Key Points: Enterovirus D68 in the United States, 2014

- In August 2014, hospital officials in Kansas City, MO and Chicago, IL notified CDC of an increase in severe respiratory illness among children seen in the emergency rooms and admitted to the hospitals.
  - Specimens initially tested positive for rhinovirus and enterovirus. CDC did further testing and identified enterovirus D68 (EV-D68) in specimens from patients in both hospitals in Kansas City and Chicago.
  - CDC is working closely with MO, IL and other state health departments as they continue to investigate suspected clusters of respiratory illness in other facilities.

- Hospital admissions for severe respiratory illness among children in the Kansas City and Chicago hospitals are higher than expected for this time of year. Several states are also investigating similar clusters of severe respiratory illness, possibly due to EV-D68.

- The situation is evolving quickly. CDC is gathering information to better understand:
  - EV-D68 and the illness caused by this virus,
  - how widespread EV-D68 infections may be and the populations affected, and
  - whether other states are experiencing severe respiratory illness, possibly due to EV-D68.

- CDC is communicating often with state health departments that are investigating suspected clusters of respiratory illness, and we have received specimens for laboratory testing.

- CDC understands that Americans may be concerned about this situation. Severe respiratory illness is always a concern to us, especially when infants and young children are affected. We will share information as soon as we have it. We'll also post information on our website (www.cdc.gov/non-polio-enterovirus).

- Healthcare providers should consider EV-D68 as a possible cause of severe respiratory illness, particularly in young children, and should report unusual increases in the numbers of patients with severe respiratory illness to local and state health departments.

- The general public can help protect themselves from respiratory illnesses by washing hands with soap and water, avoiding close contact with sick people, and disinfecting frequently touched surfaces.

General Key Points About Enteroviruses and Enterovirus D68

Background

Enteroviruses

- Enteroviruses are very common viruses; there are more than 100 types.
- It is estimated that 10 to 15 million enterovirus infections occur in the United States each year.
- Enteroviruses can cause respiratory illness, febrile rash, and neurologic illnesses, such as aseptic meningitis (swelling of the tissue covering the brain and spinal cord) and encephalitis (swelling of the brain).
- Most infected people have no symptoms or only mild symptoms, but some infections can be serious.
- Infants, children, and teenagers are most likely to get infected with enteroviruses and become sick.
- Most enterovirus infections in the United States occur seasonally during the summer and fall.

Enterovirus D68

- Enterovirus D68 (EV-D68) infections are thought to occur less commonly than infections with other enteroviruses.
- EV-D68 was first identified in California in 1962. Compared with other enteroviruses, EV-D68 has been rarely reported in the United States.

Symptoms

- EV-D68 has been reported to cause mild to severe respiratory illness. However, the full spectrum of EV-D68 illness is not well-defined.

Transmission

- EV-D68 is not frequently identified, so it is less studied and the ways it spreads are not as well-understood as other enteroviruses. EV-D68 causes respiratory illness, and the virus can be found in respiratory secretions such as saliva, nasal mucus, or sputum. The virus likely spreads from person to person when an infected person coughs, sneezes, or touches surfaces.

Treatment

- There is no specific treatment for EV-D68 infections.
  - Many infections will be mild and self-limited, requiring only treatment of the symptoms.
  - Some people with severe respiratory illness caused by EV-D68 may need to be hospitalized and receive intensive supportive therapy.
- No antiviral medications are currently available for treating of EV-D68 infections.

Prevention

- There are no vaccines for preventing EV-D68 infections.
- You can help protect yourself from respiratory illnesses by following these steps:
  - 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

Guidance for Healthcare Professionals

Healthcare Professionals should

- Be aware of EV-D68 as a potential cause of clusters of severe respiratory illness, particularly in young children.
- Consider laboratory testing of respiratory specimens for enteroviruses when the cause of infection in severely ill patients is unclear. State health departments or CDC can be approached for typing enterovirus.
- Report cases and clusters of severe respiratory illnesses to state and local health departments for further guidance.

Surveillance

- U.S. healthcare professionals are not required to report known or suspected cases of EV-D68 infection to health departments because it is not a reportable disease in the United States. Also, CDC does not have a surveillance system that specifically collects information on EV-D68 infections.
- No data is currently available regarding the overall burden of morbidity or mortality from EV-D68 in the United States. Any data CDC receives about EV-D68 infections or outbreaks are voluntarily provided by labs to CDC's National Enterovirus Surveillance System (NESS). NESS collects limited data, focusing on circulating types of enteroviruses and parechoviruses.

Laboratory Testing

- Many hospitals can test for enteroviruses, but they are probably not able to perform enterovirus typing. State health departments or CDC can be approached for typing.
- CDC is working with state and local health departments and clinical and state laboratories to
  - enhance their capacity to identify and investigate outbreaks
  - perform diagnostic and molecular typing tests to improve detection of enteroviruses and enhance surveillance