September 12, 2014

Dear Colleagues,

In response to the increase in respiratory illnesses due to enterovirus D68 (EV-D68) being reported in the Midwest, the Maryland Department of Health and Mental Hygiene (DHMH) is providing you with an update on the situation in Maryland, DHMH’s surveillance plan, and important issues in terms of reporting, testing and responding to the expected arrival of EV-D68 in Maryland this fall.

**Epidemiology**

Since the original isolation of enterovirus D68 (EV-D68) in California in 1962, EV-D68 has been rarely reported in the United States; the National Respiratory and Enteric Virus Surveillance System received 79 EV-D68 reports during 2009–2013. Small clusters of EV-D68 associated with respiratory illness were reported in the United States during 2009–2010 and other clusters have been reported in Asia and Europe since 2008. As part of its respiratory virus surveillance, Maryland public health laboratories has rarely identified EV-D68 in previous years in respiratory specimens.

**Maryland Epidemiology**

Although no cases have been identified in Maryland yet this summer, it is expected that enteroviruses, including EV-D68, and other respiratory infections will be circulating in Maryland this fall as the school year unfolds.

To date, ongoing surveillance at DHMH has not identified any unusual increase in clusters of severe respiratory disease in children or outbreaks of EV-D68 in Maryland. Unusual clusters and outbreaks are reportable to public health and surveillance is ongoing.

**Maryland Surveillance**

In anticipation of EV-D68 resulting in illness in Maryland, the following active surveillance is planned:
Reporting of Severe Acute Respiratory Infection (SARI) among children 18 years or less admitted to all Maryland hospital intensive care units (PICU admits) to local health departments. Specimen submission of positive rhino/enterovirus results on any of these cases.

Electronic laboratory reporting for positive rhino/enterovirus tests from all clinical labs who currently submit results electronically to DHMH.

Syndromic surveillance.

Reports of respiratory illness outbreaks.

Notification of Public Health

- Suspected clusters or outbreaks should be reported to local health departments.
- Until further notice, severe acute respiratory illnesses (SARI) among children hospitalized in intensive care (PICU) should be reported to local health departments by hospitals.
- Specimen submission of positive rhino/enterovirus results on any of these cases DHMH State Public Health Laboratories.
- Until further notice, clinical laboratories with existing electronic laboratory reporting linkage to DHMH should report any positive testing for enterovirus or rhino/enterovirus.

Signs and Symptoms

Enteroviruses are associated with a variety of clinical symptoms, including mild respiratory illness, febrile rash illness, and neurologic illness, such as aseptic meningitis and encephalitis. There are more than 100 known types of enteroviruses, estimated to infect 10-15 million in the United States each year, most commonly in the summer and fall. Children are most likely to be infected and symptomatic.

EV-D68, however, is less common and primarily causes respiratory illness, although the full spectrum of disease remains unclear.

Recently, outbreaks in the Midwest have affected children, especially those with known asthma disease. The most common presenting symptoms are respiratory symptoms, especially wheezing. A minority of cases have had fever. More severe cases include hypoxia (low oxygen levels) and respiratory distress. Some cases have had perihilar infiltrates and/or atelectasis on chest radiograph. Most severe cases include children with underlying respiratory disease, like asthma, but some children without asthma diagnosis have presented with wheezing.

Vaccines and Treatment

There are no available vaccines or specific treatments for EV-D68.

Clinical care is supportive.
Testing

Test for more common respiratory pathogens, like influenza, first.

Specimens can be tested for enteroviruses or rhinovirus/enterovirus at commercial or clinical diagnostic laboratories. These tests kits can determine positive results, such as “enterovirus”, “entero-rhinovirus”, or “human rhinovirus/enterovirus”. Clinical laboratories can identify enterovirus infections but specialized testing available at DHMH and CDC is needed to identify EV-D68.

Contact your local health department for consideration of more specific testing at public health laboratories among those involved in a respiratory outbreak or among those children with severe acute respiratory illness admitted to intensive care units. Testing at public health laboratories is not available for diagnostic purposes.

For testing, preferred specimens are nasopharyngeal or oropharyngeal on a polyester (Dacron) swab with an aluminum shaft, placed in viral transport medium, preferably collected within 72 hours of onset, refrigerated until transported (up to 72 hours), transported on ice packs with DHMH Culture Identification Form, requesting “entero/rhinovirus D68”.

Transmission and Prevention

EV-D68 is transmitted through close contact with infected people.

Prevention occurs through:

- Washing hands with soap and water.
- Covering coughs and sneezes.
- Avoiding touching eyes, nose and mouth with unwashed hands.
- Staying home if sick.
- Avoiding close contact with those sick with respiratory illness.
- Stay updated with influenza vaccination.

Infection Control in the Healthcare Setting

Standard precautions with contact and droplet precautions for hospitalized patients is recommended for suspect cases.

Handwashing with soap and water is preferred over alcohol sanitizer, given virus characteristics (non-enveloped virus).

Environmental cleaning, using standard disinfectants, including bleach solutions, is recommended.
Advice to Public for Seeking Medical Care

Parents should notify their child’s healthcare provider if their child has cold like symptoms with difficulty breathing.

Parents should notify their child’s healthcare provider if their child has a new onset of wheezing. Optimize routine asthma therapy among those at risk.

Additional Information

More information can be found on CDC website: http://www.cdc.gov/non-polio-enterovirus/about/EV-D68.html?s_cid=cdc_homepage_whatsnew_001

Thank you for your cooperation and vigilance.

Sincerely,

Lucy Wilson, MD, ScM
Chief, Center for Surveillance, Infection Prevention and Outbreak Response
Maryland Department of Health and Mental Hygiene