

“Please be kind...report on time!”

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Department of State Health Services
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LET'S TALK ABOUT ENTEROVIRUS

Non-polio enteroviruses are very common viruses that cause about 10-15 million infections in the United States each year. Tens of thousands of people are hospitalized each year for illnesses caused by enteroviruses. Although anyone can get infected with non-polio enterovirus, infants, children, and teenagers are more likely to get infected and become sick because they do not have immunity from previous exposure. People are more likely to get infected with non-polio enteroviruses in the summer and fall. Most of those who get infected with non-polio enteroviruses do not get sick or they have a mild illness like a common cold. Some will get very sick and have infection of their heart or brain or even become paralyzed.

The United States is currently experiencing a nationwide outbreak of enterovirus D68 (EV-D68) associated with severe respiratory illness. From mid-August to November 12, 2014, CDC or state public health laboratories have confirmed a total of 1,116 people in 47 states and District of Columbia with respiratory illness caused by EV-D68. Of the more than 2,300 specimens tested by the CDC, about 40% have tested positive for EV-D68. About one third have tested positive for an enterovirus or rhinovirus other than EV-D68. Almost all the con-

firmed cases this year of EV-D68 infection have been among children. Many of the children had asthma or a history of wheezing. EV-D68 has been detected in specimens for seven patients who died and had samples submitted to CDC for testing. The CDC expects that, as with other enteroviruses, EV-D68 infections will likely begin to decline by late fall. On October 14th the CDC started using a new, faster lab test for detecting EV-D68. This new lab test will allow faster processing of the specimens received since mid-September. As a result, the number of confirmed cases increased and will likely continue to increase. This increase will not reflect actual changes or mean the situation is getting worse.

SYMPTOMS

EV-D68 can cause mild to severe respiratory illness. Mild symptoms may include fever, runny nose, sneezing, cough and body and muscle aches. Severe symptoms may include wheezing and difficulty breathing. In the most recent outbreak most cases were afebrile upon admission to the hospital. This year there has been an increase in cases requiring hospitalization with severe respiratory illness, some requiring ventilation support.

TRANSMISSION

EV-D68 can be found in an infected person's respiratory secretions, such as saliva, nasal mucus, or sputum. It is likely spread person to person when an infected person coughs, sneezes, or touches a surface that is then touched by others.

REPORTING

EV-D68 is not nationally notifiable, but outbreaks, exotic diseases, or unusual group expressions of disease that may be of public health concern are reportable immediately and by law in Texas. Please report clusters or outbreaks of respiratory illnesses (any etiology, any age group, any severity level), as well as any suspected EV-D68 patients with atypical manifestations (e.g. neurological symptoms), to DSHS HSR1.

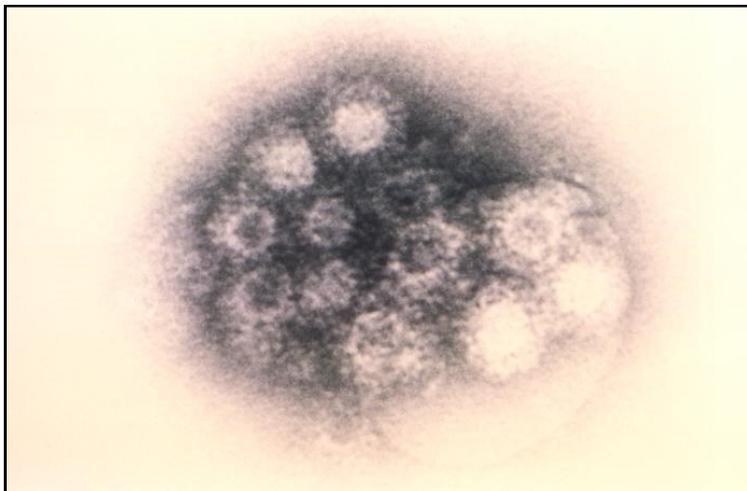


Photo courtesy of The Public Health Image Library # 15281

Table 1: Select reportable conditions, including confirmed, probable, and suspect cases (as applicable) in DSHS HSR 1, including all public health jurisdictions: Six month comparison (April through September for the time period April 1, 2012 through September 30, 2014.) Data source: Texas NEDSS Database. Data extracted: 11/17/2014. Time period based on Event Date. These counts are generated by DSHS HSRI. 2014 data is preliminary and subject to change.

Condition	April 2012 through September 2012						April 2012 through September 2013						April 2012 through September 2014					
	Apr	May	Jun	Jul	Aug	Sep	Apr	May	Jun	Jul	Aug	Sep	Apr	May	Jun	Jul	Aug	Sep
	6 mo. Total						6 mo. Total						6 mo. Total					
Amebiasis																		
Botulism, foodborne																		
Campylobacteriosis	15	12	28	19	27	15	7	8	19	23	30	28	2	6	12	30	27	29
Creutzfeldt-Jakob Disease																		
Cryptosporidiosis			1	3	1					7	4	6	4	4	1	5	3	3
Cyclosporiasis									1						1			
Encephalitis, West Nile					1					9	15	24				16	7	23
Haemophilus influenzae, invasive																		
Hantavirus pulmonary syndrome																		
Hemolytic uremic synd, postdiarrheal															2			
Hepatitis A, acute			1												1	1		
Hepatitis B Viral Infection, Perinatal						1												
Hepatitis B, acute	1		1				1											
Hepatitis C, acute	1																	
Influenza-associated pediatric mortality																		
Legionellosis											2				2	5	1	
Listeriosis										1								
Lyme disease																		
Malaria	1							1		1	1							
Mumps																		
Neisseria meningitidis, invasive					1													
Pertussis		1	3	6	2	1	2	7	10	31	25	17	4	7	19	14	12	14
Salmonellosis	18	20	13	15	16	21	17	8	12	16	10	15	11	9	21	26	25	21
Shiga toxin-producing Escherichia coli	1	1		1	1	3			1	1	1	2	2		3	1		
Shigellosis	20	7	15	15	11	19	10		1	1	4	1	1	5	1			
Spotted Fever Rickettsiosis																		
Streptococcus pneumoniae, invasive	8	4	4	3	3	7	10	4	4	1	1	6	9	15	3	4	2	4
Streptococcus, invasive Group A	2	2	3		1	1	1	2	1	1	1	1		1	2			1
Streptococcus, invasive Group B	6	2	6	4	6	9	33	1	7	3	3	4	1	3	6	5	6	4
Typhoid fever (Salmonella typhi)																		
Vancomycin-intermediate Staph aureus																		
Varicella (Chickenpox)	4	9	2	2	3	3	23	4	3	1	3	4	5	20	4	3	1	2
Vibrio vulnificus infection	1																	
Vibriosis, other or unspecified					2													
West Nile Fever				1							13	19			1	15	15	31
Yersiniosis																		

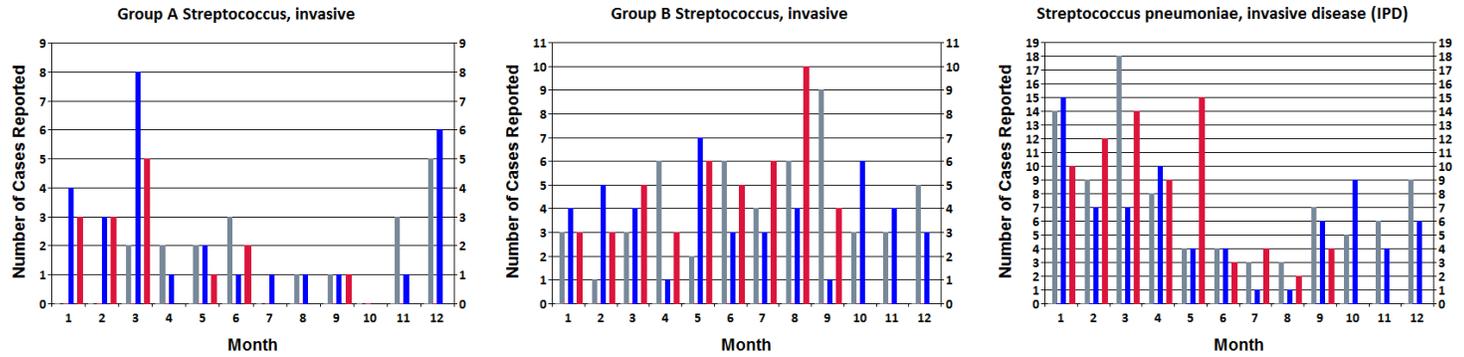
Note: West Nile Encephalitis and West Nile fever were not officially reported in the NEDSS database during 2012.

Chart 1: Select reportable conditions, including confirmed, probable, and suspect cases (as applicable) in DSHS HSR 1, including all public health jurisdictions, for the period January 01, 2012 through September 30, 2014 by Month/Year. Time period is based on Event Date.

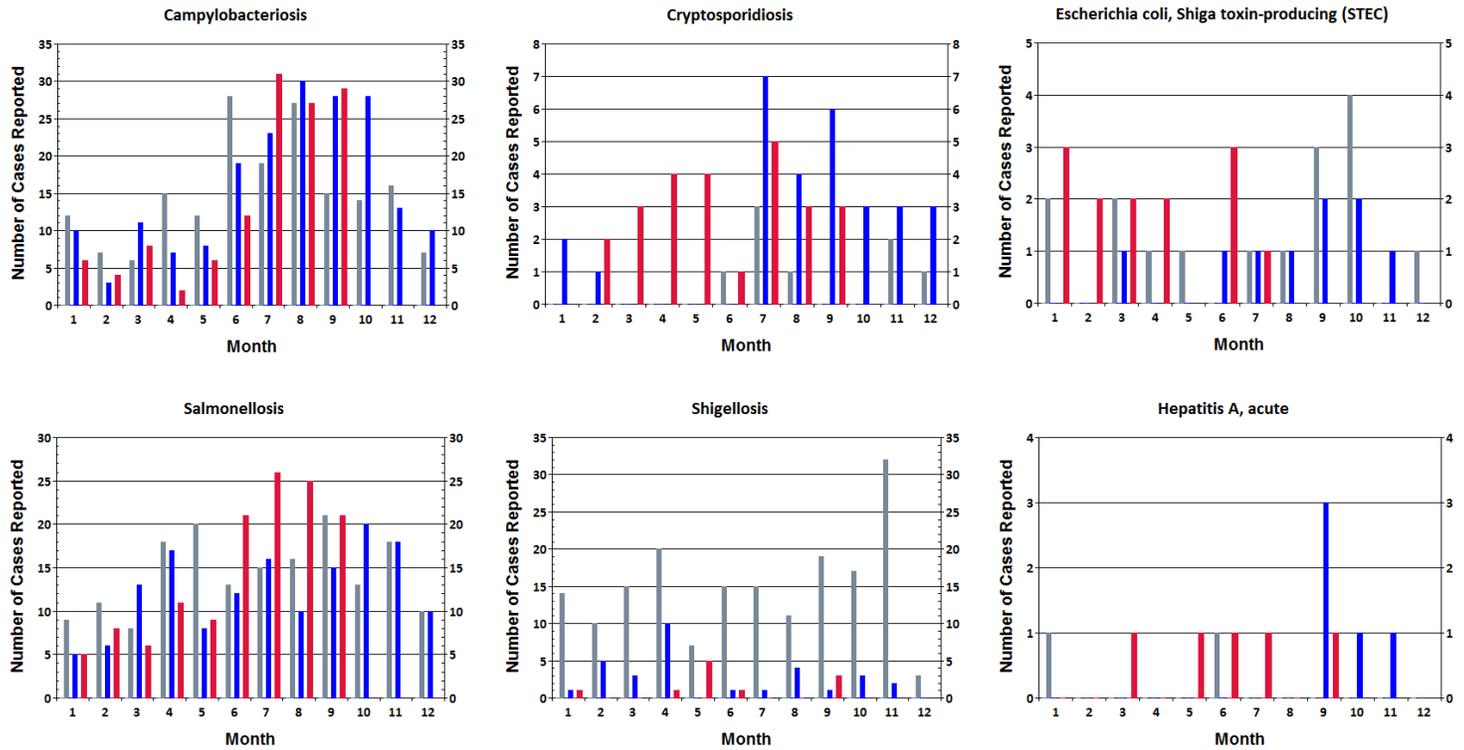
Data source: Texas NEDSS Database. Data extracted: 11/17/2014. These counts are generated by DSHS HSR1. 2014 data is preliminary and subject to change.



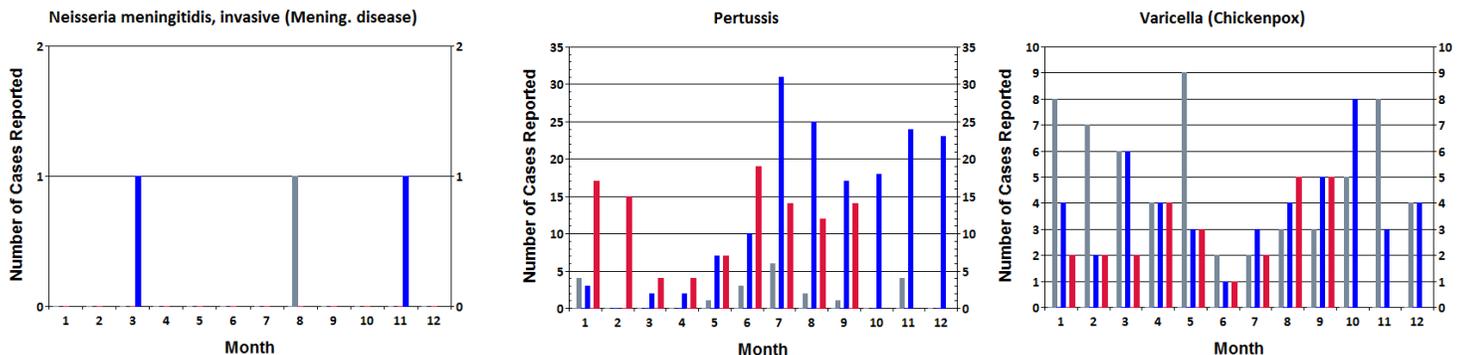
Invasive Streptococcal Disease



Foodborne/Waterborne Disease



Other Vaccine Preventable Disease



Continued from page 1

LABORATORY TESTING CRITERIA

The current DSHS criteria for specimen submission for EV-D68 testing are limited to:

1. Pediatric patients (<18 years of age) admitted to an intensive care unit with severe respiratory illness with symptom onset no earlier than August 1, 2014, who have tested positive for enterovirus or enterovirus/rhinovirus (e.g., by multiplex PCR assays), if such testing has been completed (Specimens may be submitted without previous enterovirus or enterovirus/rhinovirus testing.); OR
2. Patients (any age) with respiratory illnesses that are part of a suspected EV-D68 cluster as determined by the local health department; OR
3. Suspected EV-D68 patients (any age) with atypical illness manifestations (e.g., neurological symptoms).

In addition to meeting at least one of the criteria listed above, specimens must be accompanied by a DSHS Enterovirus D68 (EV-D68) Infections Patient Under Investigation (PUI) Short Form and a DSHS G-2V Virology Specimen Submission Form. DSHS HSR 1 can provide copies of the current investigation form and assist providers with specimen submission to the DSHS Laboratory. Qualified specimens that are received by DSHS will be forwarded to CDC for enterovirus testing.

RECOMMENDATIONS FOR CLINICIANS



- In healthcare settings, standard, contact, and droplet infection control precautions are recommended for patients with suspected EV-D68 infection.
- For hospitalized patients with severe respiratory illness, diagnostic testing for influenza and other respiratory viruses should be considered using available hospital-based testing. Most hospital molecular assays cannot distinguish enterovirus from rhinoviruses, and cannot determine the specific type of enterovirus. However, testing to distinguish EV-D68 from other enteroviruses does not impact patient management, since treatment consists of supportive care.
- Environmental disinfection of surfaces in healthcare settings should be performed **using a hospital-grade disinfectant with an EPA label claim for any non-enveloped viruses** (e.g., norovirus, rhinovirus).
- Ensure that patients with a history of asthma have an asthma action plan and encourage these patients to seek care early if they experience an exacerbation. Patients with asthma should take advantage of influenza vaccine when available because people with asthma have a more difficult time with respiratory illnesses.
- Remind patients and parents that the best way to prevent the spread of many infectious diseases is by frequent and thorough hand washing, respiratory etiquette, and surface

disinfection (see specific recommendations for patients, below).

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 your 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.
- Cover your mouth and nose with a tissue or your elbow when you cough or sneeze.
- Stay home when feeling sick and obtain consultation from your health care provider.

TREATMENT

There is no specific treatment for people with respiratory illness caused by EV-D68. Treatment should be directed at symptoms of the infection and respiratory support. The antiviral drugs pleconaril, pocapavir, and vapendavir have significant activity against a wide range of enteroviruses and rhinoviruses. CDC has tested these drugs for activity against currently circulating strains of enterovirus D68 (EV-D68), **and none of them has activity against EV-D68 at clinically relevant concentrations.** There are no immunizations to prevent EV-D68.



SOURCES

- Centers for Disease Control and Prevention. Enterovirus, <http://www.cdc.gov/non-polio-enterovirus/hcp/EV-D68-hcp.html>
- <http://www.cdc.gov/non-polio-enterovirus/index.html>
- Texas Department of State Health Services Health Alert from October 7, 2014