





Cryptosporidiosis 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 Cryptosporidiosis

- Cryptosporidiosis is a diarrheal disease caused by cryptosporidium, a microscopic parasite. The parasite is found across the United States and throughout the world.
- It is transmitted through fecal-oral, animal-to-person, person-to-person, waterborne, and foodborne routes. Illnesses have commonly been linked to contaminated recreational and drinking water.
- The symptoms of cryptosporidiosis typically begin 2-10 days after becoming infected with the parasite and include diarrhea, anorexia, abdominal cramping, malaise, fever, nausea, and vomiting.
- Illness usually resolves within 30 days, although it may last longer among those who are immunocompromised.

Data Overview, Cryptosporidiosis



- 90 cases of cryptosporidiosis were reported in Rhode Island in 2018, for a rate of 8.5 cases per 100,000 people. The number of reported cryptosporidiosis cases has been increasing over time; however the magnitude of the increase observed in 2018 can be attributed to a single outbreak, where more than 50 cases were observed.
- In 2018:
 - Rates of cryptosporidiosis were highest among children less than 5 years old.
 - Newport County had the highest reported rate of cryptosporidiosis.
 - Most cases were observed in April 2018 due to a large animal-contact outbreak that occurred during that time.

Reported Cases of Cryptosporidiosis, Rhode Island, 2014-2018

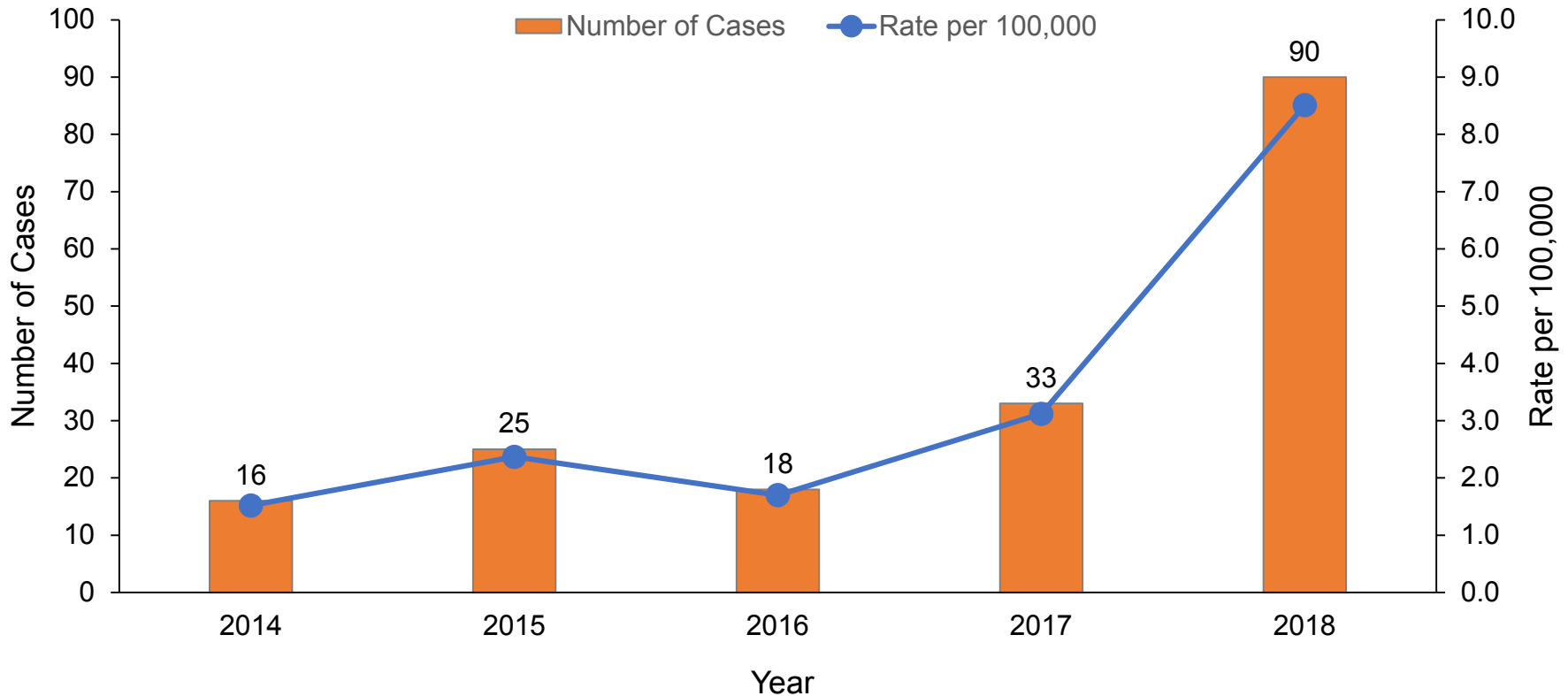


Figure 1: There were 90 cryptosporidiosis cases reported in Rhode Island in 2018, which was much higher than the number of cases reported in prior years. This increase is mostly attributed to an outbreak with more than 50 cases that was investigated in April 2018. The use of non-culture diagnostic testing methods has also been increasing over time.

Rate of Cryptosporidiosis, Age Group, Rhode Island, 2018

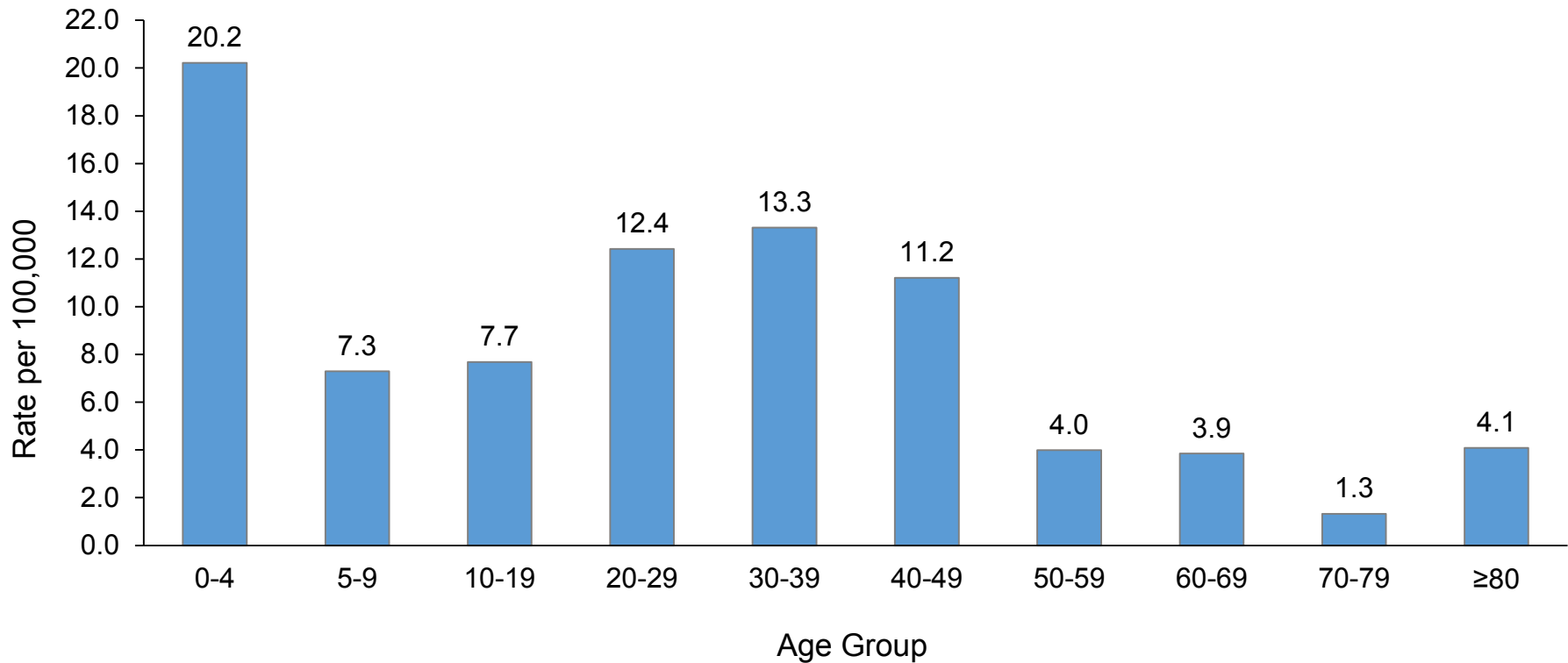


Figure 2: In 2018, the rate of cryptosporidiosis was observed to be highest among children less than 5 years old (20.2 cases per 100,000 people).

Rate of Cryptosporidiosis, Gender and Year, Rhode Island, 2014-2018

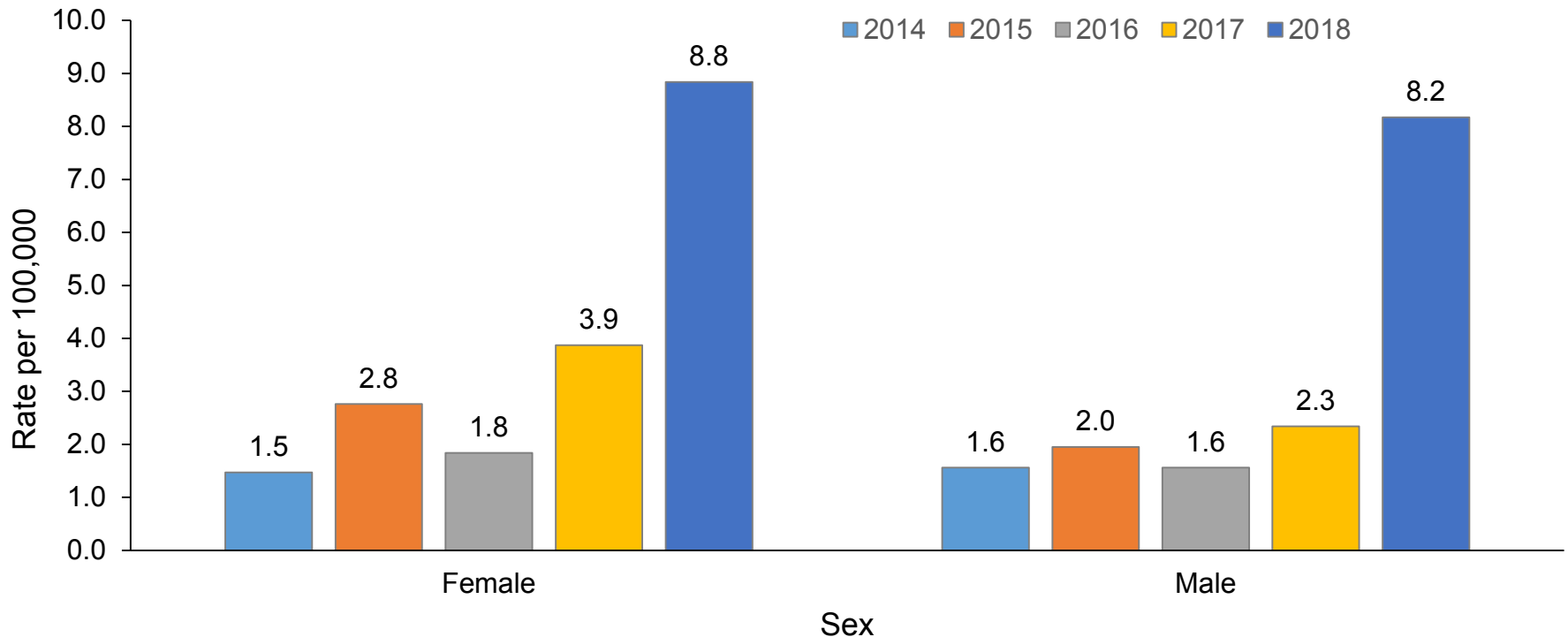


Figure 3: The rate of cryptosporidiosis in 2018 was observed to be slightly higher among females (8.8 cases per 100,000 people) compared to males (8.2 cases per 100,000 people). In general, the rate of cryptosporidiosis has been increasing among both males and females from 2014-2018.

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

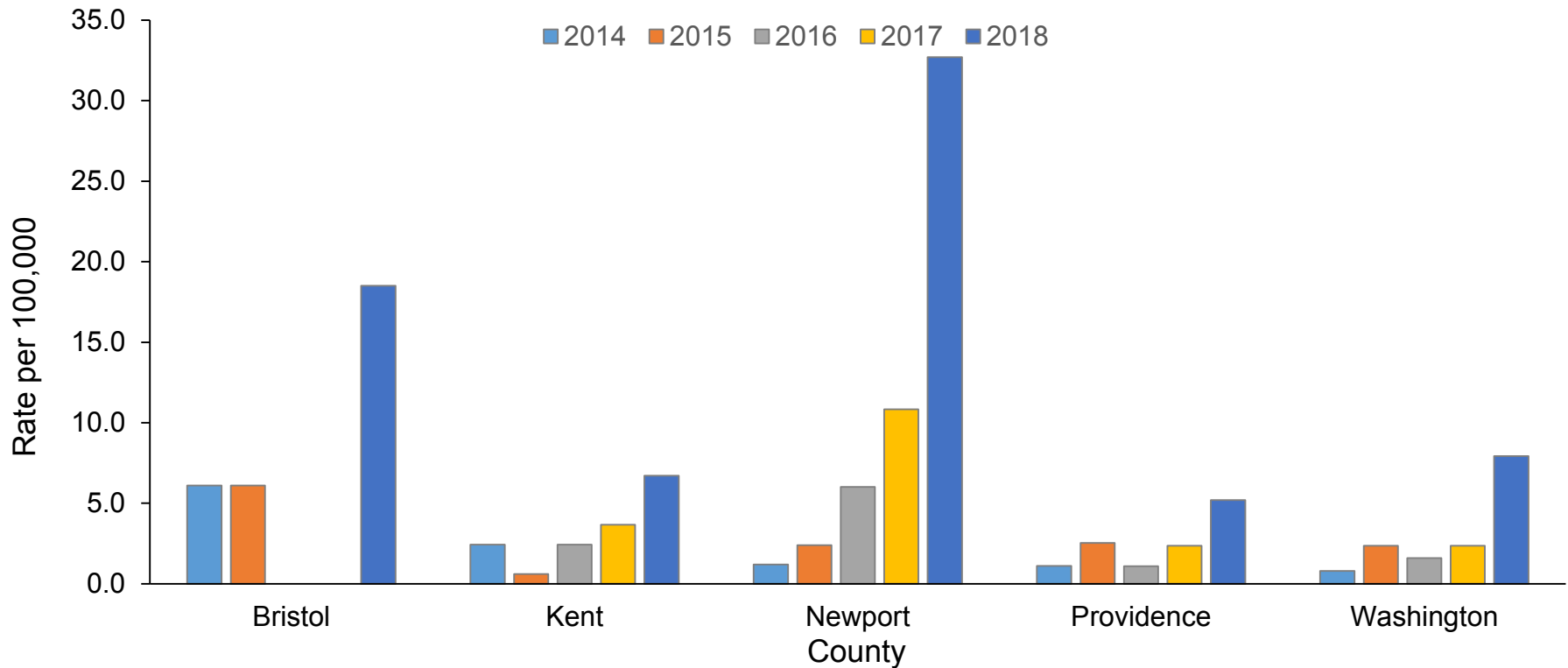


Figure 4: In 2018, the rate of cryptosporidiosis was observed to be much higher among residents of Newport County (32.3 cases per 100,000 people) compared to residents of other counties. Most of the outbreak-associated cases in 2018 were Newport County residents, which supports this observation.

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

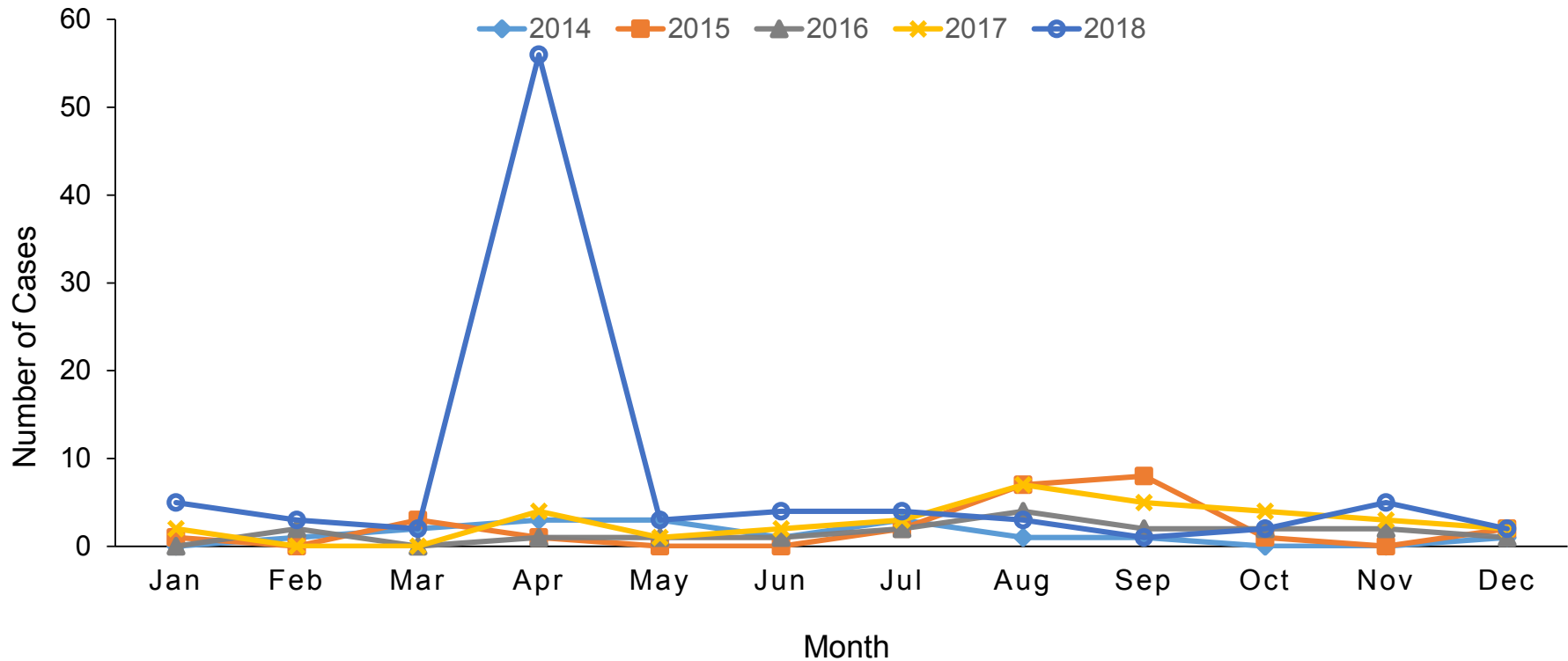


Figure 5: In general, the number of cryptosporidiosis cases reported in Rhode Island increases slightly in late summer and early fall. However, in 2018, a large outbreak was reported in April, thus an earlier and more dramatic peak was observed for this year.

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



Table 1. Frequency by Year

	2014	2015	2016	2017	2018
Number of Cases	16	25	18	33	90

Table 2. Rate by Year

	2014	2015	2016	2017	2018
Rate per 100,000	1.5	2.4	1.7	3.1	8.5

Cryptosporidiosis Frequency, Age Group and Year, Rhode Island, 2014-2018



Table 3. Frequency by Age Group and Year

	2014	2015	2016	2017	2018
0-4	0	3	1	3	11
5-9	0	1	2	2	4
10-19	0	2	2	3	10
20-29	4	3	2	5	19
30-39	0	6	1	6	18
40-49	3	5	4	4	14
50-59	3	1	3	3	6
60-69	2	4	1	4	5
70-79	1	0	2	3	1
≥80	3	0	0	0	2
Total	16	25	18	33	90

Cryptosporidiosis Rates, Age Group and Year, Rhode Island, 2014-2018



Table 4. Rate by Age Group and Year

	2014	2015	2016	2017	2018
0-4	0.0	5.5	1.8	5.5	20.2
5-9	0.0	1.8	3.6	3.6	7.3
10-19	0.0	1.5	1.5	2.3	7.7
20-29	2.6	1.9	1.3	3.2	12.4
30-39	0.0	4.7	0.8	4.5	13.3
40-49	2.2	3.7	3.1	3.1	11.2
50-59	1.9	0.6	1.9	2.0	4.0
60-69	1.7	3.3	0.8	3.1	3.9
70-79	1.6	0.0	3.0	4.2	1.3
≥80	6.0	0.0	0.0	0.0	4.1

Cryptosporidiosis Frequency and Rates, Sex and Year, Rhode Island, 2014-2018



Table 5. Frequency by Sex and Year

	2014	2015	2016	2017	2018
Female	8	15	10	21	48
Male	8	10	8	12	42
Total	16	25	18	33	90

Table 6. Rate by Sex and Year

	2014	2015	2016	2017	2018
Female	1.5	2.8	1.8	3.9	8.8
Male	1.6	2.0	1.6	2.3	8.2

Cryptosporidiosis Frequency, County and Year, Rhode Island, 2014-2018



Table 7. Frequency by County and Year

	2014	2015	2016	2017	2018
Bristol	3	3	0	0	9
Kent	4	1	4	6	11
Newport	1	2	5	9	27
Providence	7	16	7	15	33
Washington	1	3	2	3	10
All	16	25	18	33	90

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



Table 8. Rate by County and Year

	2014	2015	2016	2017	2018
Bristol	6.1	6.1	0.0	0.0	18.5
Kent	2.4	0.6	2.4	3.7	6.7
Newport	1.2	2.4	6.0	10.8	32.7
Providence	1.1	2.5	1.1	2.4	5.2
Washington	0.8	2.4	1.6	2.4	7.9

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



Table 9. Frequency by Month and Year

	2014	2015	2016	2017	2018
Jan	0	1	0	2	5
Feb	1	0	2	0	3
Mar	2	3	0	0	2
Apr	3	1	1	4	56
May	3	0	1	1	3
Jun	1	0	1	2	4
Jul	3	2	2	3	4
Aug	1	7	4	7	3
Sep	1	8	2	5	1
Oct	0	1	2	4	2
Nov	0	0	2	3	5
Dec	1	2	1	2	2
All	16	25	18	33	90



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/parasites/crypto/>