





Shigellosis Surveillance 2013-2017

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 44 shigellosis cases reported in Rhode Island in 2017, for a rate of 4.2 cases per 100,000 people. The number of cases 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.
- Elevated rates of shigellosis in 2017 were observed among children less than 9 years old and adults 20-29 years old.
- In 2017, the rate of shigellosis was higher among males compared to females and highest among residents of Providence County.

Reported Cases of Shigellosis, Rhode Island, 2013-2017

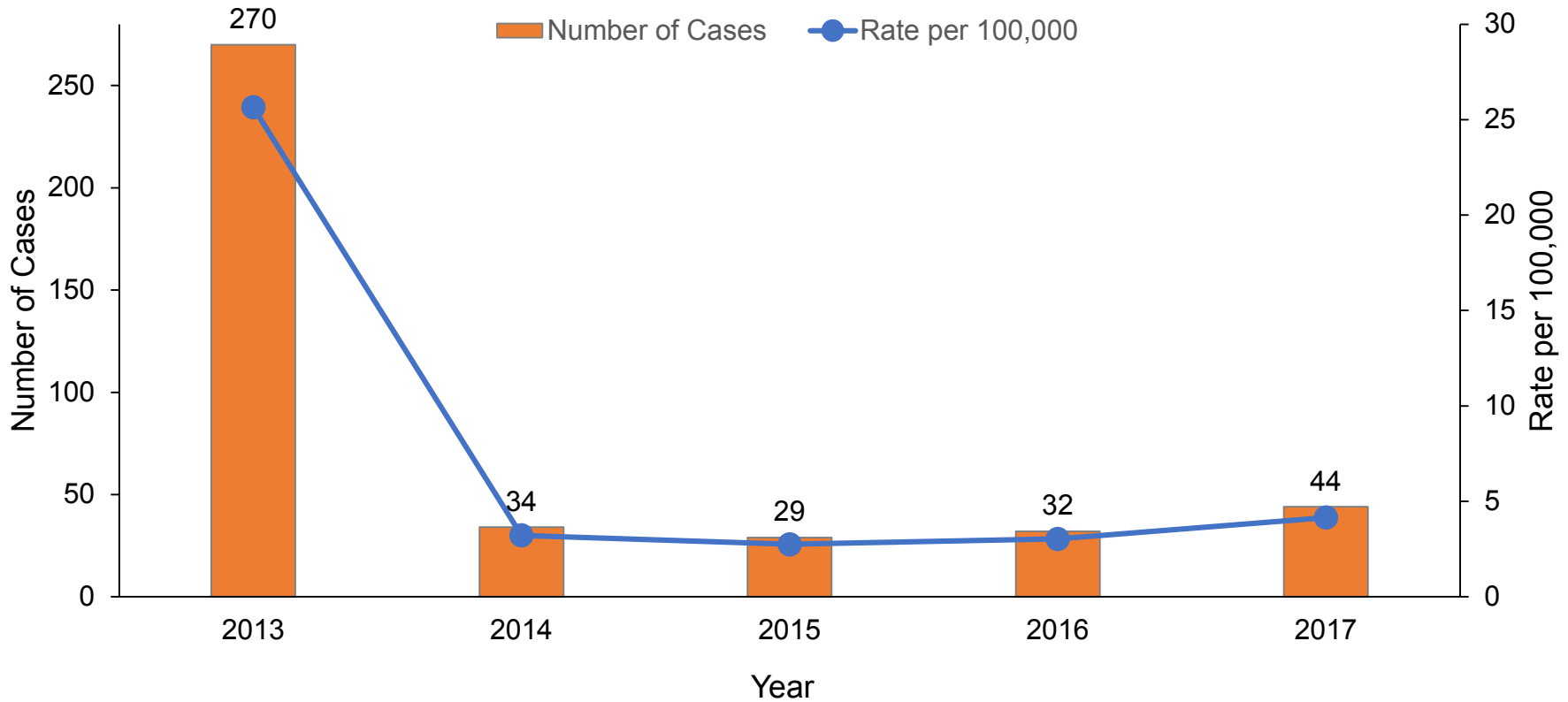


Figure 1: The number of shigellosis cases reported in Rhode Island remained stable from 2014 to 2016, however an increased number of cases was observed in 2017. The significant number of cases reported in 2013 was due to an outbreak related to a freshwater lake in Rhode Island.

Rate of Shigellosis, by Age Group, Rhode Island, 2017

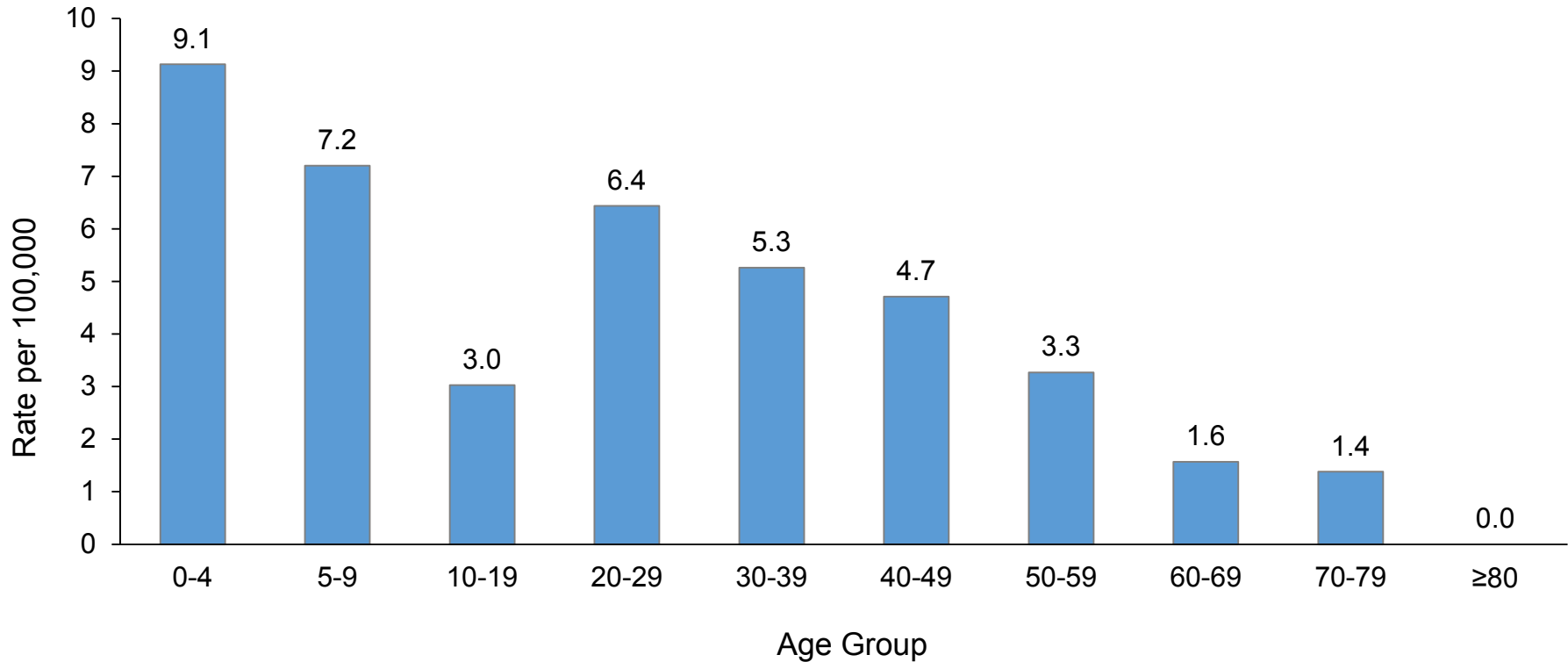


Figure 2: The highest rates of shigellosis in 2017 were observed among children less than 5 years old and those 5-9 years old. Elevated rates were also observed among adults 20-49 years old.

Rate of Shigellosis, by Gender and Year, Rhode Island, 2013-2017

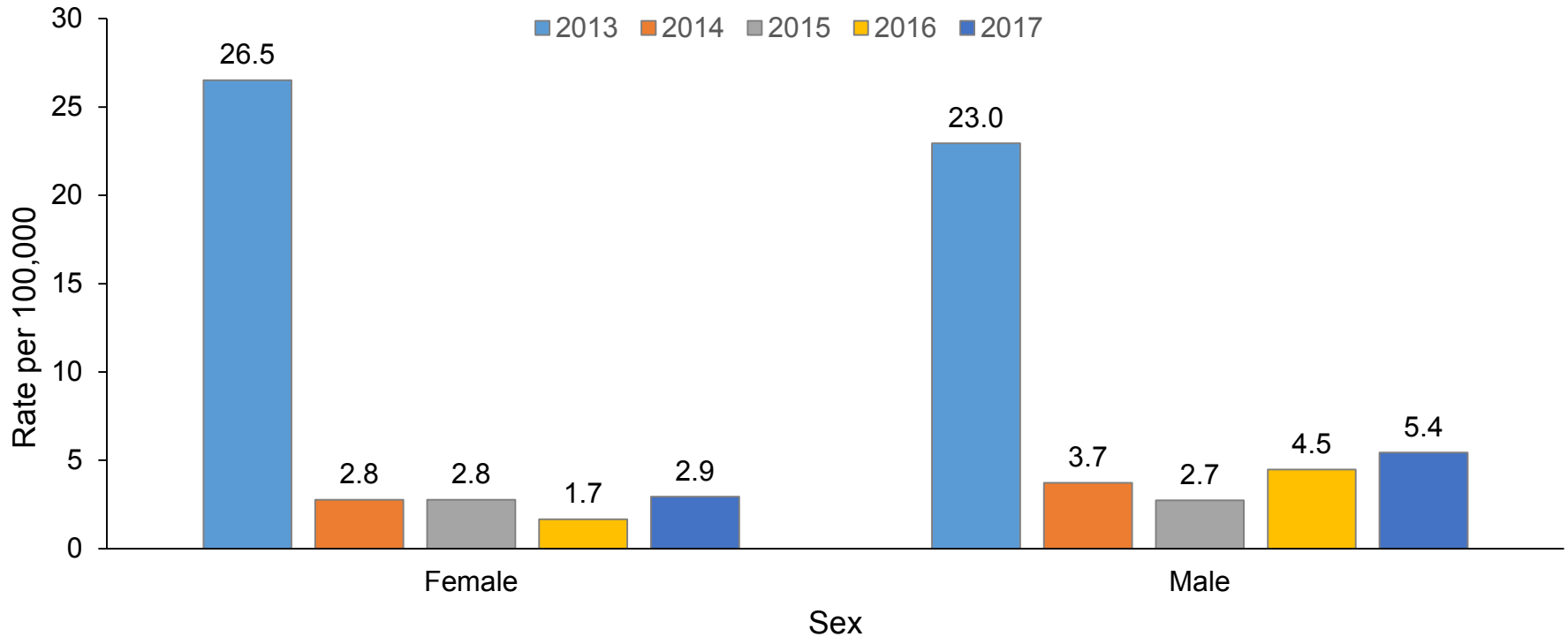


Figure 3: In 2017, the rate of shigellosis was higher among males (5.4 cases per 100,000 persons) compared to females (2.9 cases per 100,000 persons).

Rate of Shigellosis, County and Year, Rhode Island, 2013-2017

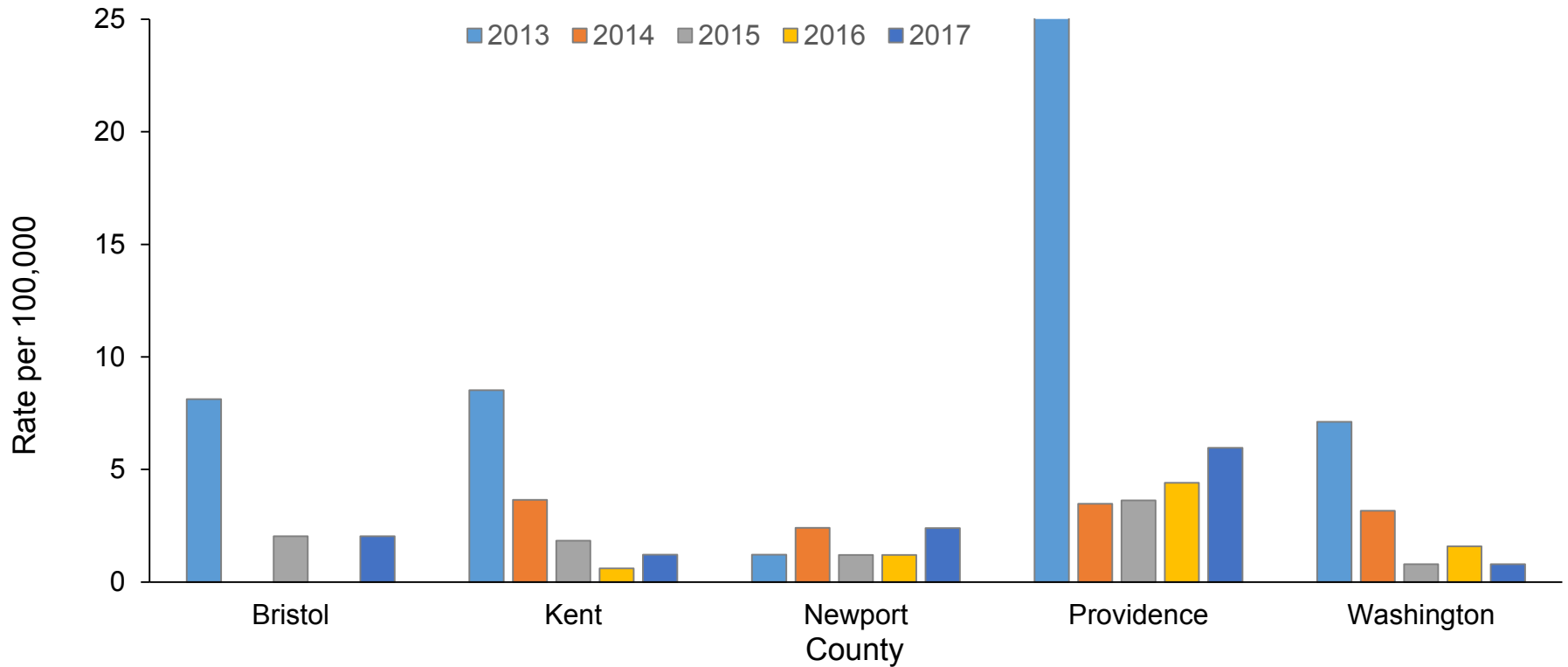


Figure 4: For all years except for 2014, the rate of shigellosis was observed to be highest among residents of Providence County. In 2017, the rate of shigellosis among Providence County residents was observed to be 6.0 cases per 100,000 people. No cases from Bristol County residents were reported in 2014 or 2016.

Reported Cases of Shigellosis, Month and Year, Rhode Island, 2013-2017

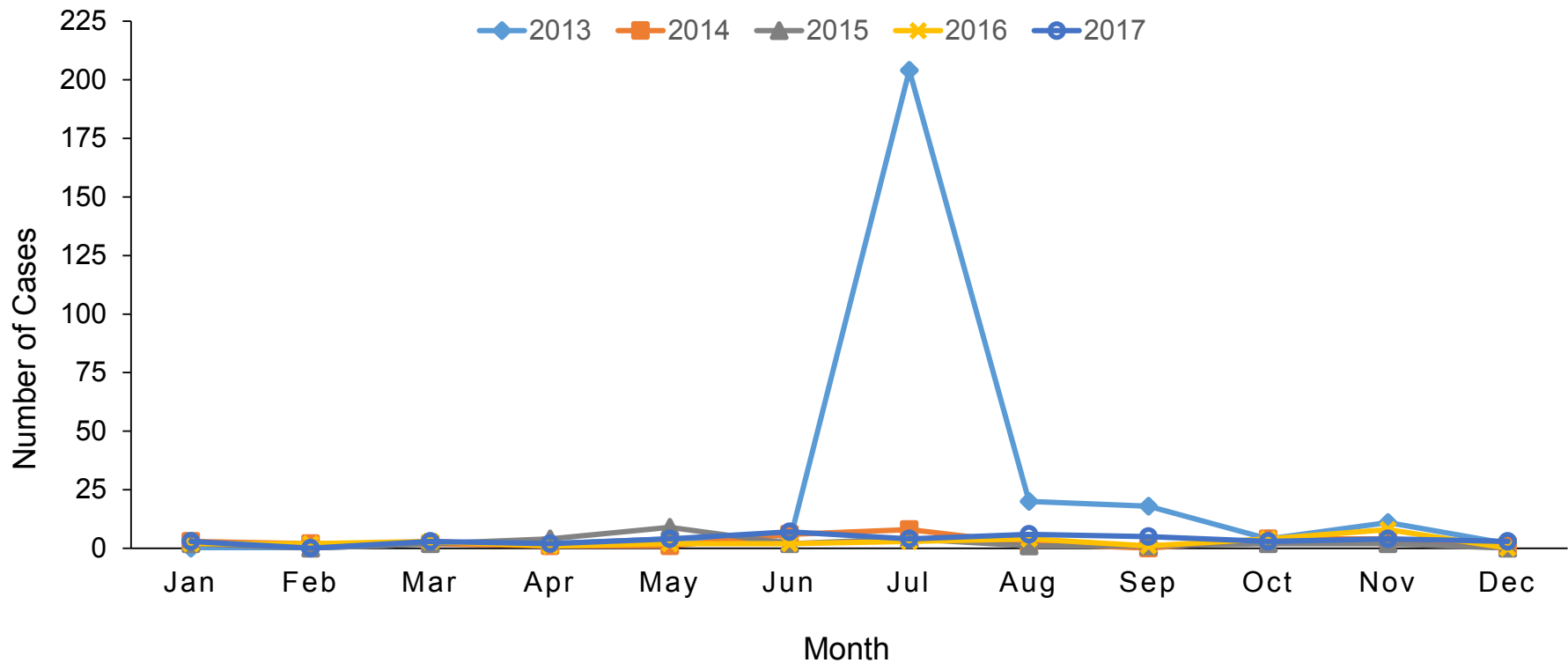


Figure 5: During 2017, reports of shigellosis remained fairly stable but peaked slightly between May and September. The spike in cases observed during July 2013 was due to an outbreak related to a freshwater lake in Rhode Island.

Shigellosis Frequency and Rates by Year, Rhode Island, 2013-2017



Table 1. Frequency by Year

	2013	2014	2015	2016	2017
Number of Cases	270	34	29	32	44

Table 2. Rate by Year

	2013	2014	2015	2016	2017
Rate per 100,000	25.7	3.2	2.8	3.0	4.2

Shigellosis Frequency, by Age Group and Year, Rhode Island, 2013-2017



Table 3. Frequency by Age Group and Year

	2013	2014	2015	2016	2017
0-4	62	4	4	4	5
5-9	72	0	1	2	4
10-19	54	1	5	3	4
20-29	35	7	4	8	10
30-39	19	5	8	6	7
40-49	11	5	2	1	6
50-59	8	6	3	3	5
60-69	4	3	1	2	2
70-79	2	0	1	3	1
≥80	3	3	0	0	0
Total	270	34	29	32	44

Shigellosis Rates, by Age Group and Year, Rhode Island, 2013-2017



Table 4. Rate by Age Group and Year

	2013	2014	2015	2016	2017
0-4	112.8	7.3	7.3	7.3	9.1
5-9	122.3	0.0	1.8	3.6	7.2
10-19	39.6	0.7	3.7	2.3	3.0
20-29	22.9	4.5	2.6	5.1	6.4
30-39	15.2	4.0	6.3	4.6	5.3
40-49	7.7	3.6	1.5	0.8	4.7
50-59	5.1	3.8	1.9	1.9	3.3
60-69	3.5	2.6	0.8	1.6	1.6
70-79	3.2	0.0	1.5	4.4	1.4
≥80	5.9	6.0	0.0	0.0	0.0

Shigellosis Frequency and Rates, by Gender and Year, Rhode Island, 2013-2017



Table 5. Frequency by Sex and Year

	2013	2014	2015	2016	2017
Female	144	15	15	9	16
Male	117	19	14	23	28
Unknown	9	0	0	0	0
Total	270	34	29	32	44

Table 6. Rate by Sex and Year

	2013	2014	2015	2016	2017
Female	26.5	2.8	2.8	1.7	2.9
Male	23.0	3.7	2.7	4.5	5.4

Shigellosis Frequency, by County and Year, Rhode Island, 2013-2017



Table 7. Frequency by County and Year

	2013	2014	2015	2016	2017
Bristol	4	0	1	0	1
Kent	14	7	3	1	2
Newport	1	2	1	1	2
Providence	242	22	23	28	38
Washington	9	3	1	2	1
All	270	34	29	32	44

Shigellosis Rates by County and Year, Rhode Island, 2013-2017



Table 8. Rate by County and Year

	2013	2014	2015	2016	2017
Bristol	8.1	0.0	2.0	0.0	2.0
Kent	8.5	3.7	1.8	0.6	1.2
Newport	1.2	2.4	1.2	1.2	2.4
Providence	38.4	3.5	3.6	4.4	6.0
Washington	7.1	3.2	0.8	1.6	0.8

Shigellosis Frequency, Month and Year, Rhode Island, 2013-2017



Table 9. Frequency by Month and Year

	2013	2014	2015	2016	2017
Jan	0	3	2	2	3
Feb	0	2	0	2	0
Mar	2	2	2	3	3
Apr	2	1	4	1	2
May	4	1	9	2	4
Jun	3	6	2	2	7
Jul	204	8	4	3	4
Aug	20	2	1	4	6
Sep	18	0	1	1	5
Oct	4	4	2	4	3
Nov	11	4	2	8	4
Dec	2	1	0	0	3
All	270	34	29	32	44



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, 2017, U.S. Census Bureau.



References

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