



Nebraska Department of Health and Human Services

HEALTH ALERT NETWORK

Advisory



TO: Primary care providers, ERs, pulmonary, pharmacies, labs, infectious disease, and public health

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RE: **Respiratory Illnesses Due to Enterovirus D68 (EV-D68) in Neighboring States**

DATE: September 8, 2014

Current Situation

Enterovirus infections are common in the summer and fall. Hospitals in Missouri and Illinois are seeing more children than usual with severe respiratory illness caused by enterovirus D68 (EV-D68). Several other states are investigating clusters of children with severe respiratory illness, possibly due to enterovirus D68.

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), http://www.cdc.gov/mmwr/preview/mmwrhtml/mm63e0908a1.htm?s_cid=mm63e0908a1_e.

Healthcare providers in Nebraska should consider EV-D68 in young children with severe respiratory illness, and report unusual increases in cases to their local health department.

Background

Enteroviruses are very common viruses; more than 100 types are known. Each year, an estimated 10 to 15 million enterovirus infections occur in the United States. Most people infected with enteroviruses have no symptoms or only mild symptoms, but some infections can be serious. Infants, children, and teenagers are most likely to get infected and become ill from enteroviruses. 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. While EV-D68 is reported to cause mild to severe respiratory illness, the full spectrum of illness caused by EV-D68 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:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6038a1.htm>

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 including persons with more severe disease. No data are 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 approved by the Food and Drug Administration for use in clinical settings. Please note that these systems use broadly reactive primers which amplify RNA from either human rhinoviruses (HRVs) or enteroviruses: results are reported as "entero-rhinovirus" or "human rhinovirus/enterovirus." Few if any Nebraska hospitals are 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. CDC is working with state and local health departments and clinical and state laboratories to perform diagnostic and molecular typing tests to improve detection of enteroviruses including EV-D68, and to enhance surveillance. To coordinate EV-D68 testing of suspect cases, please contact Robin Williams 402-471-0935 or your Local Public Health Department (see attached map). At this time, we are prioritizing testing from patients with severe illness, such as those requiring care in intensive care units. For questions regarding specimen collection and transport please contact the Nebraska Public Health Laboratory (NPHL), 1-866-290-1406. For detailed information on correct nasopharyngeal collection procedure please review this document, <http://dhhs.ne.gov/publichealth/Documents/collection%20transport%202012.pdf>, and/or review this video, <http://www.youtube.com/watch?v=zqX56LGIgQ&feature=youtu.be> provided on the DHHS website. A respiratory viral panel at the NPHL will be performed on submitted specimens. If positive for enterovirus, specimens will be forwarded to the CDC for further confirmatory testing as necessary.

Surveillance Considerations

A daily count of cases will likely not be reported as healthcare professionals are not required to report known or suspected cases of EV-D68 infection to NDHHS and it is not a reportable

disease in the United States. NDHHS and CDC do not have surveillance systems that specifically collect information on EV-D68 infection.

Treatment

No specific treatments or anti-viral medications for EV-D68 infections currently exist. Most infections are mild and self-limited, requiring only symptomatic treatment. Some people with severe respiratory illness caused by EV-D68 might 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 consider patients with known reactive airway disease who might be at risk for EV-D68, and whether their condition is optimally controlled. Patients may need prescriptions, and might be advised to have a low threshold for seeking medical attention if their disease appears to be relapsing. 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 their local public health agency, or to the Nebraska Department of Health and Human Services (NDHSS) at (402) 471-2937.

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.

Pharmacies should review their inventory and supply chain for pharmaceuticals to treat reactive airway disease to be assured of adequate supplies of medicine, should we see markedly increased disease activity.

Questions can be directed to the NDHSS Office of Epidemiology at (402) 471-2937 (24/7).

Guidance to Parents

- Children with cold like symptoms that experience difficulty breathing, are asked to consult with their family physician for further evaluation.

Nebraska Local Health Departments

LHD Contact Information for Distribution to Health Care Providers Only

