

## Shigellosis

Agent: *Shigella* (bacteria)

Mode of Transmission: Primarily person-to-person transmission when the bacteria are passed from the stool of an infected person to another person through direct contact. Additionally, contact with contaminated surfaces or objects (such as changing tables, diaper pails, toys), ingestion of contaminated food or water, and exposure to feces through sexual contact may spread the disease.

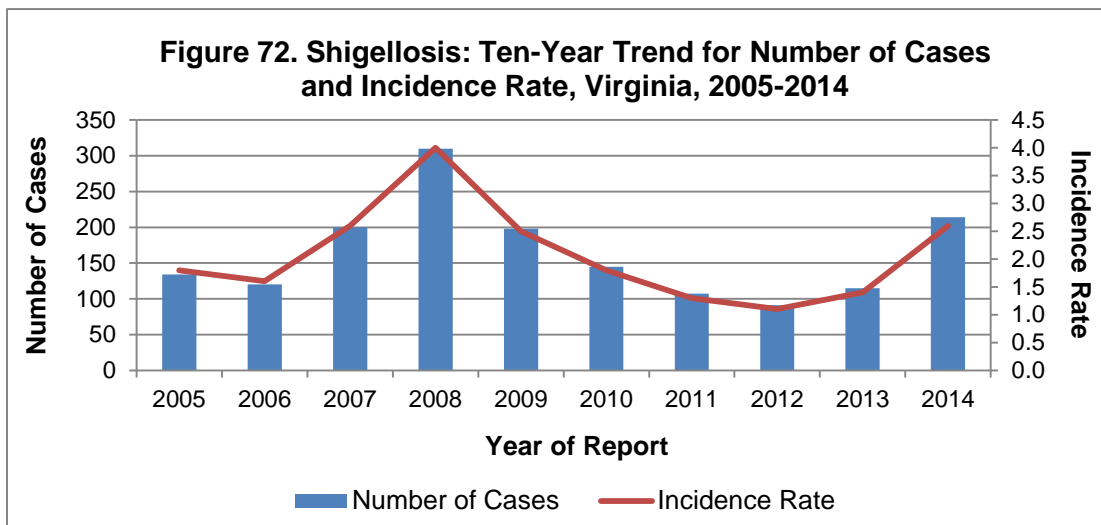
Signs/Symptoms: Diarrhea ranging from watery and loose to mucoid with or without blood; fever; and sometimes nausea, vomiting, abdominal cramps and painful straining while defecating. Mild and asymptomatic infections can also occur.

Prevention: Proper hand hygiene is essential to limit transmission. Additional control measures include improved sanitation, chlorination of drinking water, proper cooking and storage of food, and measures to decrease contamination of food by houseflies. Cases of shigellosis in food handlers, childcare center attendees or workers, or in healthcare personnel providing direct patient/resident care require public health evaluation and intervention to prevent the spread of disease.

Other Important Information: *Shigella sonnei*, (also known as "group D" *Shigella*), accounts for over two-thirds of shigellosis in the United States, while *Shigella flexneri* (also known as "group B" *Shigella*) accounts for almost all the rest. Resistance to some antibiotics used to treat shigellosis is increasing worldwide.

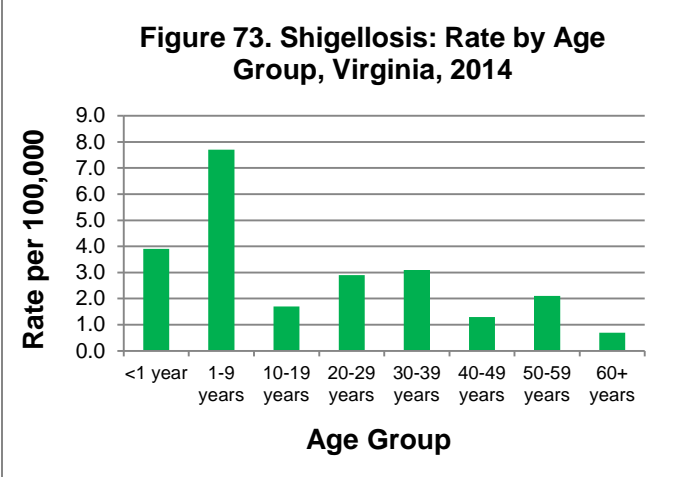
<b>Shigellosis: 2014 Data Summary</b>	
Number of Cases:	214
5-Year Average Number of Cases:	131.2
% Change from 5-Year Average:	+63%
Incidence Rate per 100,000:	2.6

During 2014, 214 cases of shigellosis were reported in Virginia. This represents an 86% increase from the 115 cases reported in 2013, and is also higher than the five-year average of 131.2 cases per year (Figure 72). *Shigella* spp. are estimated to cause almost



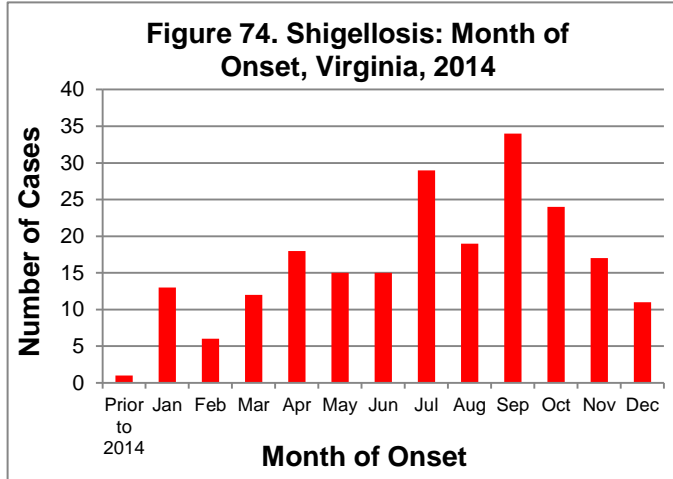
500,000 illnesses each year in the United States, although the number of laboratory-confirmed cases is much lower (CDC).

Historically in Virginia, the 1-9 year age group has had the highest number of cases and the highest incidence rate. This remained true in 2014, with 72 cases and an incidence rate of 7.7 per 100,000 in that age group (Figure 73). High incidence in this age group is expected because toddlers, age 2 to 4 years, are more likely to be exposed to shigellosis in child care and home settings where other young children may not routinely wash their hands after using the toilet. Four cases were reported in children less than one year of age resulting in an incidence rate of 3.9 per 100,000 for that age group. These are the first cases reported in children less than one year of age since 2009. Incidence among the other age groups ranged from 0.7 to 3.1 per 100,000.



Race was not reported for 43% of cases. Among those with a known race, incidence rates were highest in the black population (4.0 per 100,000), followed by the white and “other” populations (0.9 and 0.8 per 100,000, respectively). Incidence was slightly higher among males compared to females (2.9 and 2.3 per 100,000, respectively).

Geographically, the northern region had the highest incidence rate (4.4 per 100,000), followed by the northwest region (4.1 per 100,000). The central, eastern, and southwest regions had incidence rates ranging from 0.6 to 1.9 per 100,000 (see map below). In 2014, transmission occurred throughout the year, with the majority of cases occurring in the late summer through early fall (Figure 74).



Several clusters of shigellosis were reported in Virginia in 2014. A large, protracted cluster of shigellosis cases occurred from May through September, spreading from the northern region of the state into the northwest region. In total, almost 50 cases were linked via laboratory data. Some cases were associated with outbreaks in kindergarten and preschool classrooms. Beyond the classrooms, transmission appeared to occur in the general community. A second local cluster followed in October, involving five confirmed cases linked to an elementary

school. Additionally, six Virginia residents were matched into multi-state clusters associated with international travel. The six Virginia cases shared no common exposures; five of the six had traveled internationally to five different countries.

## Shigellosis Incidence Rate by Locality Virginia, 2014

