Health Advisory:

Novel Influenza A(H3N2)v

January 6, 2012

This document will be updated as new information becomes available. The current version can always be viewed at http://www.health.mo.gov

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.

Office of the Director
912 Wildwood
P.O. Box 570
Jefferson City, MO 65102
Telephone: (800) 392-0272
Fax: (573) 751-6041
Web site: http://www.health.mo.gov

Health Advisory
January 6, 2012

FROM: **MARGARET T. DONNELLY**
DIRECTOR

SUBJECT: **Novel Influenza A(H3N2)v**

Novel influenza A viruses that normally circulate in animals may infect humans. These viruses are referred to as "variant influenza viruses" and, as an abbreviation, will be designated with a "v"; examples include A(H3N2)v, A(H1N1)v, and A(H1N2)v.

As of December 23, 2011, the Centers for Disease Control and Prevention (CDC) has received reports of 35 cases of human infection with swine origin variant influenza viruses since 2005. Of these 35 human cases, 13 have been cases of influenza A(H1N1)v viruses, two have been influenza A(H1N2)v viruses, and 20 have been influenza A(H3N2)v viruses. All 35 persons infected with swine viruses recovered from their illness. Twenty-six cases occurred in children aged 18 years or younger, and nine cases occurred in adults. In 25 cases, direct or indirect exposure to swine prior to onset of illness has been identified. Likely transmission of swine-origin influenza virus from close contact with an infected person has been observed in investigations of human infections from swine-origin influenza A virus, but has not resulted in sustained human-to-human transmission. To date, no human cases of any swine origin variant influenza virus infection have been identified in Missouri.

Although human infections with novel viruses typically found in swine are historically rare, CDC states that detections have become more frequent, for which there are three possible reasons: Improvements in laboratory testing for influenza viruses since the 2009 influenza A(H1N1) pandemic may have resulted in identification of viruses that would not have been detected previously; influenza surveillance has increased as the nation enters its winter influenza season; and/or the findings could signal a true increase in the number of cases from infected swine or limited human-to-human exposure.

All reported human cases of influenza A(H3N2)v infection occurred from July 2009 to November 2011. Of these 20 cases, 12 were reported from August 17 to December 23, 2011, and involved infections with influenza A(H3N2)v viruses that have the matrix (M) gene from the pandemic influenza A(H1N1) 2009 virus. The 12 cases occurred in five states (Indiana, Iowa, Maine, Pennsylvania, and West Virginia). Eleven of the 12 patients were children, and 6 of the 12 had no identified recent exposure to swine. Three of the 12 patients were hospitalized, and all have recovered fully. While there is no evidence that sustained human-to-human transmission is occurring, all influenza viruses have the capacity to change, and it is possible that this virus may become widespread.

The influenza A(H3N2)v virus contains genes of human, avian, and swine origin, and is distantly related to human influenza viruses that circulated among people in the 1990s. Adults are likely to have some residual immunity due to this prior circulation while children do not, and thus the latter have accounted for the majority of infections with this virus. The influenza A(H3N2)v virus differs enough from current human seasonal influenza viruses that the seasonal influenza vaccine is expected to provide only limited protection in adults and no protection in young children.

So far, the severity of illnesses associated with influenza A(H3N2)v virus has been similar to the severity of illnesses associated with seasonal influenza virus infections. The duration of influenza A(H3N2)v shedding is unknown, and until more data are available, infected patients should be assumed to be contagious for up to seven days from illness onset.

Influenza A(H3N2)v viruses detected to date are susceptible to oseltamivir and zanamivir. Clinicians who suspect variant influenza virus infection in a patient should consider treatment with these medications if clinically indicated. Because these viruses have the M gene from the pandemic influenza A(H1N1) 2009 virus, they are resistant to amantadine and rimantadine.

Commercially available molecular assays may detect novel influenza A viruses but will not differentiate them from seasonal strains and may give an unsubtypable result, which should be forwarded to the Missouri State Public Health Laboratory (MSPHL) for additional testing. Rapid and immunofluorescence tests have unknown sensitivity and specificity to the influenza A(H3N2)v virus, and negative results from either test do not rule out influenza infections in patients with signs and symptoms that suggest influenza.

The Missouri Department of Health and Senior Services (DHSS) recommends:

1. Sentinel providers involved in the U.S. Outpatient Influenza-Like Illness Surveillance Network (ILINet) should double their collection of the required number of respiratory specimens from patients with influenza-like illness (ILI) and continue submission of those specimens to MSPHL for rRT-PCR testing. Priority should be given to testing persons younger than 18 years of age. Interim recommendations for collecting respiratory specimens from patients with suspected influenza A(H3N2)v infections are consistent with those for seasonal influenza.

2. ILI outbreaks, particularly among children in childcare and school settings, should be promptly investigated by public health officials to determine if respiratory specimens should be submitted to MSPHL for testing. At this stage, MSPHL is the only laboratory able to conduct testing to identify novel variant influenza viruses.

3. Upon consultation with public health officials, healthcare providers should consider submitting respiratory specimens to MSPHL from cases with unusual or severe presentations of ILI, especially among children.

4. Confirmed cases of human infection with influenza A(H3N2)v virus should be investigated thoroughly and expeditiously to ascertain whether swine-to-human or human-to-human transmission is ongoing, and to limit further exposures between the case and other persons, and between the case and swine.

5. Since there is no evidence so far that influenza A(H3N2)v transmission characteristics are different from seasonal influenza, CDC and DHSS advise that facilities use the same infection control procedures as for seasonal influenza to help guard against the spread of influenza A(H3N2)v, including the vaccination of healthcare workers.

6. On-going population studies indicate that existing seasonal influenza vaccine can provide limited protection in adults and older children. DHSS recommends continuation of vaccination with seasonal influenza vaccine according to current vaccination guidelines.

CDC has released documents that provide: interim guidance on influenza A(H3N2)v surveillance, specimen collection, and testing; interim case definitions for investigating influenza A(H3N2)v infections; and recommendations for preventing infections with seasonal influenza and influenza A(H3N2)v viruses in healthcare settings. These documents, as well as additional recommendations and guidance, are available at http://www.cdc.gov/flu/swineflu/influenza-variant-viruses.htm.

Comprehensive information on influenza for medical professionals is available at http://health.mo.gov/emergencies/panflu/panmed.php.

Questions should be directed to DHSS' Bureau of Communicable Disease Control and Prevention at 573/751-6113, or 800/392-0272 (24/7).

Updates will be provided as new information becomes available. They can be found at http://health.mo.gov/emergencies/ert/alertsadvisories/.