





Shigellosis Surveillance 2014-2018

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 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 59 shigellosis cases reported in Rhode Island in 2018, for a rate of 5.6 cases per 100,000 people. The number of reported cases has generally increased over time. The increasing use of non-culture diagnostic tests may help explain this trend.
- Elevated rates of shigellosis in 2018 were observed among children less than 10 years of age.
- In 2018, the rate of shigellosis was higher among males compared to females and highest among residents of Providence County.

Reported Cases of Shigellosis, Rhode Island, 2014-2018

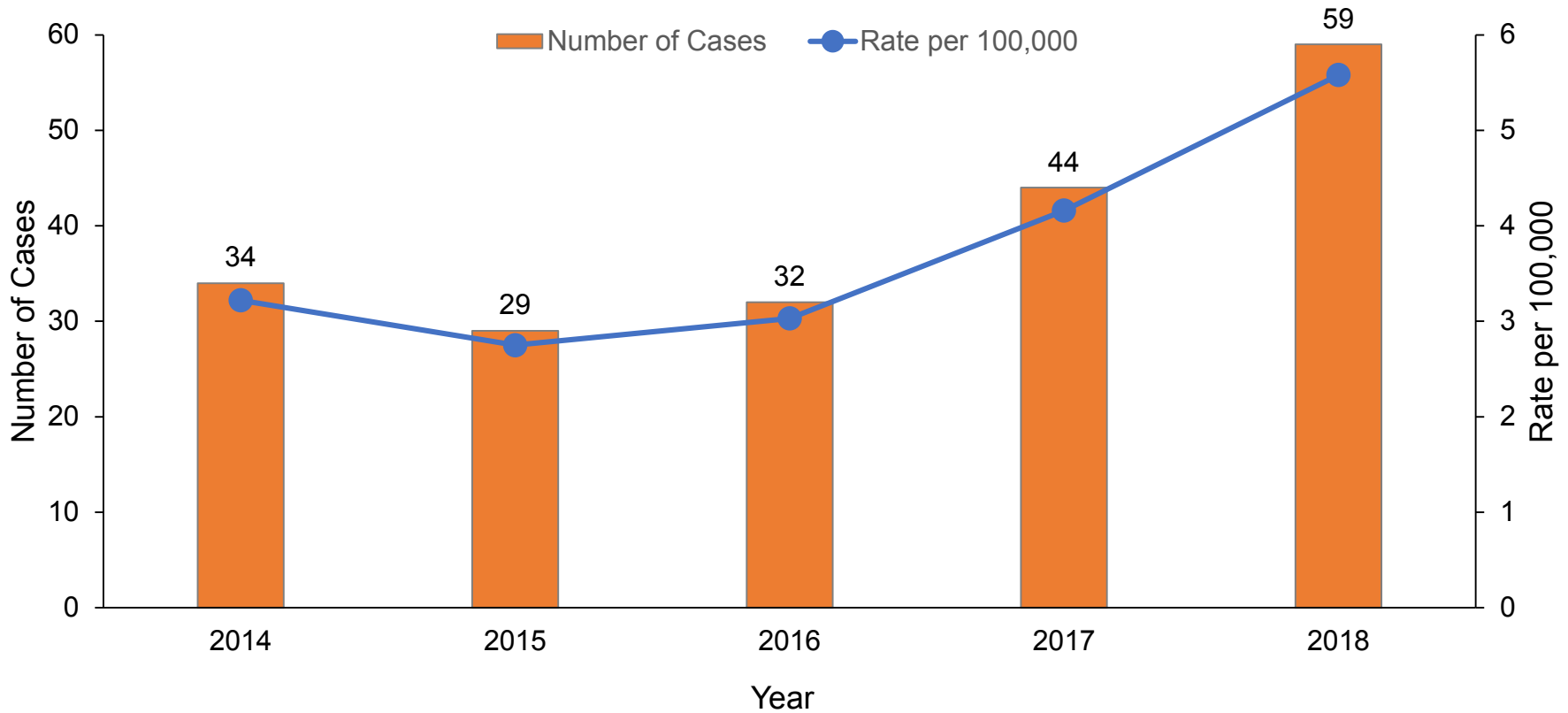


Figure 1: The number of shigellosis cases reported in Rhode Island remained stable from 2014 to 2016, however an increased number of cases was observed in 2017 and 2018. The increasing use of non-culture diagnostic testing may explain the increasing trend over time.

Rate of Shigellosis, by Age Group, Rhode Island, 2018

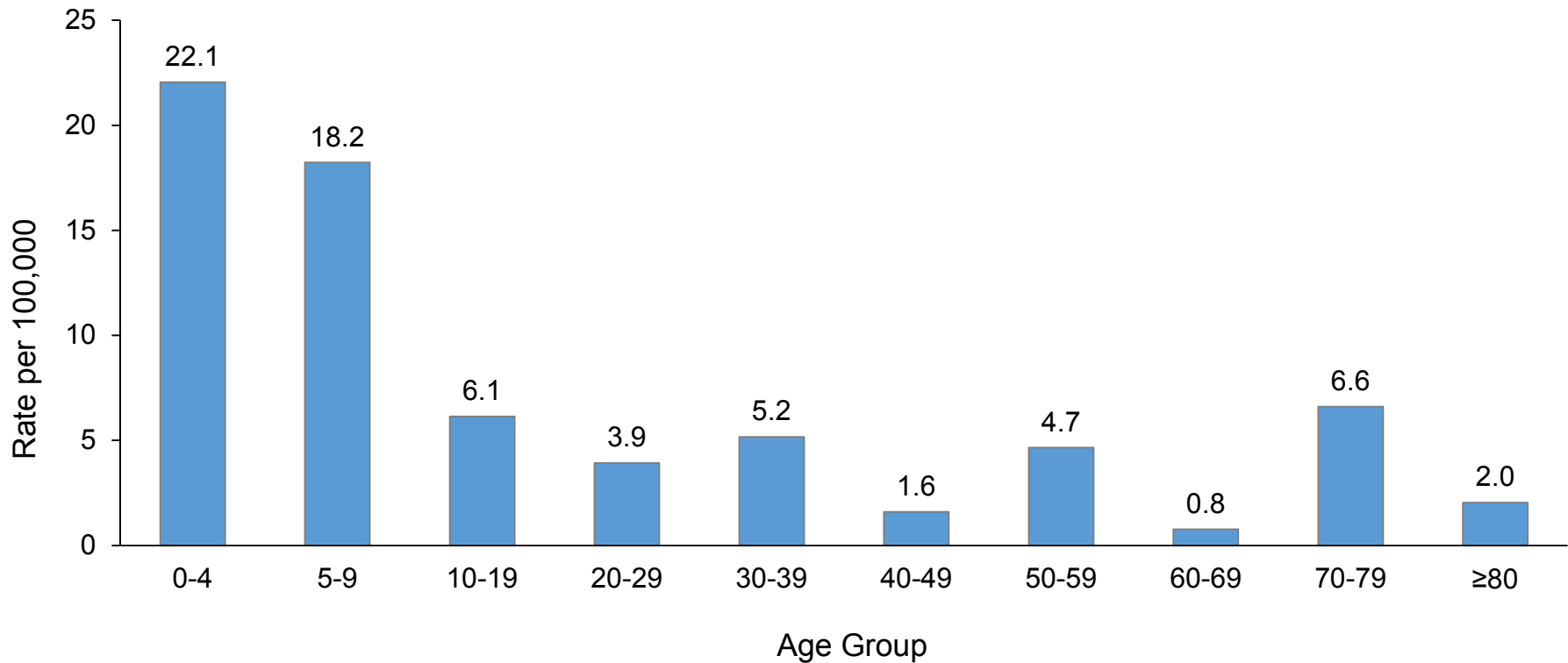


Figure 2: The highest rates of shigellosis in 2018 were observed among children less than 5 years old and those 5-9 years old.

Rate of Shigellosis, by Gender and Year, Rhode Island, 2014-2018

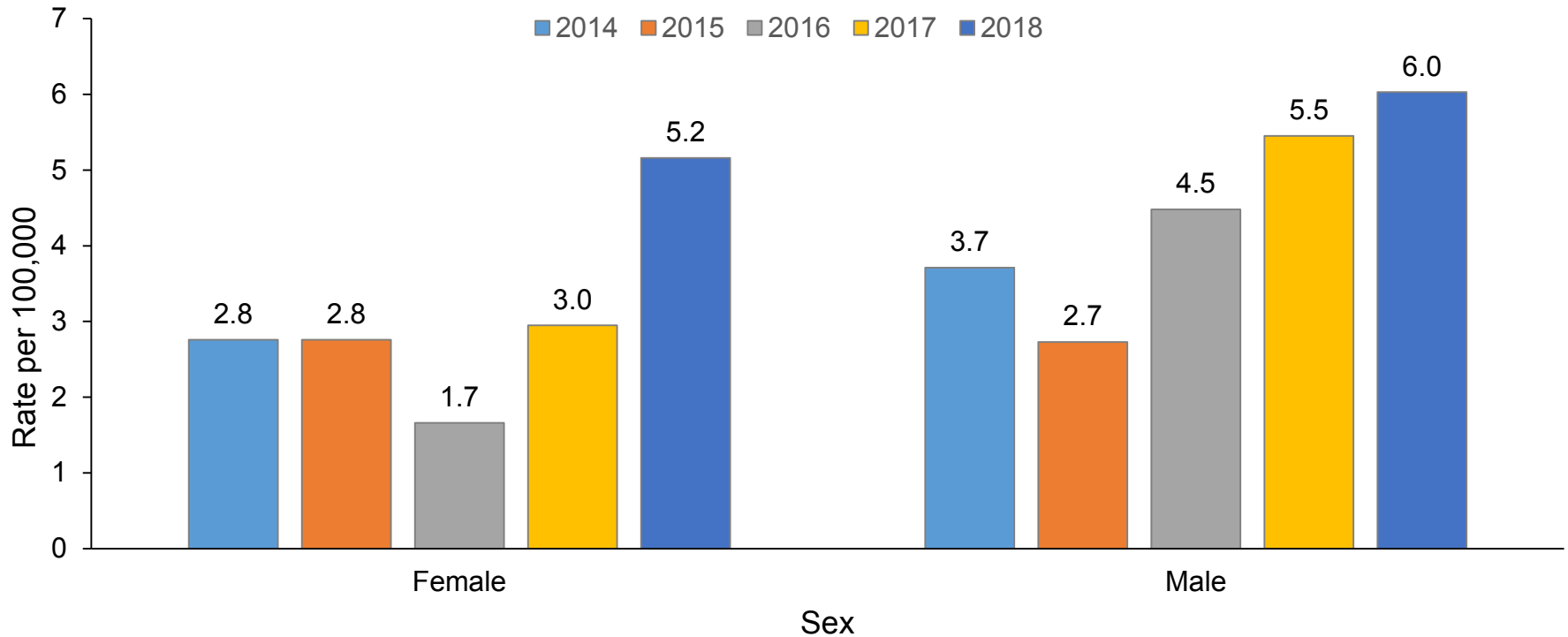


Figure 3: With the exception of 2015, rates of shigellosis have been higher among males compared to females from 2014-2018. In 2018, the rate of shigellosis was observed to be 6.0 cases per 100,000 persons among males compared to 5.2 cases per 100,000 persons among females.

Rate of Shigellosis, County and Year, Rhode Island, 2014-2018

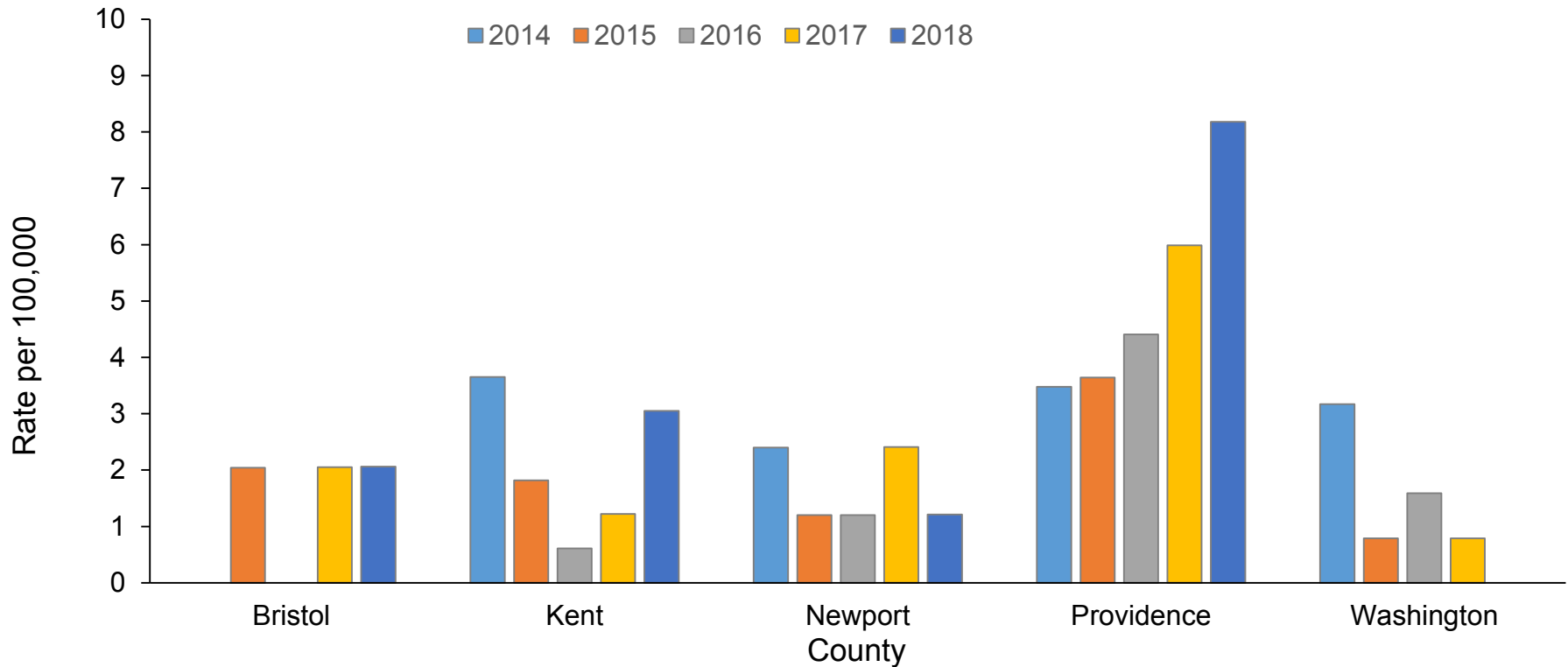


Figure 4: For all years except for 2014, the rate of shigellosis was observed to be highest among residents of Providence County. In 2018, the rate of shigellosis among Providence County residents was observed to be 8.2 cases per 100,000 people.

Reported Cases of Shigellosis, Month and Year, Rhode Island, 2014-2018

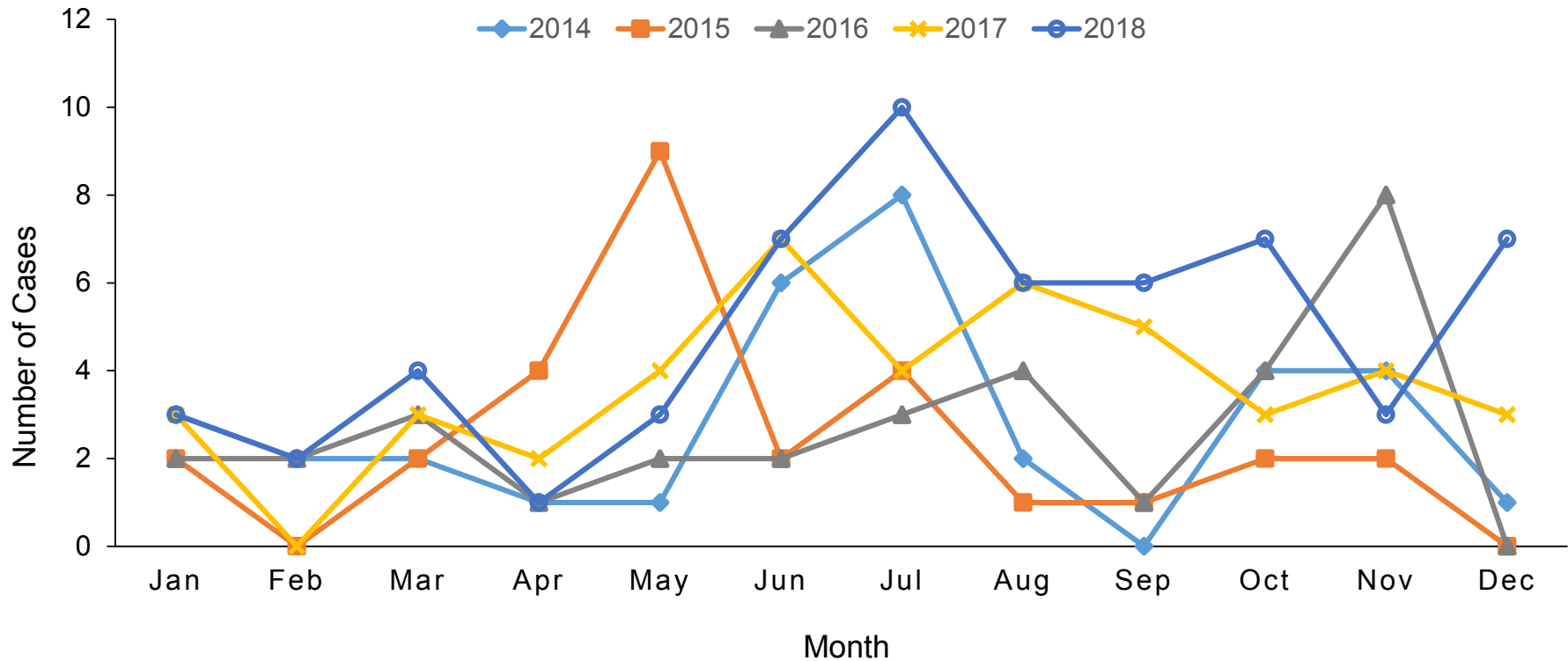


Figure 5: During 2018, reports of shigellosis peaked between June and August. This is consistent with past years where most cases are reported during the summer and early fall.

Shigellosis Frequency and Rates by Year, Rhode Island, 2014-2018



Table 1. Frequency by Year

	2014	2015	2016	2017	2018
Number of Cases	34	29	32	44	59

Table 2. Rate by Year

	2014	2015	2016	2017	2018
Rate per 100,000	3.2	2.8	3.0	4.2	5.6

Shigellosis Frequency, by Age Group and Year, Rhode Island, 2014-2018



Table 3. Frequency by Age Group and Year

	2014	2015	2016	2017	2018
0-4	4	4	4	5	12
5-9	0	1	2	4	10
10-19	1	5	3	4	8
20-29	7	4	8	10	6
30-39	5	8	6	7	7
40-49	5	2	1	6	2
50-59	6	3	3	5	7
60-69	3	1	2	2	1
70-79	0	1	3	1	5
≥80	3	0	0	0	1
Total	34	29	32	44	59

Shigellosis Rates, by Age Group and Year, Rhode Island, 2014-2018



Table 4. Rate by Age Group and Year

	2014	2015	2016	2017	2018
0-4	7.3	7.3	7.3	9.1	22.1
5-9	0.0	1.8	3.6	7.2	18.2
10-19	0.7	3.7	2.3	3.0	6.1
20-29	4.5	2.6	5.1	6.5	3.9
30-39	4.0	6.3	4.6	5.3	5.2
40-49	3.6	1.5	0.8	4.7	1.6
50-59	3.8	1.9	1.9	3.3	4.7
60-69	2.6	0.8	1.6	1.6	0.8
70-79	0.0	1.5	4.4	1.4	6.6
≥80	6.0	0.0	0.0	0.0	2.0

Shigellosis Frequency and Rates, by Gender and Year, Rhode Island, 2014-2018



Table 5. Frequency by Sex and Year

	2014	2015	2016	2017	2018
Female	15	15	9	16	28
Male	19	14	23	28	31
Total	34	29	32	44	59

Table 6. Rate by Sex and Year

	2014	2015	2016	2017	2018
Female	2.8	2.8	1.7	3.0	5.2
Male	3.7	2.7	4.5	5.5	6.0

Shigellosis Frequency, by County and Year, Rhode Island, 2014-2018



Table 7. Frequency by County and Year

	2014	2015	2016	2017	2018
Bristol	0	1	0	1	1
Kent	7	3	1	2	5
Newport	2	1	1	2	1
Providence	22	23	28	38	52
Washington	3	1	2	1	0
All	34	29	32	44	59

Shigellosis Rates by County and Year, Rhode Island, 2014-2018



Table 8. Rate by County and Year

	2014	2015	2016	2017	2018
Bristol	0.0	2.0	0.0	2.1	2.1
Kent	3.7	1.8	0.6	1.2	3.1
Newport	2.4	1.2	1.2	2.4	1.2
Providence	3.5	3.6	4.4	6.0	8.2
Washington	3.2	0.8	1.6	0.8	0.0

Shigellosis Frequency, Month and Year, Rhode Island, 2014-2018



Table 9. Frequency by Month and Year

	2014	2015	2016	2017	2018
Jan	3	2	2	3	3
Feb	2	0	2	0	2
Mar	2	2	3	3	4
Apr	1	4	1	2	1
May	1	9	2	4	3
Jun	6	2	2	7	7
Jul	8	4	3	4	10
Aug	2	1	4	6	6
Sep	0	1	1	5	6
Oct	4	2	4	3	7
Nov	4	2	8	4	3
Dec	1	0	0	3	7
All	34	29	32	44	59



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.
- Population denominators are based on the Annual Estimates of the Resident Population: April 1, 2010-July 1, 2018, U.S. Census Bureau.



References

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