Healthcare and Public Health Providers Guidance on H3N2v and Other Variant Influenza Viruses

Michigan Department of Community Health
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This guidance updates Michigan Department of Community Health (MDCH) recommendations on variant influenza A/H3N2 (H3N2v) and other variant influenza virus surveillance, reporting and testing for healthcare providers, laboratories and local health departments. Since 2012, over 300 confirmed U.S. H3N2v influenza cases, including 8 Michigan cases, were identified and associated with exposure to swine and agricultural fairs.

Future updates may be issued if influenza virus severity, activity, or transmission changes. Please call the MDCH Division of Communicable Disease at (517) 335-8165 with any questions.

Background on H3N2v Human Cases

- In 2011, a new swine influenza A (H3N2v) virus was detected that had acquired the M gene from the influenza A(H1N1)pdm09 (2009 H1N1) virus. It is possible that the 2009 H1N1 virus M gene may make H3N2 viruses in swine more transmissible to humans and possibly among humans.

- The H3N2v virus has been detected in swine in a number of U.S. states and may be circulating widely in U.S. swine at this time. When human infections with these viruses occur, these viruses are called “variant” viruses (which can also be denoted with the letter “v”).

- Limited human-to-human transmission of this virus occurred during 2011 and 2012. No sustained (ongoing) community transmission of the H3N2v virus has been observed in humans at this time.

- While no variant influenza infections, including H3N2v, have been confirmed yet in 2014, it is expected that sporadic infections and even localized outbreaks among people with such viruses may occur. Michigan healthcare providers should be vigilant for suspect human cases.

- Clinical symptoms are usually mild and are consistent with seasonal flu symptoms. Most cases have occurred in children as they may lack cross-protective immunity to the H3N2v virus. As with seasonal flu, those at higher risk for flu-related complications may develop more serious illness.

- CDC recommends annual seasonal influenza vaccination for all persons aged 6 months and older to protect against seasonal influenza viruses; however, seasonal influenza vaccine is unlikely to protect against variant influenza viruses, including H3N2v viruses.

- Influenza variant viruses have not been shown to be transmissible to people through eating or proper handling of pork (pig meat) or other products derived from pigs.

- The most current national information, including case counts, can be found on the CDC’s website http://www.cdc.gov/flu/swineflu/h3n2v-cases.htm.

- Michigan influenza activity data is available in the MI FluFocus report (www.michigan.gov/flu).

Influenza Case Identification, Testing and Treatment

- Current seasonal influenza circulation in Michigan is sporadic. Patients with an influenza-like illness (fever >100°F plus a cough and/or a sore throat) should be questioned about recent exposure to swine or attendance at county or state fairs.

  - Clinical characteristics of H3N2v are similar to symptoms of uncomplicated seasonal influenza, including fever, cough, pharyngitis, rhinorrhea, myalgia, and headache. Vomiting and diarrhea have also been reported in some pediatric cases. Milder illness is possible, including lack of fever. Duration of illness in most cases is approximately 3-5 days.

- Collection of upper respiratory specimens is always encouraged for any influenza-like illness patients (e.g., outpatients, hospitalizations, deaths) during times of low influenza circulation. For H3N2v and other variant influenza viruses, place extra emphasis on influenza testing for the following patients:
Patients reporting direct or indirect swine exposure or attendance at a county fair
- Patients reporting close contact (within 6 ft) to an ill person with recent swine exposure
- Children <18 years of age
- Unusual or severe presentations of influenza-like illness, including hospitalizations
- Outbreaks of influenza-like illness, especially among children

The following should be collected as soon as possible after illness onset: nasopharyngeal swab, nasal aspirate or wash or a combined nasopharyngeal swab with oropharyngeal swab. Nasal or oropharyngeal swabs are also acceptable but less preferred. For intubated patients, also collect an endotracheal aspirate. Bronchoalveolar lavage (BAL) and sputum specimens are also acceptable. Specimens should be placed into sterile viral transport media and immediately placed on refrigerant gel-packs or at 4°C (refrigerator) for transport to the laboratory.

Commercially available rapid influenza diagnostic tests (RIDTs) may not detect H3N2v or other variant influenza viruses in respiratory specimens. In addition, a positive test result for influenza A cannot confirm a variant influenza virus infection because these tests do not distinguish between influenza A virus subtypes (does not differentiate between human and variant influenza A viruses).

PCR testing available at private, clinical and hospital labs will most likely detect the presence of influenza A virus infection, but may not differentiate an H3N2v or other variant influenza infection.

In Michigan, PCR testing that can diagnose H3N2v or other variant influenza virus infection is currently only available at the MDCH Bureau of Laboratories. Specimens from suspect novel influenza virus cases, including H3N2v cases, should be submitted directly to MDCH.

Information on how to collect and submit specimens to the MDCH Bureau of Laboratories, including the required Test Requisition form, can be found at the following website: http://www.michigan.gov/mdch/0,4612,7-132-2945_5103-213906--,00.html

Information for clinicians regarding the treatment of H3N2v influenza is available at the following website: http://www.cdc.gov/flu/swineflu/h3n2v-clinician.htm
- The antiviral drugs oseltamivir (Tamiflu) and zanamivir (Relenza) – which are used to treat infection with seasonal influenza viruses – are effective in treating H3N2v virus infection. Early initiation of antiviral treatment is most effective.

How to Report Suspect Variant Influenza Cases, including H3N2v

Clinicians and Laboratorians:
- Immediately contact your local health department (alternatively, MDCH may be contacted at (517) 335-8165 or after hours at (517) 335-9030 to report suspect cases and to arrange for testing

Local Health Departments:
- Promptly report any confirmed, probable or suspect H3N2v case to MDCH at (517) 335-8165 and enter the case into MDSS using the “Novel Influenza” form. Complete the Case Details form.
- A CDC form will need to be completed for all confirmed H3N2v cases; MDCH will work with local health departments to complete these forms if cases are identified.
- Case definitions are available online at http://www.cdc.gov/flu/swineflu/case-definitions.htm

Healthcare and public health providers should continue to report other influenza cases (suspect avian influenza cases such as H7N9 or H5N1, seasonal cases, pediatric deaths, facility outbreaks) as previously directed; guidance is available by calling MDCH at (517) 335-8165 and also at www.michigan.gov/mdch/0,1607,7-132-2945_5104_53072_53073---,00.html#I.