

Cryptosporidiosis

Agent: *Cryptosporidium parvum* and *Cryptosporidium hominis* are the most common species that cause disease in humans (parasite)

Mode of Transmission: Occurs via the fecal-oral route and can include person-to-person, animal-to-person, foodborne, and waterborne transmission. Animals such as cattle, sheep, and goats have tested positive for the parasite and are an important reservoir, contributing to both direct transmission and contamination of water supplies; however, many other animals, including cats and dogs, can be infected and transmit disease. *Cryptosporidium* oocysts may be excreted from infected individuals for up to several months after diarrhea has resolved. Oocysts can remain infectious for 2-6 months after being excreted. The oocysts are very resistant to chemicals used to purify drinking water and disinfect recreational water (e.g., chlorine in pools).

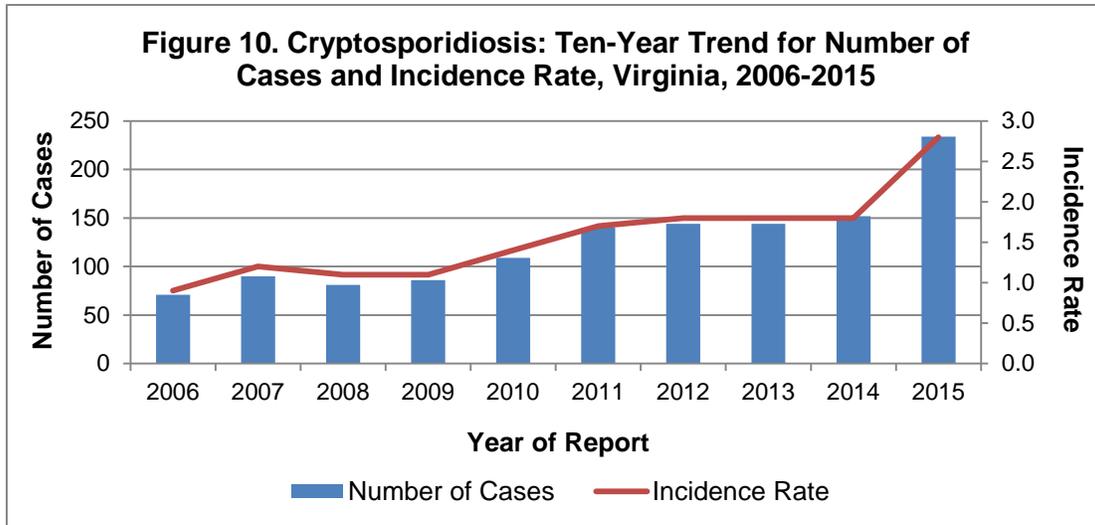
Signs/Symptoms: Profuse watery diarrhea with nausea, cramping, and abdominal pain. The diarrhea may be preceded by anorexia and vomiting in children. Illness is typically self-limiting, and will either resolve on its own or have no harmful long-term effects. However, immunocompromised persons have a higher risk of severe disease, which can lead to poor outcomes, including death. Asymptomatic infections are common.

Prevention: Preventive measures include careful hand hygiene after using the bathroom, after changing diapers or cleaning a child who has used the bathroom, after handling animals or their feces, and before preparing and eating food. People with diarrhea should not enter public recreational water. Water purification methods, including boiling water or filtration, should be considered when drinking water from natural streams, lakes, springs, or any unknown source.

Cryptosporidiosis: 2015 Data Summary	
Number of Cases:	234
5-Year Average Number of Cases:	137.8
% Change from 5-Year Average:	+70%
Incidence Rate per 100,000:	2.8

In 2015, 234 cases of cryptosporidiosis were reported in Virginia. This represents a 54% increase when compared to the 152 cases reported in 2014 and a 70% increase from the five-year average of 137.8 cases per year (Figure 10). The statewide incidence rate of 2.8 cases per 100,000 population was an increase from the rate of 1.8 per 100,000 seen each year from 2012 to 2014. Of the 234 cases reported in 2015, 55 (24%) were associated with outbreaks.

With the increase in cases in 2015, the incidence rate for cryptosporidiosis in Virginia approached the overall U.S. incidence rate. From 2005 to 2012 (the most recent year for which national data are available), the overall U.S. incidence rate was 2.9 cases per 100,000 population. For national reporting, Virginia is considered to be part of the Southern region; the incidence rate for this region in 2012 was 1.7 per 100,000.

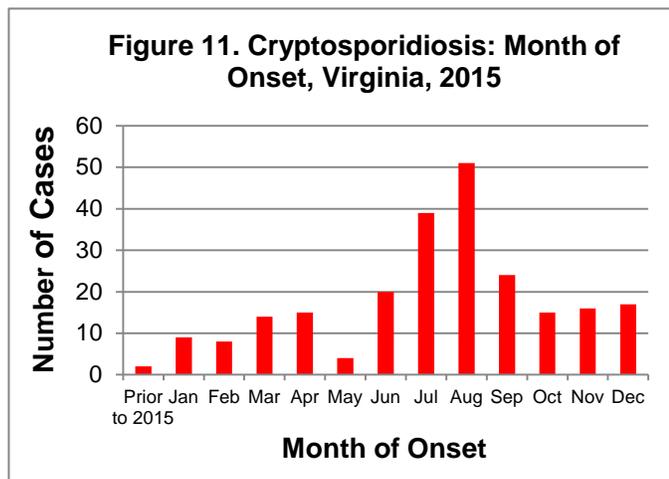


In 2015, the highest incidence rate in Virginia was observed in the 30-39 year age group (4.3 per 100,000), followed by the 1-9 and 60 year and older age groups (both with rates of 3.2 per 100,000). Incidence among all other age groups fell below the statewide rate of 2.8 cases per 100,000 population, and ranged from 1.9 to 2.7 per 100,000. No cases were reported among children less than one year of age.

Race was not reported for 55 cases (24%) in 2015. Among cases with a known race, incidence was higher among the white population (2.4 per 100,000) than the black population (1.6 per 100,000) and the “other” race population (1.4 per 100,000). This represents a change from 2014, when the highest incidence rate was seen among the black population. Incidence was higher among females (3.0 per 100,000) compared to males (2.6 per 100,000) during 2015.

Geographically, the highest incidence rate was observed in the northern region (4.3 per 100,000). Rates ranged from 0.9 to 3.0 cases per 100,000 in other regions, with the lowest incidence occurring in the central region (see map below for incidence by locality).

Nationally, a higher number of illnesses are typically seen during the summer and early fall months, which is consistent with increased recreational water exposure, including public pools. This seasonal pattern was also observed in Virginia, with onsets of cases peaking during July and August (Figure 11).



The most commonly reported risk factors among cases in 2015 included travel (88 cases, 38%), recreational water exposure (82 cases, 35%), and contact with animals (65 cases, 28%).

Four outbreaks of cryptosporidiosis were reported in Virginia during 2015. Two outbreaks were zoonotic and attributed to contact with sick calves, leading to illnesses in 5 and 13 Virginia residents, respectively. The remaining two outbreaks were waterborne and associated with recreational water venues; the numbers of Virginia residents affected were 4 and 33, respectively. The waterborne outbreak involving 33 Virginia residents occurred at a campground and also affected 63 persons residing outside of Virginia, for a total of 96 cases associated with the outbreak.

Cryptosporidiosis Incidence Rate by Locality Virginia, 2015

