

Health Advisory:

Pandemic pH1N1 Virus-Associated Illnesses and the Influenza Season in Missouri

December 26, 2013

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The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

Health Advisory
December 26, 2013

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SUBJECT: Pandemic pH1N1 Virus-Associated Illnesses and the Influenza Season in Missouri

As of December 21, 2013, Missouri is experiencing low influenza activity, but recent weeks showed significant acceleration in confirmed influenza cases. There is also a significant increase in the proportion of outpatient visits for influenza-like illness (ILI) in Missouri. Laboratory surveillance data shows that **2009 pandemic influenza A virus (pH1N1) is causing the overwhelming majority of influenza cases in Missouri during this early influenza season.**

Increased pH1N1 virus activity in Missouri is consistent with the Centers for Disease Control and Prevention (CDC) assessment that for the 2013-14 season, pH1N1 has been the predominant circulating virus nationally so far. This season, CDC has received a number of reports of severe respiratory illness among young and middle-aged adults, many of whom were infected with pH1N1 virus. Multiple pH1N1-associated hospitalizations, including many requiring intensive care unit (ICU) admission, and some fatalities, have been reported. The pH1N1 virus that emerged in 2009 caused more illness in children and young adults, compared to older adults, although instances of severe illness were seen in all age groups. **If pH1N1 virus continues to circulate widely during the 2013-2014 influenza season, illness that disproportionately affects young and middle-aged adults may occur.** The spectrum of illness observed so far this season has ranged from mild to severe, and is consistent with that of other influenza seasons. **CDC has not detected any significant changes in pH1N1 viruses that would suggest increased virulence or transmissibility.**

Due to the limited sensitivities and predictive values of Rapid Influenza Diagnostic Tests (RIDTs), influenza antiviral treatment is recommended as early as possible for any patient who has indications for such treatment. Antiviral treatment (oral oseltamivir or inhaled zanamivir) is helpful in reducing morbidity and mortality in those who become ill with influenza. **Decisions about starting antiviral treatment should not wait for laboratory confirmation of influenza.**

The Missouri Department of Health and Senior Services (DHSS) recommends annual influenza vaccination for everyone 6 months and older since it is the best tool for prevention of influenza. Anyone who has not yet been vaccinated this season should get an influenza vaccine now.

Background

The risk of severe disease and complications from influenza is higher among children younger than 5 years of age, adults aged 65 years and older, pregnant

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women, and those with underlying medical conditions. However, during the 2009 pandemic, pH1N1 caused more illness in children and young adults than in older adults. This was likely due in part to protection in older adults provided by cross-reactive immunity to pH1N1 caused by prior infection with antigenically-related viruses. The pandemic also was notable for severe illness among pregnant women infected with pH1N1, and adverse outcomes in newborn babies.

RIDTs are immunoassays that can identify the presence of influenza A and B viral nucleoprotein antigens in respiratory specimens, and display the result in a qualitative way (positive vs. negative). In the United States, a number of RIDTs are commercially available; see http://www.cdc.gov/flu/professionals/diagnosis/clinician_guidance_ridt.htm.

The reference standards for laboratory confirmation of influenza virus infection are reverse transcription-polymerase chain reaction (RT-PCR) or viral culture. RIDTs can yield results in a clinically relevant time frame, i.e., approximately 15 minutes or less. However, RIDTs have limited sensitivity to detect influenza virus infection, and negative test results should be interpreted with caution given the potential for false-negative results. Testing specimens collected within 48-72 hours of illness onset (when influenza viral shedding is highest) is more likely to yield positive RIDT results.

Testing is not needed for all patients with signs and symptoms of influenza to make antiviral treatment decisions. Once influenza activity has been documented in the community or geographic area, a clinical diagnosis of influenza can be made for outpatients with signs and symptoms consistent with suspected influenza, especially during periods of peak influenza activity in the community.

CDC guidelines for influenza antiviral use during the 2013-14 season are the same as during prior seasons. For persons with suspected or confirmed influenza for whom antiviral treatment is indicated (see below), neuraminidase inhibitor antiviral drugs (oral oseltamivir or inhaled zanamivir) are recommended. Evidence from past influenza seasons and the 2009 H1N1 pandemic has consistently shown that treatment with antiviral medications reduces severe outcomes of influenza when initiated as soon as possible after illness onset. Clinical trials and observational data show that early antiviral treatment may (1) shorten the duration of fever and illness symptoms, (2) reduce the risk of complications from influenza (e.g., otitis media in young children, pneumonia, respiratory failure, and death), and (3) shorten the duration of hospitalization. For additional information, see: <http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm> and <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6001a1.htm>.

DHSS Recommendations for Healthcare Providers:

- Encourage all patients 6 months of age and older who have not yet received an influenza vaccine this season to be vaccinated against influenza. There are several flu vaccine options for the 2013-2014 flu season (see http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6207a1.htm?s_cid=rr6207a1_w#Tab1), and all available vaccine formulations this season contain a pH1N1 component.
- Encourage all persons with ILI who are at high risk for influenza complications (see list below) to seek care promptly to determine if treatment with influenza antiviral medications is warranted.

- Consider sending respiratory specimens to the Missouri State Public Health Laboratory (MSPHL) for influenza testing by viral culture or RT-PCR to confirm results of an RIDT when:
 - ✓ A patient tests negative by RIDT when community influenza activity is high and laboratory confirmation of influenza is desired.
 - ✓ A patient tests positive by RIDT and the community prevalence of influenza is low, and a false-positive result is a consideration.
 - ✓ A patient has had recent close exposure to pigs, poultry, or other animals and novel influenza A virus infection is possible (e.g. influenza viruses circulate widely among swine and birds, including poultry, and also can infect other animals such as horses and dogs).
- **Before any specimen is sent to MSPHL for testing, DHSS staff must first be consulted by calling 800/392-0272 and asking for the Influenza Coordinator.** Collect nasopharyngeal, nasal, or throat swabs using a Dacron/flocked swab or equivalent and any commercially available viral transport media. Tracheal aspirate and bronchoalveolar lavage (BAL) specimens could be submitted as well. Fill out a requisition form at <http://health.mo.gov/lab>. After collection, specimens must be stored at 2-8 °C and shipped (preferably utilizing [MSPHL Courier](#)) to MSPHL on frozen refrigerant packs within three days OR stored at -70°C and sent on dry ice if held longer than 3 days.
- Antiviral treatment is recommended as early as possible for any patient with confirmed or suspected influenza who
 - is hospitalized;
 - has severe, complicated, or progressive illness; or
 - is at higher risk for influenza complications:
 - children aged younger than 2 years;
 - adults aged 65 years and older;
 - persons with chronic pulmonary (including asthma), cardiovascular (except hypertension alone), renal, hepatic, or hematological (including sickle cell) disease; metabolic disorders (including diabetes mellitus); or neurologic and neurodevelopment conditions (including disorders of the brain, spinal cord, peripheral nerve, and muscle such as cerebral palsy, epilepsy [seizure disorders], stroke, intellectual disability [mental retardation], moderate to severe developmental delay, muscular dystrophy, or spinal cord injury);
 - persons with immunosuppression, including that caused by medications or by HIV infection;
 - women who are pregnant or postpartum (within 2 weeks after delivery);
 - persons aged younger than 19 years who are receiving long-term aspirin therapy;
 - American Indians/Alaska Natives;
 - persons who are morbidly obese (i.e., body-mass index is equal to or greater than 40); and
 - residents of nursing homes and other chronic-care facilities.
- When indicated, antiviral treatment should be started as soon as possible after illness onset, ideally within 48 hours of symptom onset. However, antiviral treatment might still be beneficial in patients with severe, complicated, or progressive illness, and in hospitalized patients and in some outpatients when started after 48 hours of illness onset. Antiviral treatment can also be considered for suspected or confirmed influenza in previously healthy, symptomatic outpatients not at high risk on the basis of clinical judgment, especially if treatment can be initiated within 48 hours of illness onset.
- RIDTs have limited sensitivities and predictive values; negative results of RIDTs do not

exclude influenza virus infection in patients with signs and symptoms suggestive of influenza. Therefore, antiviral treatment should not be withheld from patients with suspected influenza, even if they test negative.

- History of influenza vaccination does not rule out influenza virus infection in an ill patient with clinical signs and symptoms compatible with influenza.
- Notify the local public health agency (LPHA) or DHSS of any suspected institutional influenza outbreaks. Reports to DHSS can be made by calling 800/392-0272 (24/7). Respiratory specimens should be collected from ill persons (whether positive or negative by RIDT) and sent to a public health laboratory for more accurate influenza testing.

Questions should be directed to the LPHA, or to DHSS's Bureau of Communicable Disease Control and Prevention at 573/751-6113.