

From: Missouri Department of Health and Senior Services  
Through: Kansas City, Missouri Health Department  
KCHD HAN Number: KC026-09  
Date: August 28, 2009  
Subject: **Reminder Concerning the Appropriate Use of Antiviral Medications for Novel (H1N1) Influenza**



**Public Health**  
Prevent. Promote. Protect.

## **This is an official HEALTH ADVISORY from Missouri Dept of Health and Senior Services**

For antiviral treatment of influenza (H1N1) virus infection, either oseltamivir or zanamivir are recommended. As influenza viruses reproduce they can change and some changes can result in these viruses becoming resistant to one or more of these antiviral agents.

It was inevitable that use of these agents would result in the novel H1N1 influenza virus developing resistance. Recent reports of resistance developing in several different countries including the U.S. have been published. As of August 14, 2009, three instances of oseltamivir resistant H1N1 viruses have been confirmed in U.S. residents. The first of these viruses was isolated in Hong Kong from a resident of San Francisco who had traveled to Hong Kong in June. The second and third confirmed instances of oseltamivir resistance in U.S. residents were detected in Washington State in two immunosuppressed patients. As of August 14, 2009, a total of 11 H1N1 influenza viruses resistant to the antiviral drug oseltamivir had been reported worldwide. All of the oseltamivir resistant viruses have the same genetic mutation in the neuraminidase gene, known to be associated with resistance to oseltamivir. All but one of the instances of oseltamivir resistance have occurred in conjunction with oseltamivir exposure, either for treatment or prevention. Results from ongoing testing of influenza A (H1N1) viruses indicate that oseltamivir resistance remains very rare worldwide and, so far, all have been sensitive (susceptible) to zanamivir.

To keep the development of resistance to these agents to a minimum, it is imperative that they be used judiciously. Clinical judgment is extremely important prior to their use. Persons with suspected H1N1 influenza who present with an uncomplicated febrile illness typically **do not require** treatment unless they are at higher risk for influenza complications.

### **APPROPRIATE TREATMENT**

Treatment should be considered for all hospitalized patients with confirmed, probable or suspected H1N1 influenza. Also, persons with suspected H1N1 influenza who should be considered for treatment include:

- Children younger than 5 years old. The risk for severe complications from seasonal influenza is highest among children younger than 2 years old.
- Adults 65 years of age and older
- Persons with the following conditions:
  - Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular or metabolic disorders (including diabetes mellitus)
  - Immunosuppression, including that caused by medications or by HIV
  - Pregnant women
  - Persons younger than 19 years of age who are receiving long-term aspirin therapy
  - Residents of nursing homes and other chronic-care facilities

## CHEMOPROPHYLAXIS

Use of antiviral drugs to prevent illness (chemoprophylaxis) is usually reserved for certain specific situations. Widespread use of antiviral medications for chemoprophylaxis is not encouraged. Inappropriate use of antiviral drugs might be a factor in causing more viruses to become resistant.

It is **not recommended** that antiviral chemoprophylaxis be provided to anyone exposed to a person with H1N1 influenza virus infection **unless** they are:

1. Close contacts of cases (confirmed, probable, or suspected) **that are at high-risk for complications of influenza.**
2. Health care personnel, public health workers, or first responders who have had a recognized, **unprotected close contact exposure** to a person with H1N1 influenza virus infection (confirmed, probable or suspected) during that person's infectious period.

Most persons with H1N1 influenza have had self-limited illness lasting several days and have recovered without need for antiviral treatment. Treatment is most beneficial for patients hospitalized with influenza or those who are ill with influenza who have an age or medical factor placing them at higher risk for more severe illness or influenza-related complications. Also, as stated above, the widespread use of antiviral medications for chemoprophylaxis is not encouraged due to the concern of developing resistance. The appropriate use of these medications is important if they are to be helpful in treating those with the greatest risk of complications from the novel H1N1 influenza virus.

Questions on H1N1 influenza can be directed to your local public health agency (to locate your local public health agency visit: <http://www.dhss.mo.gov/LPHA/PublicHealthAgencies.html>). Or you can contact the state health department's Bureau of Communicable Disease Control and Prevention at 573-751-6113 or 866-628-9891.