

Health Alert:

**Respiratory
Illnesses Due to
Enterovirus D68
(EV-D68) in Missouri**

August 29, 2014

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

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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 Alert
August 29, 2014**

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SUBJECT: Respiratory Illnesses Due to Enterovirus D68 (EV-D68) in Missouri

Current Situation

Recently, a pediatric hospital in Kansas City, Missouri has experienced over 300 cases of respiratory illnesses in their facility. Approximately 15% of those illnesses have resulted in children being placed in an intensive care unit. Testing of specimens from several cases at a specialized laboratory at the Centers for Disease Control and Prevention (CDC) indicated that 19 of the 22 specimens were positive for Enterovirus D68 (EV-D68). The St. Louis area is also experiencing a recent increase in pediatric respiratory illnesses. Many specimens from those cases have tested positive for enterovirus, and further testing for specific virus type is pending. To date, no deaths have been reported due to EV-68 in Missouri.

Background

Enteroviruses are very common viruses. There are more than 100 types of enteroviruses. It is estimated that 10 to 15 million enterovirus infections occur in the United States each year. Most people infected with enteroviruses have no symptoms or only mild symptoms, but some infections can be serious. Most enterovirus infections in the U.S. occur seasonally during the summer and fall, and outbreaks tend to occur in several-year cycles.

EV-D68 infections occur less commonly than those with other enteroviruses. EV-D68, like other enteroviruses, appears to spread through close contact with infected people. This virus was first isolated in California in 1962 from four children with bronchiolitis and pneumonia, and has been reported rarely since that time. Unlike the majority of enteroviruses that cause a clinical disease manifesting as a mild upper respiratory illness, febrile rash illness, or neurologic illness (such as aseptic meningitis and encephalitis), EV-D68 has been associated almost exclusively with respiratory disease. EV-D68 usually causes mild to severe respiratory illness; however, the full spectrum of EV-D68 illness is not well-defined.

Clusters of respiratory illness associated with EV-D68 in Asia, Europe, and the U.S. during 2008-2010 have been described previously. EV-D68 infection was associated with respiratory illness ranging from relatively mild illness to severe illness requiring intensive care and mechanical ventilation. These clusters confirmed that EV-D68 is associated with outbreaks of respiratory illness severe enough to require hospitalization, and in some cases, might contribute to patient death. New-onset wheezing or asthma exacerbation were notable symptoms. However, in each cluster, respiratory specimens typically were collected from persons who had sought medical care or were hospitalized, which would have biased these reports toward more severe disease. No data is currently available regarding the overall burden of morbidity or mortality from EV-D68 in the U.S.

Available commercial, multi-pathogen detection systems can detect enteroviruses, and are

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approved by the Food and Drug Administration for use in clinical settings (Luminex xTAG RVP, Idaho Technologies FilmArray Respiratory Panel). But, these systems use broadly reactive primers that amplify RNA from either human rhinoviruses (HRVs) or enteroviruses, and results are reported as "entero-rhinovirus" or "human rhinovirus/enterovirus". Most hospitals are not able to perform enterovirus typing to identify specific enterovirus. The gold standard test for EV-D68 detection is partial sequencing of the structural protein genes, VP4-VP2 or VP1.

There is no specific treatment for EV-D68 infections; specifically there are no anti-viral medications currently available for this purpose. Many infections will be mild and self-limited, requiring only symptomatic treatment. Some people with severe respiratory illness caused by EV-D68 may need to be hospitalized and receive intensive supportive therapy.

Vaccines for preventing EV-D68 infections currently are not available.

Guidance for Healthcare Professionals

Clinicians should be aware of EV-D68 as one of many causes of viral respiratory disease, and should report clusters of unexplained respiratory illness to the local public health agency, or to the Missouri Department of Health and Senior Services (DHSS) at 573/751-6113 or 800/392-0272 (24/7).

To help reduce the risk of infection with EV-D68, healthcare professionals should recommend the following:

- Wash hands often with soap and water for 20 seconds, especially after changing diapers;
- Avoid touching eyes, nose, and mouth with unwashed hands;
- Avoid kissing, hugging, and sharing cups or eating utensils with people who are sick;
- Disinfect frequently touched surfaces, such as toys and doorknobs, especially if someone is sick;
- Stay home when feeling sick, and obtain consultation from your health care provider.

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