



DEC. 17, 2008

HEALTH ADVISORY

Influenza Antiviral Resistance Update

The North Dakota Department of Health (NDDoH) is requesting providers collect additional influenza specimens on patients to be forwarded to the state public health lab for further testing. Testing on influenza surveillance specimens will be provided free-of-charge. This request is in light of recent national data regarding antiviral susceptibility published by the Centers for Disease Control and Prevention (CDC) which is outlined below.

Resistance to the antiviral oseltamivir increased during the 2007-2008 influenza season in circulating influenza A H1N1 viruses (to 10.9% from 0.7%). A single, genetic mutation which confers oseltamivir resistance was observed in all of the resistant A H1N1 viruses. Adamantane resistance to influenza A H3N2 viruses continued to be high (99.8%) with a low level of resistance detected in influenza A H1N1 viruses (10.7%). Adamantanes are not effective against influenza B viruses.

Influenza activity in the United States is low and few viruses have been available for antiviral resistance testing. So far during the 2008-2009 influenza season, 39 influenza viruses have been tested and 28 of those were collected from only two states. Of the 25 influenza A H1N1 viruses tested, 24 were resistant to oseltamivir and all were sensitive to zanamivir and adamantanes. Five influenza A H3N2 and nine influenza B viruses were tested for antiviral resistance and all were sensitive to oseltamivir and zanamivir. All tested A H3N2 viruses were resistant to adamantanes. Currently, the neuraminidase inhibitors oseltamivir and zanamivir remain the recommended medications for treatment and chemoprophylaxis of influenza.

Please note that current data are insufficient to predict the prevalence of antiviral resistance this season. Testing of additional influenza viruses will allow for a better indication of the level of antiviral resistance as well as circulating influenza virus subtypes. Current recommendations for antiviral use are outlined in the 2008 ACIP recommendations available at: www.cdc.gov/flu/professionals/acip/index.htm. Please be aware that these recommendations may be revised as the 2008-2009 influenza season progresses and more viruses are available for testing.

Data collected from local providers is vital in driving treatment recommendations. During facility and community outbreaks, prompt submission of specimens is necessary so that subtyping of viruses can be done. If A H1N1 virus is identified and antiviral resistance is circulating widely, alternative regimens for antiviral use can then be recommended.

In the U.S. there are two types of antiviral drugs approved for treating and preventing influenza infections: adamantanes (amantadine and rimantidine) and neuraminidase inhibitors (oseltamivir and zanamivir).

Further information will be distributed through the Health Alert Network (HAN) as needed and posted at www.ndhan.gov. Please contact the North Dakota Department of Health, Division of Disease Control at 701.328.2378 or 800.472.2180 with any questions regarding this issue.

Categories of Health Alert messages:

- *Health Alert conveys the highest level of importance; warrants immediate action or attention.*
- *Health Advisory provides important information for a specific incident or situation; may not require immediate action.*
- *Health Update provides updated information regarding an incident or situation; no immediate action necessary.*
- *Health Information provides general information that is not necessarily considered to be of an emergent nature.*

This message is being sent to local public health units, clinics, hospitals, physicians, tribal health, North Dakota Nurses Association, North Dakota Long Term Care Association, North Dakota Healthcare Association, North Dakota Medical Association, North Dakota EMS Association and hospital public information officers.