





# **Shigellosis Surveillance 2012-2016**

Rhode Island Department of Health

Division of Preparedness, Response, Infectious  
Disease and Emergency Medical Services

Center for Acute Infectious Disease Epidemiology



# About Shigellosis

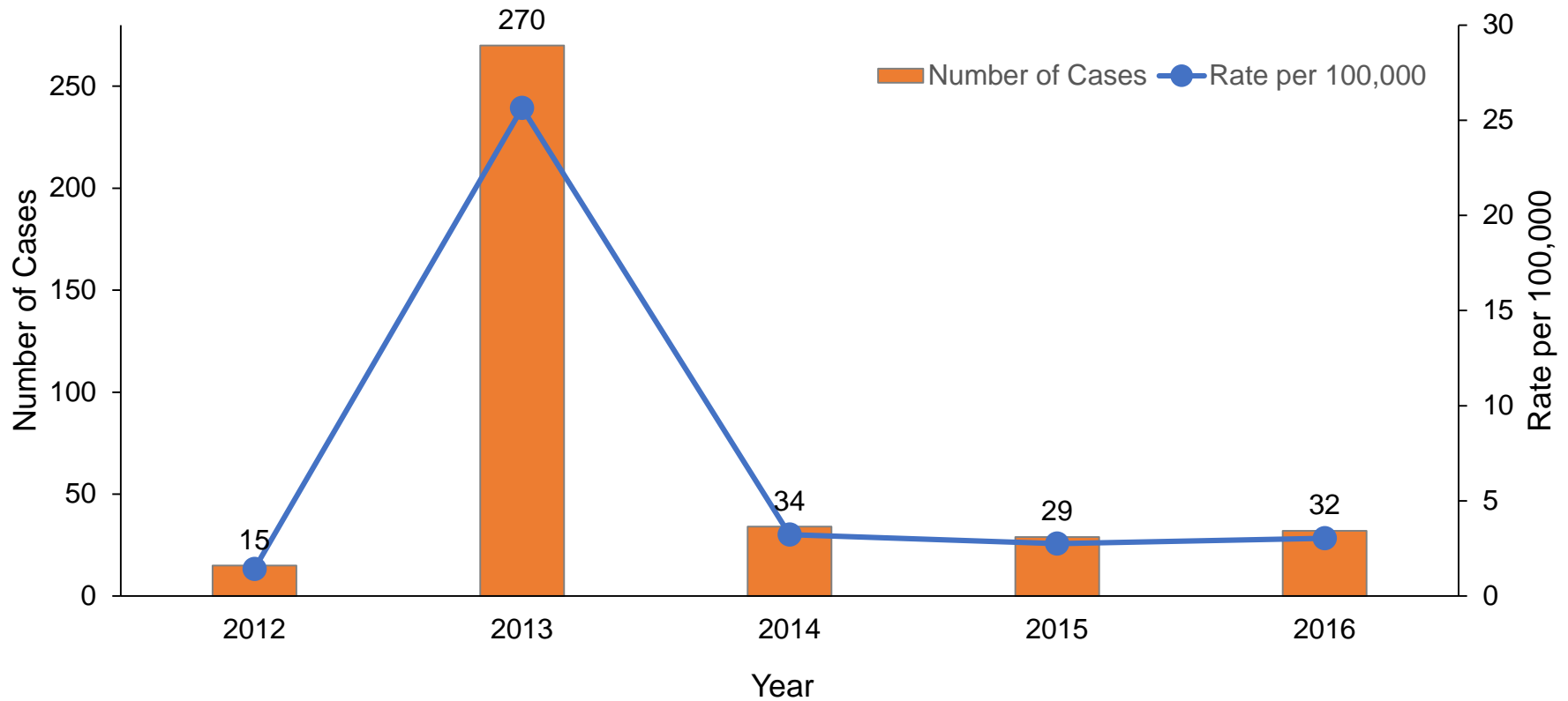
- Shigellosis is an acute, bacterial disease that impacts the digestive system and is caused by various strains of shigella bacteria.
- Shigellosis can be contracted through the fecal-oral route, by eating contaminated food, through contact with recreational water contaminated with fecal matter, and sexual contact.
- Signs and symptoms typically begin 1-2 days after exposure and include loose stools, fever, nausea, toxemia, vomiting, abdominal cramps, urge to evacuate the bowels even when empty, stools containing mucous and blood, and, in younger children, convulsions. Symptoms typically resolve after 5-7 days.
- There are approximately 500,000 shigellosis cases per year in the US.



# Data Overview, Shigellosis

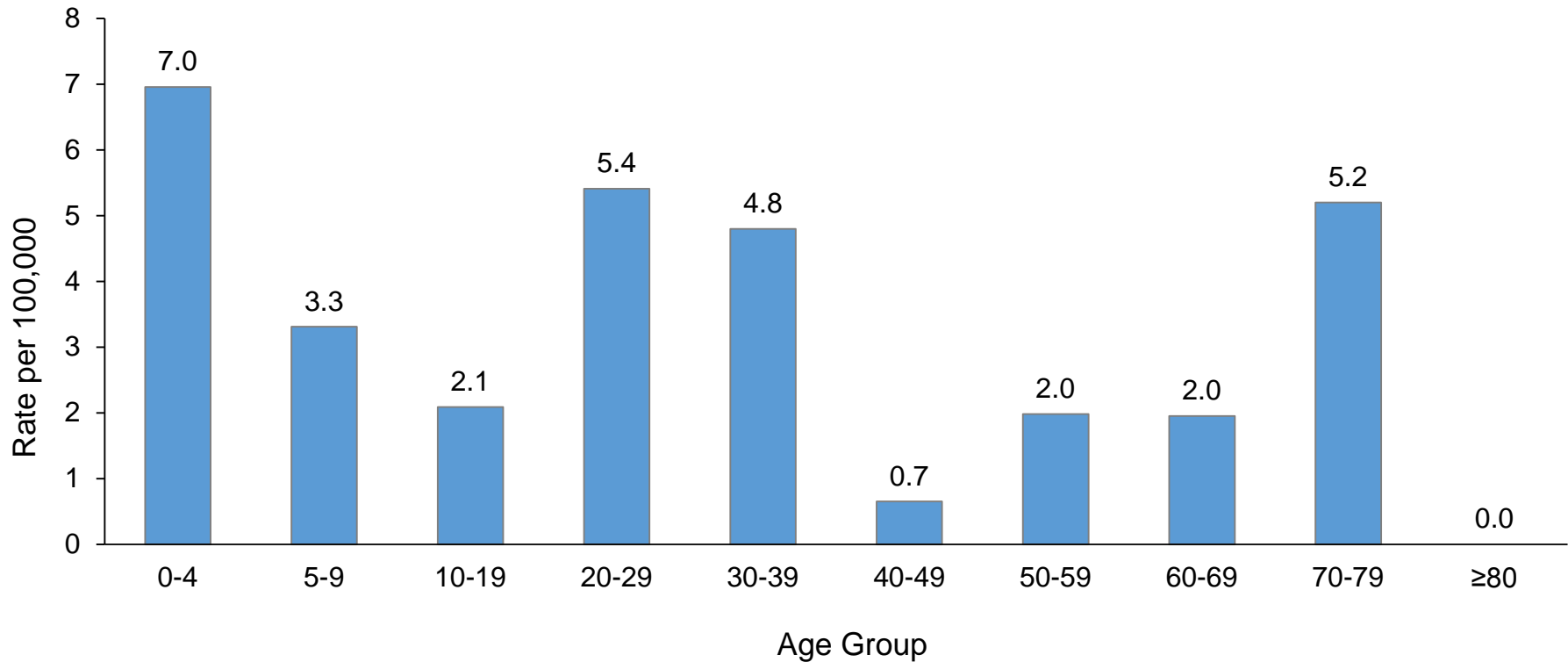
- There were 32 shigellosis cases reported in Rhode Island in 2016, for a rate of 3.0 cases per 100,000 people. The number of cases has remained fairly stable from 2014 to 2016. The high number of cases observed in 2013 was due to an outbreak related to a freshwater lake in Rhode Island.
- Young children less than 5 years old, adults 20-39 years old, and adults 70-79 years old experienced the highest rates of shigellosis in 2016.
- In 2016, the rate of shigellosis was higher among males compared to females and highest among residents of Providence County.

# Reported Cases of Shigellosis, Rhode Island, 2012-2016



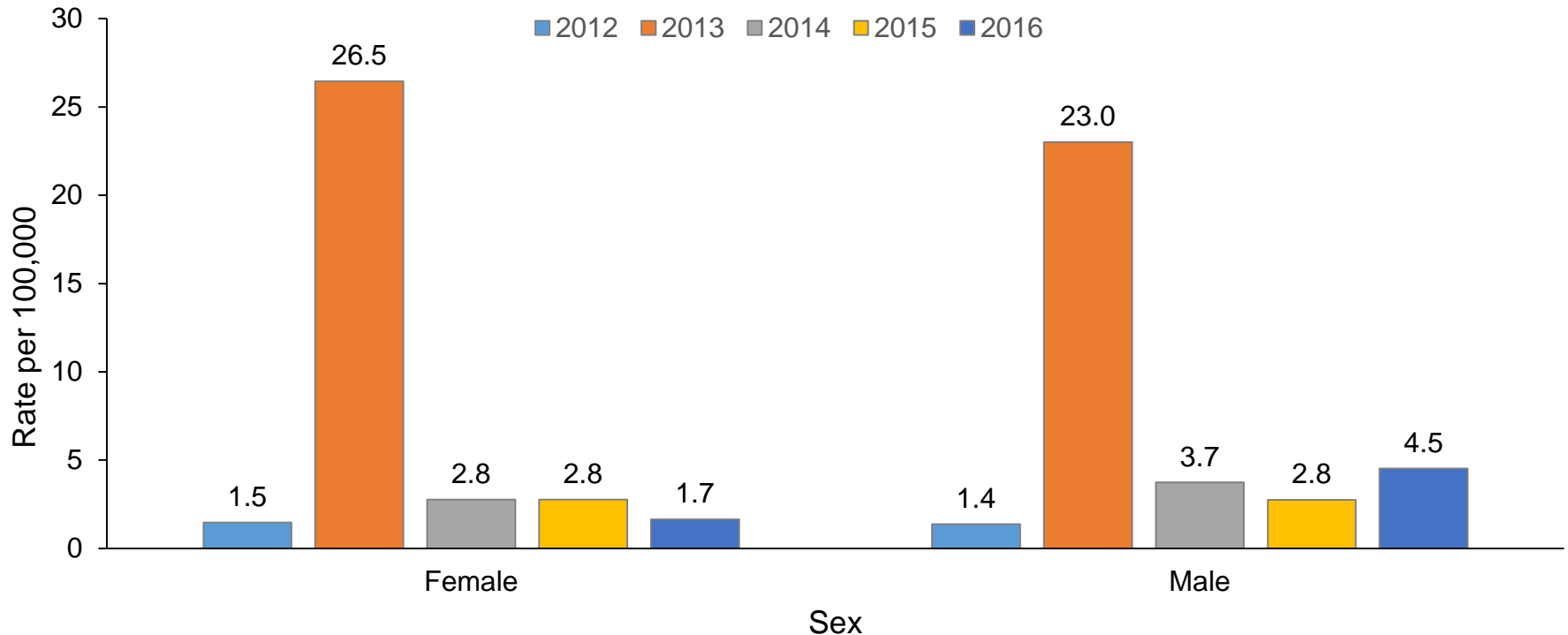
**Figure 1:** The number of shigellosis cases reported in Rhode Island has remained fairly stable from 2014 to 2016. The significant increase in cases reported in 2013 was due to an outbreak related to a freshwater lake in Rhode Island.

# Rate of Shigellosis, by Age Group, Rhode Island, 2016



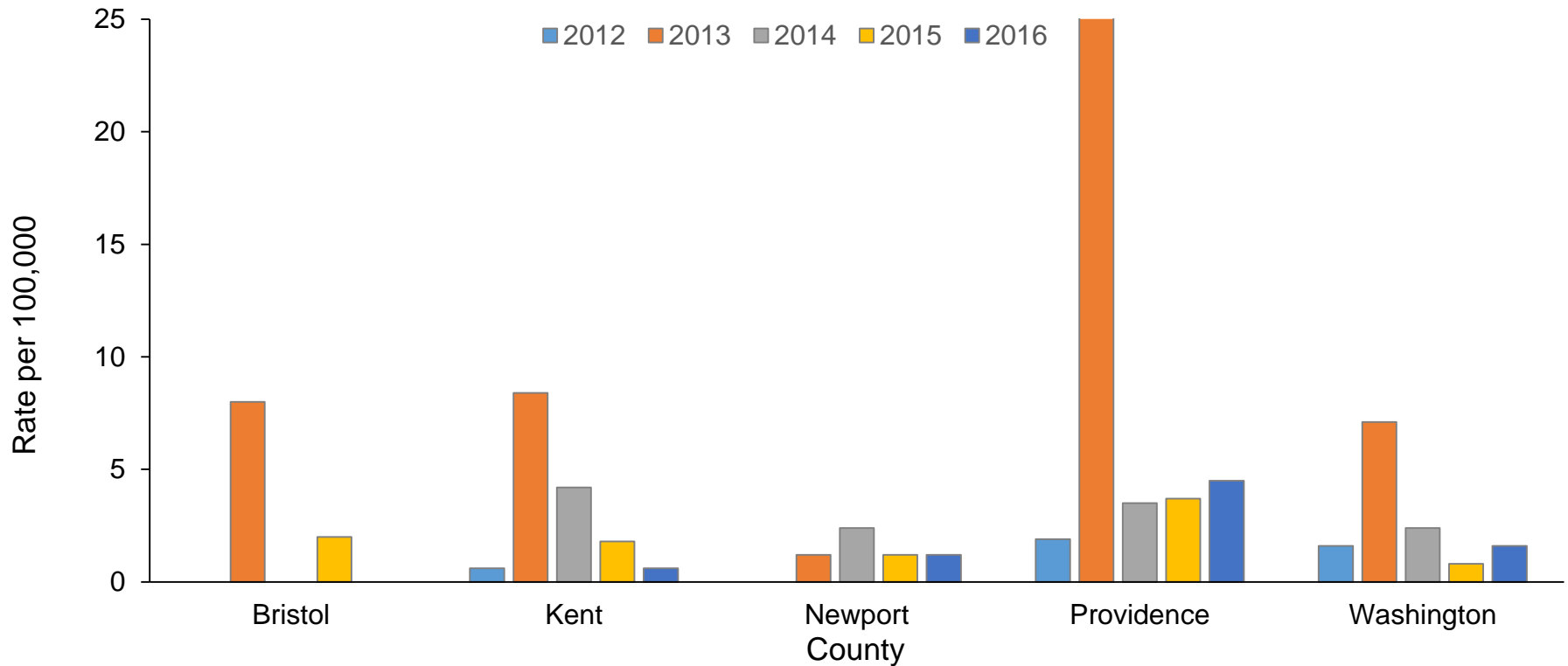
**Figure 2:** The highest rate of shigellosis in 2016 was observed among children less than 5 years old (7.0 cases per 100,000 people). Elevated rates were also observed among adults 20-39 years old and adults 70-79 years old.

# Rate of Shigellosis, by Gender and Year, Rhode Island, 2012-2016



**Figure 3:** In 2016, the rate of shigellosis was higher among males (4.5 cases per 100,000 persons) compared to females (1.7 cases per 100,000 persons).

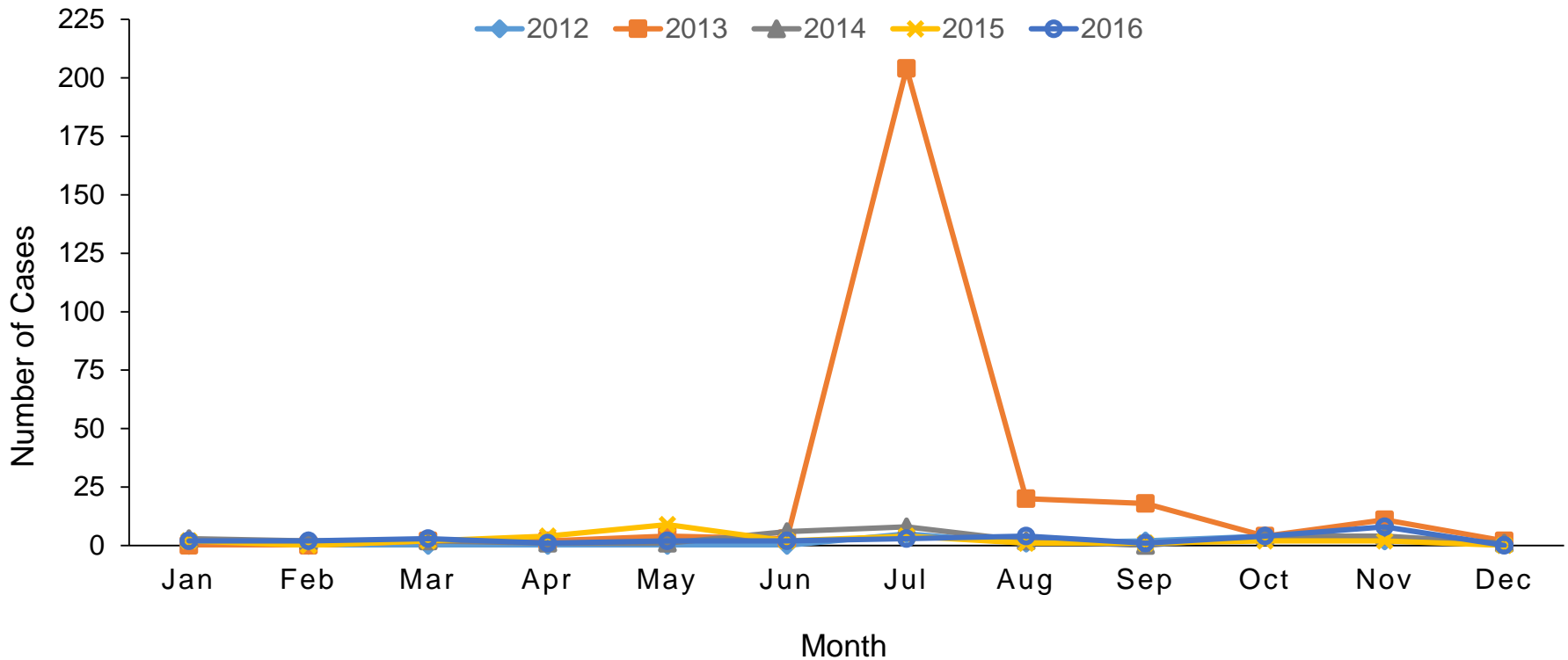
# Rate of Shigellosis, County and Year, Rhode Island, 2012-2016



**Figure 4:** For all years except for 2014, the rate of shigellosis was observed to be highest among residents of Providence County. In 2016, the rate of shigellosis among Providence County residents was observed to be 4.5 cases per 100,000 people. No cases from Bristol County residents were reported in 2012, 2014, or 2016.



# Reported Cases of Shigellosis, Month and Year, Rhode Island, 2012-2016



**Figure 5:** During 2016, reports of shigellosis remained stable during the winter through early summer, with over half of the cases being reported between the months of August and November. The spike in cases observed during July 2013 was due to an outbreak related to a freshwater lake in Rhode Island.

# Shigellosis Frequency and Rates by Year, Rhode Island, 2012-2016



**Table 1. Frequency by Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Number of Cases</b>	15	270	34	29	32

**Table 2. Rate by Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Rate per 100,000</b>	1.4	25.7	3.2	2.8	3.0

# Shigellosis Frequency, by Age Group and Year, Rhode Island, 2012-2016



**Table 3. Frequency by Age Group and Year**

	2012	2013	2014	2015	2016
<b>0-4</b>	0	62	4	4	4
<b>5-9</b>	0	72	0	1	2
<b>10-19</b>	2	54	1	5	3
<b>20-29</b>	3	35	7	4	8
<b>30-39</b>	2	19	5	8	6
<b>40-49</b>	4	11	5	2	1
<b>50-59</b>	3	8	6	3	3
<b>60-69</b>	0	4	3	1	2
<b>70-79</b>	1	2	0	1	3
<b>≥80</b>	0	3	3	0	0
<b>Total</b>	15	270	34	29	32

# Shigellosis Rates, by Age Group and Year, Rhode Island, 2012-2016



**Table 4. Rate by Age Group and Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>0-4</b>	0.0	107.9	7.0	7.0	7.0
<b>5-9</b>	0.0	119.1	0.0	1.7	3.3
<b>10-19</b>	1.4	37.5	0.7	3.5	2.1
<b>20-29</b>	2.0	23.7	4.7	2.7	5.4
<b>30-39</b>	1.6	15.2	4.0	6.4	4.8
<b>40-49</b>	2.6	7.1	3.2	1.3	0.7
<b>50-59</b>	2.0	5.3	4.0	2.0	2.0
<b>60-69</b>	0.0	3.9	2.9	1.0	2.0
<b>70-79</b>	1.7	3.5	0.0	1.7	5.2
<b>≥80</b>	0.0	5.8	5.8	0.0	0.0

# Shigellosis Frequency and Rates, by Gender and Year, Rhode Island, 2012-2016



**Table 5. Frequency by Sex and Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Female</b>	8	144	15	15	9
<b>Male</b>	7	117	19	14	23
<b>Unknown</b>	0	9	0	0	0
<b>Total</b>	15	270	34	29	32

**Table 6. Rate by Sex and Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Female</b>	1.5	26.5	2.8	2.8	1.7
<b>Male</b>	1.4	23.0	3.7	2.8	4.5

# Shigellosis Frequency, by County and Year, Rhode Island, 2012-2016



**Table 7. Frequency by County and Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Bristol</b>	0	4	0	1	0
<b>Kent</b>	1	14	7	3	1
<b>Newport</b>	0	1	2	1	1
<b>Providence</b>	12	242	22	23	28
<b>Washington</b>	2	9	3	1	2
<b>All</b>	15	270	34	29	32

# Shigellosis Rates by County and Year, Rhode Island, 2012-2016



**Table 8. Rate by County and Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Bristol</b>	0.0	8.0	0.0	2.0	0.0
<b>Kent</b>	0.6	8.4	4.2	1.8	0.6
<b>Newport</b>	0.0	1.2	2.4	1.2	1.2
<b>Providence</b>	1.9	38.6	3.5	3.7	4.5
<b>Washington</b>	1.6	7.1	2.4	0.8	1.6

# Shigellosis Frequency, Month and Year, Rhode Island, 2012-2016



**Table 9. Frequency by Month and Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Jan</b>	0	0	3	2	2
<b>Feb</b>	0	0	2	0	2
<b>Mar</b>	0	2	2	2	3
<b>Apr</b>	0	2	1	4	1
<b>May</b>	0	4	1	9	2
<b>Jun</b>	0	3	6	2	2
<b>Jul</b>	5	204	8	4	3
<b>Aug</b>	1	20	2	1	4
<b>Sep</b>	2	18	0	1	1
<b>Oct</b>	4	4	4	2	4
<b>Nov</b>	2	11	4	2	8
<b>Dec</b>	1	2	1	0	0
<b>All</b>	15	270	34	29	32





# Notes on Data

- Case counts include patients classified as confirmed and probable cases.
- “Event Date” (used to classify cases by month and year) is generated based on the availability of data in the following order:
  1. Illness onset date
  2. Specimen collection date
  3. Date of report to public health agency
- Rate is calculated per 100,000 population. The population denominator is based on 2010 US Census Population.



# References

- <https://www.cdc.gov/shigella/>