



Onondaga County Health Department

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HEALTH ADVISORY: ENTEROVIRUS D68

Guidance for Healthcare Providers from the New York State Department of Health

SUMMARY

- Enterovirus D68 (EV-D68) is a type of non-polio enterovirus. Recently, infections in pediatric patients, including some severe infections, have been reported to the Centers for Disease Control and Prevention (CDC) from twelve states, most of them located in the Midwest.
- While providers are not required to report individual cases of suspected or confirmed enterovirus infection, including EV-D68 infection, existing NYSDOH surveillance systems maintain the capacity to identify unusual increases in the number of individuals seeking care in emergency departments for respiratory illness and outbreaks, unusual presentations or severity of communicable diseases.
- Testing for non-polio enteroviruses is commercially available. Public Health Laboratory testing at the NYSDOH Wadsworth Center is generally reserved for outbreaks.
- Thorough hand washing, respiratory etiquette, and surface disinfection can help reduce the risk of infection with EV-D68 and other respiratory and enteroviruses.
- NYSDOH encourages medical providers to report outbreaks or unusual clusters or presentations of respiratory illness to their LHD so that they may be investigated and their etiology confirmed.

BACKGROUND

In August 2014, hospitals in Kansas City, MO and Chicago, IL notified CDC of an increase in severe respiratory illness among children seen in their emergency departments and admitted to their facility. Testing by CDC identified EV-D68 in specimens from patients in both hospitals. Since then, ten additional states have reported pediatric respiratory illness outbreaks to CDC. Results of specimen testing from these outbreaks are pending.

CDC, NYSDOH, and other state public health departments are working together to gather information to better understand EV-D68 and the illness caused by this virus; how widespread EV-D68 infections may be and the populations impacted; and whether other states are noting an increased incidence of severe respiratory illness, possibly due to EV-D68.



EPIDEMIOLOGY

Non-polio enteroviruses are common, causing between 10 to 15 million infections in the U.S. each year. Most occur during the summer and fall and may cause respiratory illness, febrile rash, aseptic meningitis, or encephalitis. The majority of individuals infected with non-polio enteroviruses do not become symptomatic or only have mild illness. However, infants, children, and teenagers are at increased risk because they have not yet acquired immunity from previous exposures.

EV-D68 is one of many non-polio enteroviruses and is thought to occur less commonly than other enteroviruses. The virus can be found in respiratory secretions such as saliva, nasal mucus, or sputum of ill persons. EV-D68 is less studied than other enteroviruses. While the ways it is transmitted is not well understood, the virus is thought to spread from person-to-person when an infected person coughs, sneezes, or touches contaminated surfaces.

CLINICAL INFORMATION

EV-D68 primarily causes respiratory illness, although the full spectrum of disease remains unclear. As with other non-polio enteroviruses, many infections will be mild and self-limited, requiring only symptomatic care. However, some people with severe respiratory illness may need to be hospitalized and receive intensive supportive therapy. There is no specific treatment for EV-D68 infections.

Providers should consider EV-D68 as a potential cause of clusters of severe respiratory illness, particularly in young children. Symptoms in severe cases reported from the recent clusters in Kansas City and Chicago included difficulty breathing, hypoxemia, and wheezing. More than half of these severe cases occurred in patients with a previous history of asthma or wheezing. A majority of patients in these clusters were afebrile.

LABORATORY TESTING

EV-D68 can be detected in respiratory specimens, such as nasopharyngeal swabs (NPS), oropharyngeal swabs (OPS) and sputum. Laboratory testing of respiratory specimens for enteroviruses should be considered when the cause of infection in severely ill patients is unclear. Respiratory specimens should be referred for enterovirus testing via the usual internal route for laboratory test requests at each facility. Infection with enteroviruses can be identified by virus culture and immunofluorescent staining or other confirmation technique, or by reverse transcription-polymerase chain reaction (RT-PCR) directly on specimens. It should be noted that most molecular enterovirus assays available at hospital, clinical, and commercial laboratories do not distinguish the enterovirus type. Additionally, many cannot distinguish enteroviruses from rhinoviruses, and some are only FDA-approved or validated for non-respiratory specimen types. Further, some tests have been demonstrated to be insensitive for the detection of EV-D68. Information needed on the specific test characteristics of the assay used at a facility should be obtained from that laboratory. However, it should be noted that distinguishing EV-D68 from any other enterovirus or rhinovirus infection, will generally have no impact on patient management.

The NYSDOH Wadsworth Center (WC) Virology Laboratory is CLEP-approved to perform enterovirus molecular typing, including for EV-D68, by conventional RT-PCR and dideoxysequencing. In order to assist in monitoring the current outbreak, selected specimens are being accepted at the WC Virology laboratory for testing.

Acceptable specimens are:

- Respiratory tract specimens or cultured viral isolates that have tested positive for enterovirus or enterovirus/rhinovirus OR
- If enterovirus typing is being requested, the name of the enterovirus screening assay **must** be indicated on the Wadsworth Infectious Disease Requisition form. Preferred sample volume is > 1.0 mL, minimum required volume is .5 mL. Specimens must be accompanied by a completed Infectious Disease Requisition (http://www.wadsworth.org/divisions/infdis/DOH-4463_061109_fillable.pdf) or requested by remote order for facilities with appropriate electronic access.
- Turnaround time for typing results is approximately one week.

PREVENTION

Vaccines against EV-D68 infections are not available. Providers should work with their asthmatic patients to help achieve optimal control of their condition. Additionally, the following actions can help protect patients from EV-D68 and other respiratory illnesses:

- Wash hands often with soap and water for 20 seconds, especially after changing diapers
- Avoid touching eyes, noses, and mouths with unwashed hands
- Avoid kissing, hugging, and sharing cups or eating utensils with people who are ill
- Cover mouths and noses when coughing or sneezing
- Disinfect frequently commonly touched surfaces, such as toys and doorknobs, especially when someone is ill.

REPORTING

While providers are not required to report individual cases of suspected or confirmed EV-D68 infection, outbreaks or unusual presentations are reportable to the Onondaga County Health Department at (315) 435-3236 or to the local health department (LHD) where the patient resides.

Providers who are unable to reach their LHD can contact the NYSDOH Bureau of Communicable Disease Control at (518) 473-4439 during business hours or the NYSDOH Public Health Duty Officer at 1-866-881-2809 evenings, weekends and holidays.

ADDITIONAL INFORMATION

Additional information and guidance about non-polio enteroviruses is available from CDC at <http://www.cdc.gov/non-polio-enterovirus/about/EV-D68.html>. Providers with questions should contact their LHD or NYSDOH BCDC at bcdc@health.state.ny.us or (518) 473-4439.