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Distributed by the NH Health Alert Network  
[Health.Alert@nh.gov](mailto:Health.Alert@nh.gov)  
September 15, 2014, 1630 (4:30 PM EDT)  
NH-HAN 20140915



## Enterovirus-D68 (EV-D68) Respiratory Illness in Multiple States Update #1

**NH Division of Public Health Services (NH DPHS) recommends the following:**

1. Review the attached CDCHAN-00369 on the EV-D68 outbreak issued on September 12, 2014, addressing clinical care, testing, and infection control.
2. Consider testing for Enteroviruses in severely ill patients with unexplained respiratory infection, even in the absence of fever. If assistance is needed for Enterovirus testing, the public health lab can be contacted at 603-271-4661 to arrange submission of a respiratory sample (nasopharyngeal/oropharyngeal swab, wash, or aspirate).
3. Awareness that confirmation of EV-D68 requires typing by molecular sequencing, which can be arranged in collaboration with NH DPHS.
4. Awareness that no confirmed EV-D68 cases/clusters have been reported in NH to date.
5. Report cases of severe respiratory illness or clusters with an unknown etiology and consult with the NH DPHS at 603-271-4496.

For background on Enterovirus-D68, please see NH-HAN 20140909 issued on September 9, 2014 at <http://www.dhhs.nh.gov/dphs/cdcs/alerts/documents/ev-d68.pdf>

For any questions regarding the contents of this message, please contact NH DHHS, DPHS, Bureau of Infectious Disease Control at 603-271-4496 (after hours 1-800-852-3345 ext.5300).

To change your contact information in the NH Health Alert Network, contact Denise Krol at 603-271-4596 or email [Denise.Krol@dhhs.state.nh.us](mailto:Denise.Krol@dhhs.state.nh.us)

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From: Benjamin P. Chan, MD – State Epidemiologist  
Originating Agency: NH Department of Health and Human Services, Division of Public Health Services

**Attachments:** 1) CDCHAN-0369 Severe Respiratory Illness Associated with Enterovirus  
2) NPHPL Testing Guidelines for Enterovirus D-68

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**This is an official**  
**CDC HEALTH ADVISORY**

Distributed via the CDC Health Alert Network  
September 12, 2014, 17:00 ET (5:00 pm ET)  
CDCHAN-00369

## **Severe Respiratory Illness Associated with Enterovirus D68 – Multiple States, 2014**

**Summary:** *The Centers for Disease Control and Prevention (CDC) is working closely with hospitals and local and state health departments to investigate recent increases in hospitalizations of patients with severe respiratory illness. Enterovirus D68 (EV-D68) has been detected in specimens from children with severe illness in Missouri and Illinois. Investigations into suspected clusters in other jurisdictions are ongoing. The purpose of this HAN Advisory is to provide awareness of EV-D68 as a possible cause of acute unexplained respiratory illness, and to provide guidance to state health departments and health care providers. Please disseminate this information to infectious disease specialists, intensive care physicians, pediatricians, internists, infection preventionists, and primary care providers, as well as to emergency departments and microbiology laboratories.*

### **Background**

Enteroviruses are associated with various clinical symptoms, from mild to severe. EV-D68 causes primarily respiratory illness, although the full spectrum of disease remains unclear. EV-D68 was originally isolated in 1962 and, since then, has been reported rarely in the United States. Small clusters of EV-D68 associated with respiratory illness were reported in the United States during 2009–2010. There are no available vaccines or specific treatments for EV-D68, and clinical care is supportive.

In August 2014, a children's hospital in Kansas City, Missouri, and one in Chicago, Illinois, notified CDC of increases in pediatric patients examined and hospitalized with severe respiratory illness, including some admitted to pediatric intensive care units. Both hospitals also reported recent increases in detection of rhinovirus/enterovirus, in initial screening with a respiratory virus panel. Nasopharyngeal specimens from patients with recent onset of severe symptoms from both facilities were sequenced by the CDC Picornavirus Laboratory. EV-D68 was identified in 19 of 22 specimens from Kansas City and in 11 of 14 specimens from Chicago. Admissions for severe respiratory illness have continued at both facilities at rates higher than expected for this time of year. CDC has been notified by various states of similar clusters of respiratory illness, though confirmation of EV-D68 in these potential clusters is still under way.

Of these severely ill patients who were confirmed positive for EV-D68 from both hospitals, all presented with difficulty breathing and hypoxemia, and some with wheezing. Notably, most patients were afebrile at presentation and throughout the hospital course. Approximately two thirds of cases had a previous medical history of asthma or wheezing, but both hospitals reported some patients with no known underlying respiratory illness. Ages ranged from 6 weeks through 16 years, with median ages of 4 and 5 years in Kansas City and Chicago, respectively. Most patients were admitted to the pediatric intensive care unit. Of the 30 patients who were positive for EV-D68, two required mechanical ventilation (one of whom also received extracorporeal membrane oxygenation) and six required bilevel positive airway pressure ventilation. It should be noted that specimens from only the most severe cases have been typed at this time, and so these findings may not reflect the full spectrum of disease.

Additional details about these EV-D68 clusters can be found in the September 8, 2014, *MMWR* Early Release:

([http://www.cdc.gov/mmwr/preview/mmwrhtml/mm63e0908a1.htm?s\\_cid=mm63e0908a1\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm63e0908a1.htm?s_cid=mm63e0908a1_e))

## Recommendations

### Clinical Care:

- Health care providers should consider EV-D68 as a possible cause of acute, unexplained severe respiratory illness, even in the **absence of fever**.
- Although the findings to date have been in children, EV-D68 may also affect adults.

### Laboratory Testing:

- Providers should consider laboratory testing of respiratory specimens for enteroviruses when the cause of respiratory infection in severely ill patients is unclear.
- Confirmation of the presence of EV-D68 requires typing by molecular sequencing.
- Providers may contact state or local health departments for further enterovirus typing. CDC is available for consultation.
- Health departments may contact CDC for further enterovirus typing.
- CDC is currently prioritizing respiratory specimens from patients with severe respiratory illness who are known to be positive for rhinovirus/enterovirus from initial screening assays.
- Please visit the CDC EV-D68 website (<http://www.cdc.gov/non-polio-enterovirus/about/EV-D68.html>) for information on specimen submission. Completion of a brief patient summary form is required with each specimen submission to CDC.

### Infection Control:

- Routes of transmission for EV-D68 are not fully understood.
- Infection control guidelines for hospitalized patients with EV-D68 infection should include **standard** precautions, and **contact** precautions in certain situations, as is recommended for all enteroviruses (<http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf>).
- As EV-D68 is a cause of clusters of respiratory illness, similar to rhinoviruses, **droplet** precautions also should be considered as an interim recommendation until there is more definitive information available on appropriate infection control.
- As EV-D68 is a non-enveloped virus, environmental disinfection of surfaces in healthcare settings should be performed using a hospital-grade disinfectant with an EPA label claim for any of several non-enveloped viruses (e.g. norovirus, poliovirus, rhinovirus). Disinfectant products should be used in accordance with the manufacturer's instructions for the specific label claim and in a manner consistent with environmental infection control recommendations ([http://www.cdc.gov/hicpac/pdf/guidelines/eic\\_in\\_HCF\\_03.pdf](http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf)).

### Reporting:

- Providers should report suspected clusters of severe respiratory illness to local and state health departments.
- EV-D68 is not nationally notifiable, but state and local health departments may have additional guidance on reporting.
- Health departments may contact CDC for epidemiologic support. Please contact Dr. Claire Midgley ([cmidgley@cdc.gov](mailto:cmidgley@cdc.gov)) with brief descriptions of possible clusters.

### **For more information:**

For additional information, please consult the CDC enterovirus D68 website: (<http://www.cdc.gov/non-polio-enterovirus/about/EV-D68.html>)

*The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.*

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**Health Advisory** May not require immediate action; provides important information for a specific incident or situation  
**Health Update** Unlikely to require immediate action; provides updated information regarding an incident or situation  
**HAN Info Service** Does not require immediate action; provides general public health information

##This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations##

### Testing Guidelines for Enterovirus D-68

September 15, 2014

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Enteroviruses are very common viruses. They cause about 10 to 15 million infections in the United States each year. Enterovirus D68 (EV-D68) is one of many enteroviruses but it has not been commonly reported in the United States. Laboratory testing including virus culture, fluorescent antibody (FA), multi-pathogen detection system and Real-time RT-PCR can be used for enterovirus detection, but confirmation of EV-D68 requires typing by viral genome sequencing which is being performed in some state health departments and CDC.

- The NH Public Health Laboratories can perform virus culture with fluorescent antibody screening for Enteroviruses. Turnaround time for this testing is one week. While this test can detect Enterovirus infection, it cannot determine the Enterovirus subtype.
- Culture results are reported as “Not Isolated” or “Isolated”. Negative results (“Not Isolated”) do not preclude the possibility of infection with enterovirus, as virus recovery is dependent on many factors including patient viral load, sample collection technique, specimen storage and transport time, etc.
- The NH PHL does not perform the confirmatory testing. CDC and some state public health laboratories perform viral genome sequencing for confirmation of EV-D68. Samples in which Enterovirus is isolated at the NH PHL will be sent to CDC or another state Public Health Laboratory for Enterovirus typing. The turn-around time of the test at CDC is approximately two weeks after specimen receipt.
- The NH PHL also assists in making arrangement for shipping samples that have had Enterovirus detected in a respiratory virus panel at a clinical or hospital laboratory referred to the NH PHL to be forwarded to CDC or another state Public Health Laboratory for Enterovirus typing.
- For patients with acute respiratory disease, collect a nasopharyngeal or oropharyngeal swab and place in Viral Transport Medium. Alternatively, a nasal wash or nasal aspirate may be collected in a sterile cup.
- Specimens may be shipped overnight or transported by courier to the laboratory. Specimens should be stored at 2-8°C after collection, and transported on ice to the laboratory within 48 hours.
- Submit specimens using the routine NH PHL lab requisition and request Enterovirus Culture under “Virus Culture”.
- For more information about specimen collection, transport and testing for EV-68, please contact the NH PHL at 603-271-4661.