious and susceptible persons.
- **Wear a surgical mask for close contact** with infectious patients and use N95 respirators when appropriate, such as during endotracheal intubation, nebulizer treatment, bronchoscopy, or suctioning.
- **Perform hand hygiene after contact** with infectious patients—if there is no visible soiling of the hands, approved alcohol-based products, such as alcohol gel sanitizers, *are preferred* over antimicrobial or plain soap. Always perform hand hygiene between patient contacts and after removing PPE.

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Influenza Activity

The 2005-2006 influenza season has arrived in Colorado. Sporadic activity has been reported in the states since mid November. As of December 6, 2005, 22 hospitalized cases of influenza have been reported in the state of Colorado. One of those cases occurred in Boulder County. No outbreaks of influenza have been reported.¹

According to the Centers for Disease Control and Prevention (CDC), Colorado is 1 of 23 states in the nation with influenza activity at this time. Influenza activity is still considered low in the United States. The percentage of patient visits to U.S. sentinel providers due to influenza-like illness during the week ending November 26, 2005, was 1.7%. This is below the national baseline of 2.2%.²

Since October 2, the World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) have tested 16,568 specimens for influenza with 138 (0.8%) positive results. Among the 138 positive specimens, 119 (86.2%) were influenza A viruses and 19 (13.8%) were influenza B. The CDC has antigenically characterized 1 influenza A (H3N2) virus and 2 influenza B viruses. The influenza A virus was identified as A/California/07/2004-like, which is the influenza A (H3N2) recommended component of the 2005-06 vaccine. The first influenza B virus belongs to the B/Yamagata lineage and was characterized as B/Florida/07/2004-like. This is a minor antigenic variant of B/Shanghai/361/2002, the recommended influenza B component for the 2005-06 influenza vaccine. The second influenza B virus was characterized as belonging to the B/Victoria lineage.³

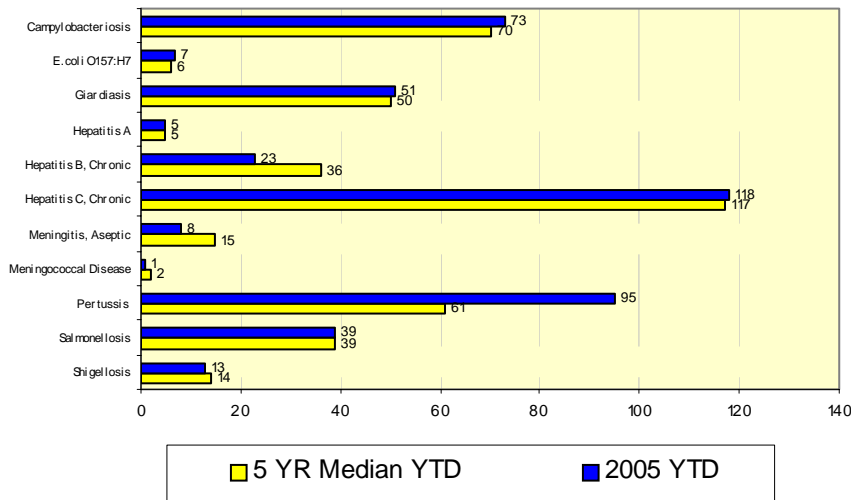
¹Colorado Department of Public Health and Environment. Colorado Electronic Disease Reporting System (CEDRS).

²Centers for Disease Control and Prevention. Weekly Report: Influenza Summary Update, Week ending November 26, 2005-Week 47

³Centers for Disease Control and Prevention. Weekly Report: Influenza Summary Update, Week ending November 26, 2005-Week 47



**Surveillance of Selected Diseases, Boulder County
2005 YTD Compared to 5-year Median
(1/1/2005-12/9/2005)**



Pertussis activity in Boulder County for 2005 remains well above the 5-year median. Since October 1, 26 cases have been reported; 20 of those cases are students in area public schools. Cases have been seen in 4 high schools (Boulder, Fairview, Longmont, and Monarch), one middle school (Centennial), and two elementary schools (Community Montessori and Foothills).

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- **Wear gloves** and, if necessary, gowns to prevent contact with respiratory secretions.
- Instruct persons who have flu-like symptoms to **use respiratory hygiene/ cough etiquette**, meaning cover sneezes (nose) and coughs (mouth) and/or place a mask on a coughing patient; ideally there should be spatial separation (>3 feet) of persons with respiratory infections in common areas, such as waiting rooms.

Patients with known or suspected influenza should be placed on droplet precautions for a minimum of 5 days from the onset of symptoms, and immuno-compromised patients (who may shed virus for longer periods) should be placed on droplet precautions for the duration of their illness. If the pandemic illness is associated with diarrhea, contact precautions (i.e., gowns and gloves for all patient contact) should be added.

A key component of infection control in any workplace (hospitals, schools, etc.) is **keeping sick personnel away while they are infectious**. This may require that all personnel be screened for influenza-like symptoms before they begin work or come on duty. Additionally, **symptomatic workers should be sent home until they are physically ready to return to work**.

In hospitals, emergency departments, urgent care clinics, or outpatient offices, posting visual alerts instructing patients with respiratory symptoms to practice respiratory hygiene/cough etiquette and designating separate waiting areas for patients with flu-like symptoms should be performed, if feasible.

Infection control will be a critical component to protecting the health care workforce. Health care workers are likely to be at greater risk of exposure to a pandemic virus, as seen in the SARS epidemic of 2003. Reinforcement of these practices now will not only be helpful during a pandemic, but it will also decrease current health care-related exposures from circulating respiratory illnesses.

For additional information about infection control, personal protection equipment, and pandemic preparedness, please visit the following web sites: www.cdc.gov, www.pandemicflu.gov

Epi-Eye

*A Look Outside Our
Community and Around
the World*



Avian Influenza Update

In November China was added to the list of countries with confirmed human cases of H5N1 avian influenza. Four people in mainland China were confirmed to have the virus and two of those patients died as a result of their disease. Outbreaks of H5N1 infection in poultry and other birds have continued to spread. Confirmed outbreaks have occurred in Cambodia, China, Croatia, Indonesia, Kazakhstan, Mongolia, Romania, Russia, Thailand, Turkey, and Vietnam in 2005.

**Human Cases of H5N1
Confirmed by World Health
Organization (WHO)
Dec. 2003 to Dec. 7, 2005**

Country	Total Cases	Deaths
China	4	2
Cambodia	4	4
Thailand	21	13
Vietnam	93	42
Indonesia	13	8
Totals	135	69