

## Influenza Update

February 4, 2009

### Current Situation

In Clark County, the proportion of patient visits to sentinel providers during week 2 (ending Jan.17, 2009) for influenza-like-illness (ILI), characterized by temperature of 100°F or greater and sore throat or cough, was 1.5% compared to the beginning of the season (week 40 ending Oct.4, 2008) when it was 0.9%. Influenza trends seen locally are being reflected nationally. For week 2, the national ILI was at 1.5% which is below the national baseline of 2.4% (1).

### Antiviral Drugs 2008-2009

Preliminary data from a limited number of states indicate that the prevalence of influenza A (H1N1) virus strains resistant to the antiviral medication oseltamivir is high. Therefore, CDC is issuing interim recommendations for antiviral treatment and chemoprophylaxis of influenza during the 2008-09 influenza season. When influenza A (H1N1) virus infection is suspected, zanamivir or a combination of oseltamivir and rimantadine are more appropriate options than oseltamivir alone. The 2008-09 influenza vaccine is expected to be effective in preventing or reducing the severity of illness with currently circulating influenza viruses, including oseltamivir-resistant influenza A (H1N1) virus strains (2).

### Background

In the United States, four prescription antiviral medications (oseltamivir, zanamivir, amantadine, and rimantadine) are approved for treatment and chemoprophylaxis of influenza. Since January 2006, the neuraminidase inhibitors (oseltamivir, zanamivir) have been the only recommended influenza antiviral drugs because of widespread resistance to adamantanes (adamantadine, rimantadine) among influenza A (H3N2) virus strains. The neuraminidase inhibitors have activity against influenza A and B viruses while the adamantanes have activity only against influenza A viruses. In 2008-07, a significant increase in the prevalence of oseltamivir resistance was reported among influenza A (H1N1) viruses worldwide. During the 2007-08 influenza season, 10.9% of H1N1 viruses tested in the U.S. were resistant to oseltamivir (2).

As of December 19, 2008 a limited number of influenza viruses isolated in the U.S. since October 1 have been available for antiviral resistance testing at CDC. Of the

50 H1N1 viruses tested to date from 12 states, 98% were resistant to oseltamivir, and all were susceptible to zanamivir, amantadine and rimantadine. Influenza A (H3N2) and B viruses remain susceptible to oseltamivir. The proportion of influenza A and B viruses that will circulate during the 2008-09 season cannot be predicted, and will likely vary over the course of the season and among communities (2).

### Interim Recommendations

Persons providing medical care for patients with suspected or persons who are candidates for chemoprophylaxis should consider the following guidance for assessing and treating patients during the 2008-09 influenza season:

- Consider use of influenza tests that can distinguish between influenza A and B
  - a. Patients testing positive for influenza B may be given either oseltamivir or zanamivir.
  - b. If a patient tests positive for influenza A, use of zanamivir should be considered. Combination treatment with oseltamivir and rimantadine is an acceptable alternative, and might be necessary for patients that cannot receive zanamivir, (e.g., patient is <7 years old, has chronic underlying air ways disease, or cannot use the zanamivir inhalation device), or zanamivir is unavailable. Amantadine can be substituted for rimantadine if rimantadine is unavailable.
  - c. If a patient tests negative for influenza, consider treatment options based on local influenza activity and clinical impressions. Because rapid antigen tests may have low sensitivity, treatment should still be considered during periods of high influenza activity for persons with respiratory symptoms consistent with influenza who test negative and have no alternative diagnosis. Use of zanamivir should be considered. Combination treatment with oseltamivir and rimantadine (substitute amantadine if rimantadine unavailable) is an acceptable alternative.
- Persons who are candidates for chemoprophylaxis (residents in an assisted living facility during an influenza outbreak, or persons who are

at higher risk for influenza-related complications and have had recent household or other close contact with a person with laboratory confirmed influenza) should be provided with medications most likely to be effective against the influenza virus that is the cause of the outbreak, if known. Respiratory specimens from ill persons during institutional outbreaks should be obtained and sent for laboratory testing to determine the type and subtype of influenza A viruses associated with the outbreak and to guide antiviral therapy decisions. Persons whose need for chemoprophylaxis is due to potential exposure to a person with laboratory-confirmed influenza A (H3N2) or influenza B should receive oseltamivir or zanamivir. Zanamivir should be used when persons require chemoprophylaxis due to exposure to influenza A (H1N1) virus. Rimantadine can be used if zanamivir use is contraindicated (2).

- (1) Centers for Disease Control and Prevention. National Influenza Week. Accessed at: <http://www.cdc.gov/flu/NIVW/index.htm>
- (2) Centers for Disease Control and Prevention. Interim Antiviral Guidance for 2008-09. Accessed at: <http://www.cdc.gov/flu/professionals/antivirals/index.htm>