

## **Campylobacteriosis**

Agent: *Campylobacter* species (bacteria)

Mode of Transmission: Ingestion of undercooked meat, particularly poultry; ingestion of contaminated food, water, or raw milk; and direct contact with fecal material from infected animals or people.

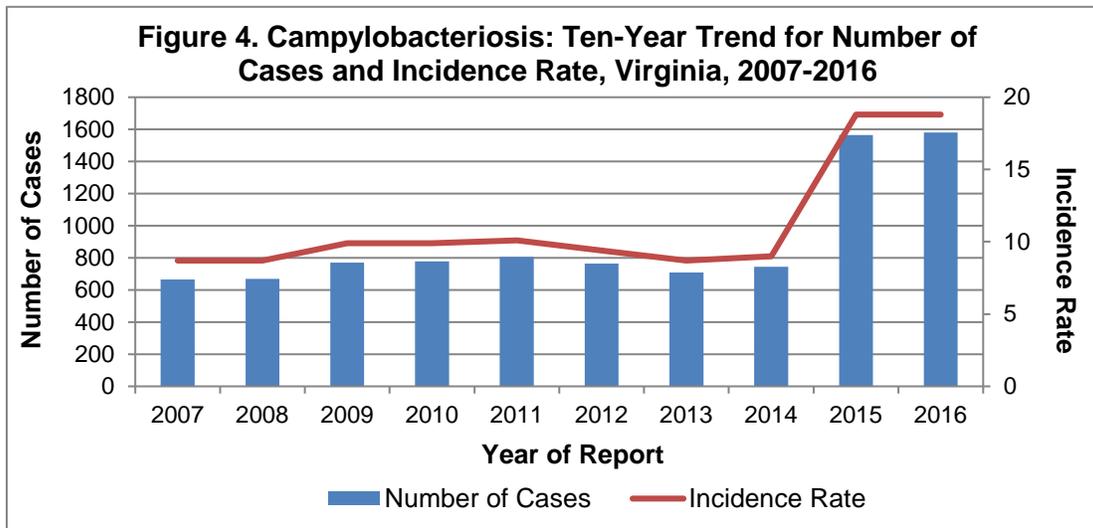
Signs/Symptoms: Include diarrhea (frequently with bloody stools), abdominal pain, malaise, fever, nausea, or vomiting. In neonates and young infants, bloody diarrhea without fever may be the only manifestation of illness. Many infections are asymptomatic. Rarely, complications can develop, including reactive arthritis, febrile convulsions, or Guillain-Barré Syndrome; bacteremia can occur in children.

Prevention: Hands should be washed carefully 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. Pasteurization of milk and chlorination of water supplies are also important. All foods containing eggs and meats, particularly poultry, should be cooked thoroughly.

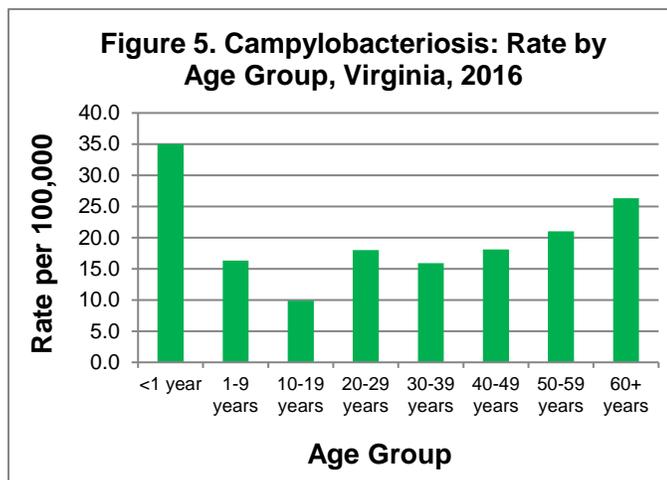
Other Important Information: In 2015, a change was implemented to the campylobacteriosis case definition, allowing cases identified by the detection of *Campylobacter* species in a clinical specimen using a culture independent diagnostic test (CIDT) method to count as probable cases; prior to 2015, these cases were classified as suspect cases and were not included in campylobacteriosis case counts. Data regarding the performance of CIDTs indicate variability in the sensitivity, specificity, and positive predictive value of these assays depending on the manufacturer (CDC unpublished data). The use of CIDT methods by laboratories is increasing and may contribute to an increase in probable campylobacteriosis cases and a decline in confirmed campylobacteriosis cases.

<b>Campylobacteriosis: 2016 Data Summary</b>	
Number of Cases:	1,580
5-Year Average Number of Cases:	917.2
% Change from 5-Year Average:	+72%
Incidence Rate per 100,000:	18.8

In 2016, 1,580 cases of campylobacteriosis were reported in Virginia, including 741 confirmed cases and 839 probable cases. This represents a slight increase from the 1,564 cases (712 confirmed and 852 probable) reported in 2015, and a 72% increase from the five-year average of 917.2 cases per year (Figure 4). The dramatic increase in cases compared to the 5-year average number of cases is explained by a change in the national case definition that went into effect in 2015, as described above in Other Important Information. The 5-year average number of cases will continue to include counts established under the previous case definition until 2020.



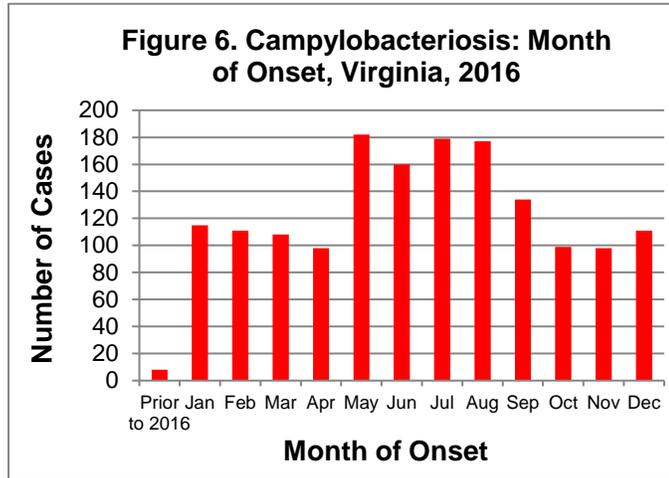
In Virginia, the highest incidence rates of *Campylobacter* infection are typically seen in children less than one year of age. In 2016, incidence was again highest among this age group, at 35.0 cases per 100,000 persons, while rates among other age groups ranged from 9.9 (10-19 years) to 26.3 (60 years and older) per 100,000 (Figure 5).



Race information was not reported for 34% of cases. For cases with a known race, incidence was highest among the white population (14.6 per 100,000), followed by the “other” race population (8.9 per 100,000), and the black population (6.5 per 100,000). Historically in Virginia, incidence is higher in males; this remained unchanged in 2016, with a rate of 19.9 per 100,000 among males and 17.7 per 100,000 among females.

Regionally, the highest incidence rate occurred in the northwest region (33.9 per 100,000), while the lowest rate was seen in the eastern region (12.0 per 100,000). Rates in the remaining regions ranged from 12.9 to 22.3 per 100,000. Of note, incidence in the northwest region was more than double the statewide rate of 18.8 per 100,000. The occurrence of campylobacteriosis varied widely by locality, with the highest rates tending to be reported from adjacent localities (see map below).

While cases were reported in every month of the year, more cases were seen during the warmer months, with an average of 174.5 cases each during the months of May through August (Figure 6). Three outbreaks of *Campylobacter* infection were reported during 2016. These outbreaks occurred in the eastern, northwest, and southwest regions and involved two private homes and one daycare/pre-K facility. Three deaths attributed to campylobacteriosis were reported in 2016. These deaths occurred in two adults from the 60 year and older age group and one adult from the 20 to 29 year age group.



### Campylobacteriosis Incidence Rate by Locality Virginia, 2016

