





Mumps 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 Mumps

- Mumps is a viral illness that results from infection with the mumps virus. It is typically a mild illness that goes away on its own.
- The classic symptom of mumps is swelling of the parotid (salivary) glands, which are located below the ears. A person with mumps may also have a headache, muscle aches, loss of appetite, low fever, and jaw pain at the site of swelling.
- Mumps is transmitted by saliva from the mouth, nose, or throat. It is spread by coughing or sneezing, by kissing, or by sharing items such as drinks, utensils or smoking implements.
- Vaccination is the best way to prevent mumps. Two doses of mumps vaccine are 88% effective at preventing mumps.
- Although mumps cases in the United States decreased following the introduction of the vaccine in 1967, recently, mumps cases have increased. Nationally, cases increased from **229** in 2012 to **6,366** cases in 2016. The increase has largely been driven by large outbreaks in close-contact settings, such as college campuses.



Data Overview

Mumps in Rhode Island

- Between 2012 and 2016, Rhode Island had few cases of mumps, ranging from 0-5 cases per year (average 1.8 cases). In 2017, Rhode Island had 29 cases of mumps, marking a significant increase. The number of mumps cases returned to baseline in 2018, with 5 cases reported.
- This increase in mumps cases in 2017 was due to 3 university-associated outbreaks. 93% of mumps cases in Rhode Island in 2017 were associated with these outbreaks.
- In years without outbreaks, cases were distributed among different age groups. In 2017, most cases of mumps in Rhode Island occurred in college-aged individuals, associated with university-based outbreaks.
- Most cases of mumps occurred in vaccinated individuals. From 2014-2018, 33/38 (87%) individuals with mumps were fully vaccinated.
- Many of the graphs that follow show rates from 2017, as the case counts in other years are too small to accurately calculate rates. Case counts by year, age, sex, county, and month for each of the last 5 years can be found on the slides following the graphs.

Reported Cases of Mumps, Rhode Island, 2012-2018

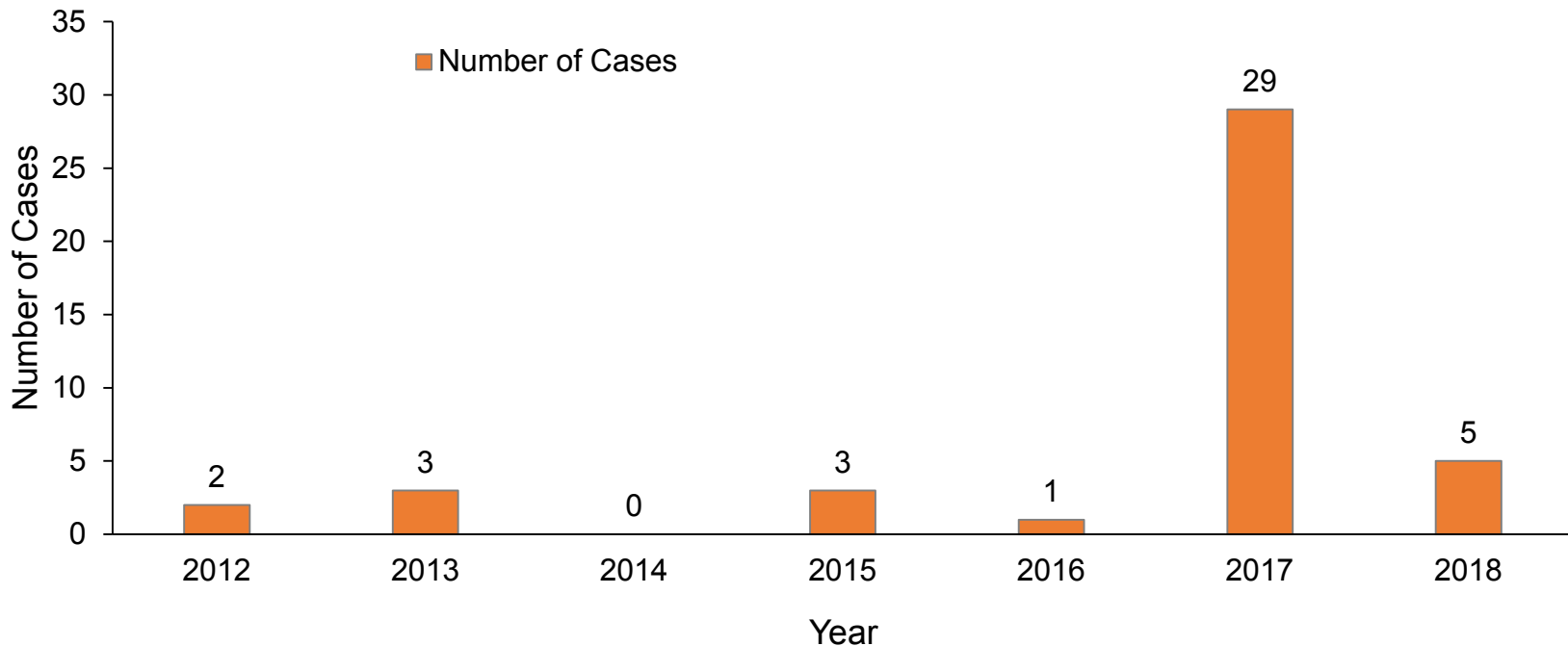


Figure 1: Between 2007 and 2016, Rhode Island had few cases of mumps, ranging from 0-5 cases per year (average 1.8 cases). In 2017, Rhode Island had 29 cases of mumps, marking a significant increase. This increase mirrored the national mumps increase, and 93% of cases that year can be attributed to outbreaks. In 2018, the number of cases returned to baseline.

Rate of Mumps, Age Group, Rhode Island, 2017

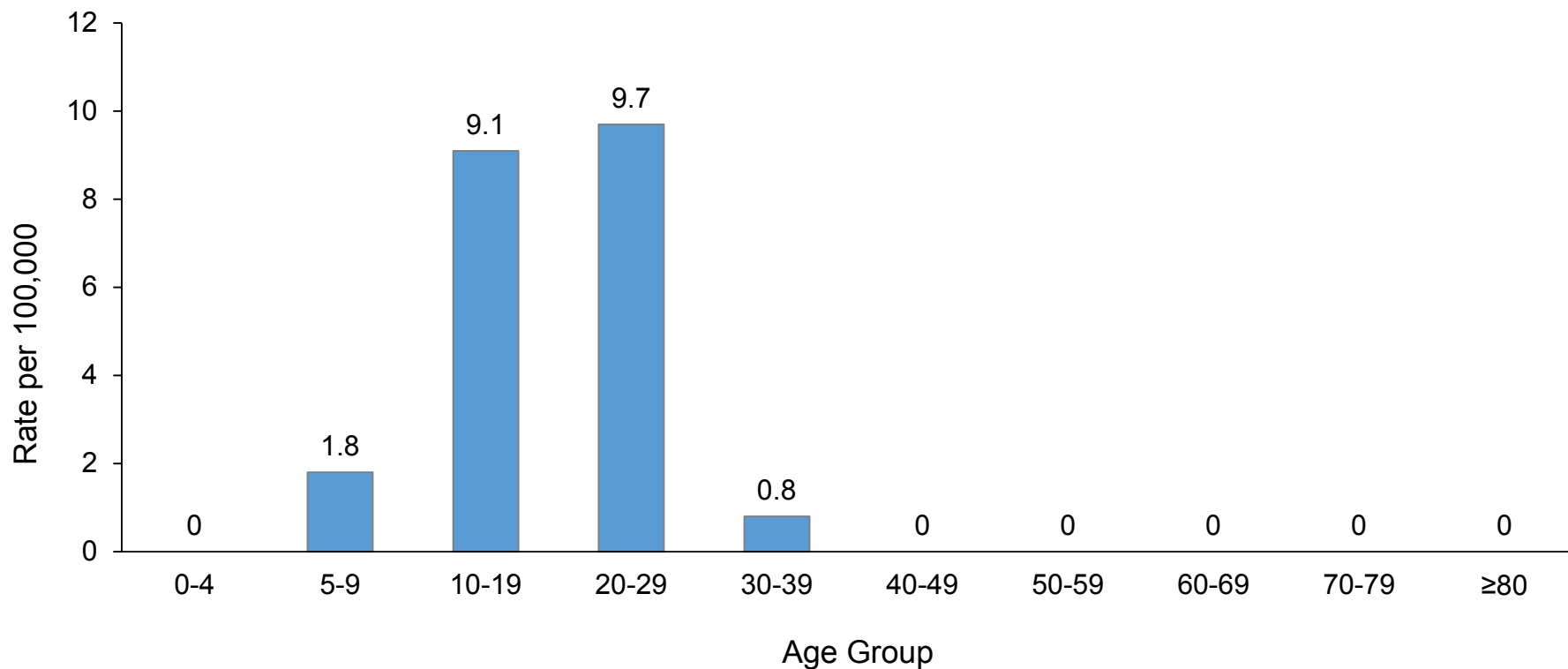


Figure 2: Most cases of mumps in Rhode Island in 2017 occurred in college-aged individuals, associated with university-based outbreaks. The mean age of cases of mumps in 2017 was 20 years. Of the 29 cases of mumps in 2017, 23 (79%) were in individuals between the ages of 18 and 22.

Rate of Mumps by Sex, Rhode Island, 2017

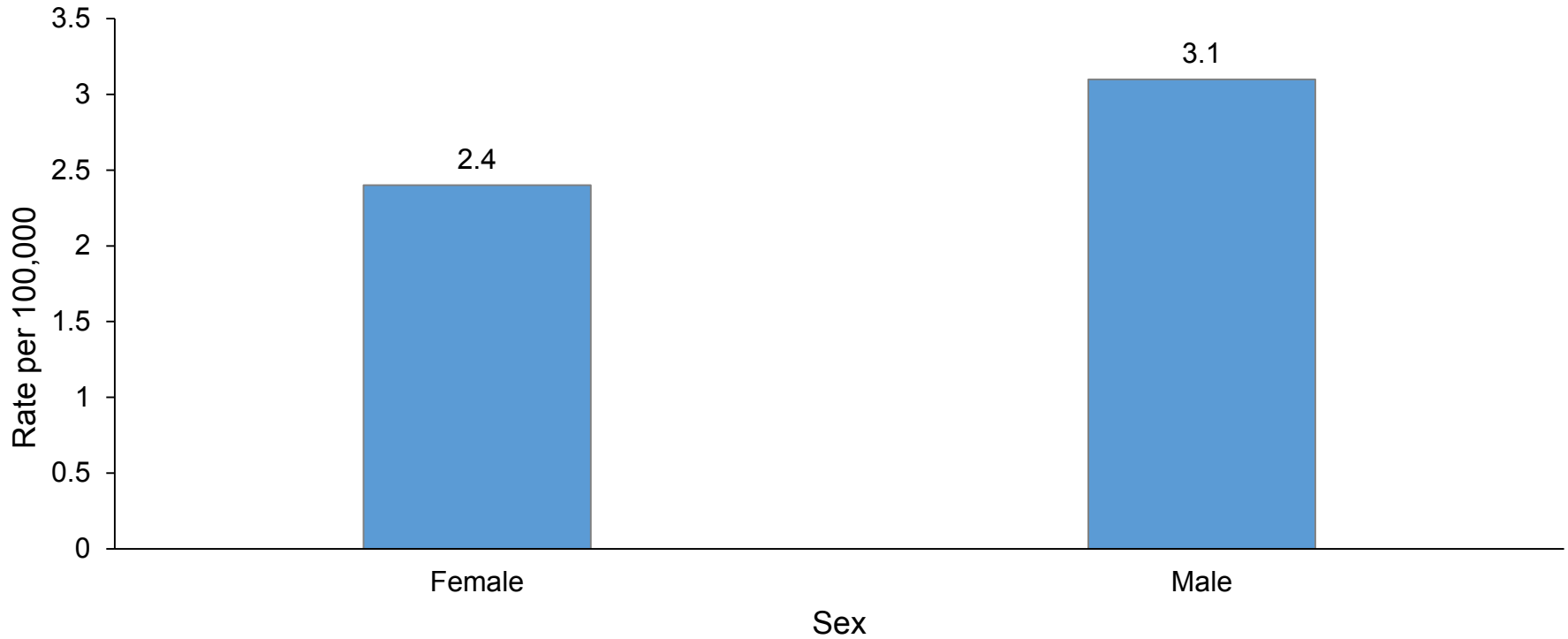


Figure 3: In 2017, there was a slightly higher rate of mumps among males than among females.

Rate of Mumps by County, Rhode Island, 2017

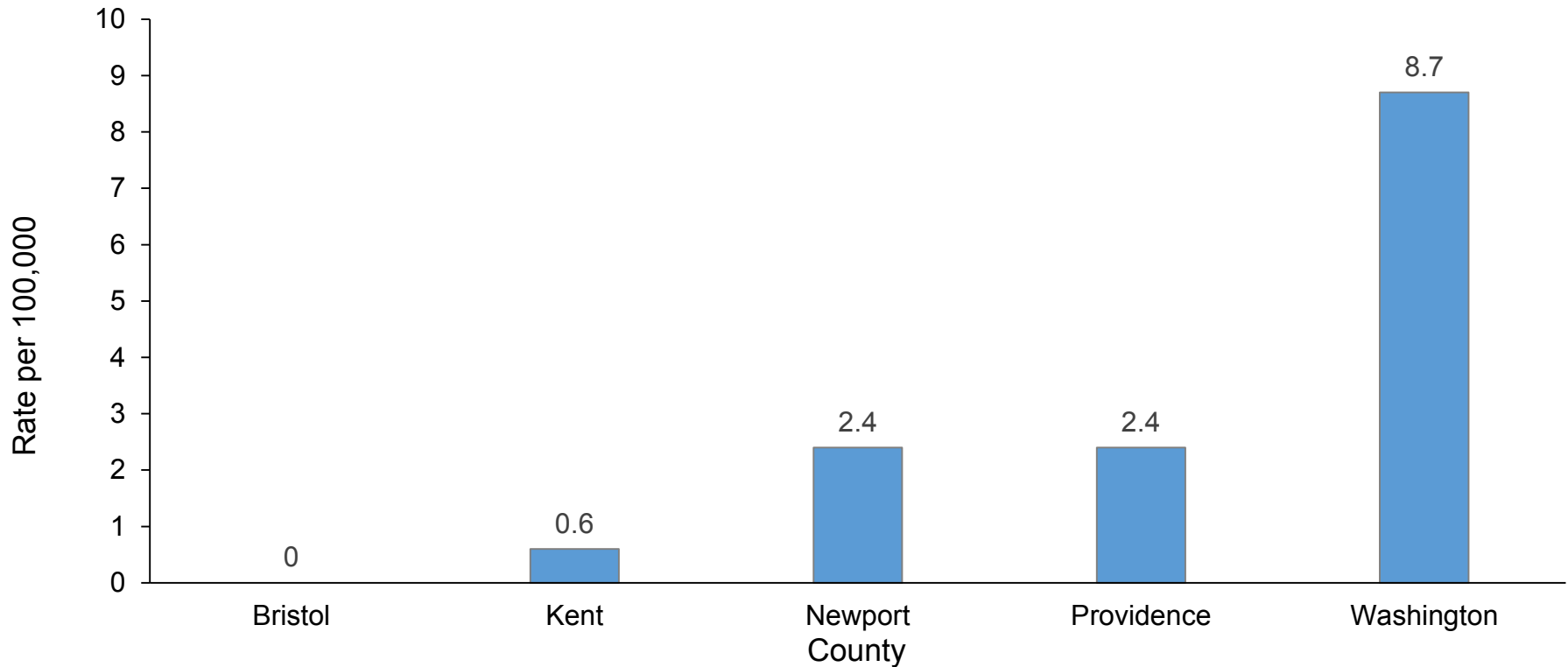


Figure 4: The highest rate of mumps occurred in Washington County, due to the outbreaks that occurred there. Although there were more cases of mumps in Providence County (15) than in Washington County (11), the rate in Washington County was higher due to the smaller population in that county.

Mumps Counts by Month, Rhode Island, 2017

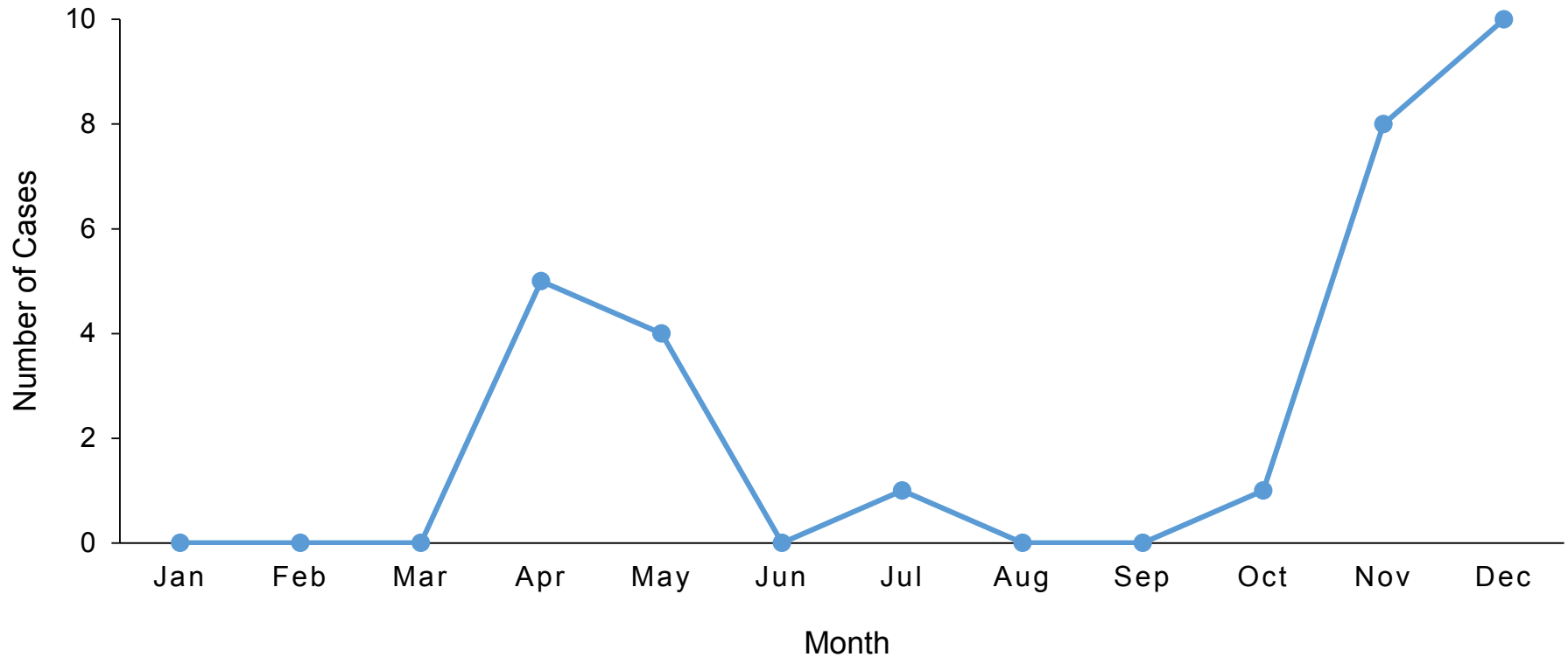


Figure 5: Any seasonal trend that appears in this graph can be attributed to outbreaks at universities. There was one outbreak in April-May, and two overlapping in November-December.

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



Table 1. Frequency by Year

	2014	2015	2016	2017	2018	5-Year Total
Number of Cases	0	3	1	29	5	38

Table 2. Rate by Year

	2014	2015	2016	2017	2018
Rate per 100,000	0.0	0.3	0.1	2.7	0.5

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



Table 3. Frequency by Age Group and Year

	2014	2015	2016	2017	2018	Total
0-4	0	2	0	0	1	3
5-9	0	0	0	1	1	2
10-19	0	0	0	12	0	12
20-29	0	0	0	15	1	16
30-39	0	0	0	1	1	2
40-49	0	0	0	0	0	0
50-59	0	1	0	0	1	2
60-69	0	0	1	0	0	1
70-79	0	0	0	0	0	0
≥80	0	0	0	0	0	0
Total	0	3	1	29	5	38

Mumps Counts by Sex, Rhode Island, 2014-2018



Table 5. Frequency by Sex and Year

	2014	2015	2016	2017	2018	Total
Female	0	1	1	13	3	18
Male	0	2	0	16	2	20
Total	0	3	1	29	5	38

Mumps Counts by County, Rhode Island, 2014-2018



Table 7. Frequency by County and Year

	2014	2015	2016	2017	2018	Total
Bristol	0	0	0	0	0	0
Kent	0	1	0	1	1	3
Newport	0	0	0	2	0	2
Providence	0	2	1	15	4	22
Washington	0	0	0	11	0	11
Total	0	3	1	29	5	38

Mumps Counts by Month, Rhode Island, 2014-2018



Table 9. 2017 Frequency by Month

	2014	2015	2016	2017	2018	Total
Jan	0	0	0	0	0	0
Feb	0	0	0	0	2	2
Mar	0	0	0	0	1	1
Apr	0	1	0	5	0	6
May	0	0	0	4	0	4
Jun	0	0	1	0	0	1
Jul	0	0	0	1	0	1
Aug	0	1	0	0	0	1
Sep	0	0	0	0	0	0
Oct	0	0	0	1	1	2
Nov	0	1	0	8	1	10
Dec	0	0	0	10	0	10
All	0	3	1	29	5	38



Notes on Data

- Case counts include patients classified as confirmed and probable cases according to the [CDC case definition](#).
- “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/mumps/index.html>
- <https://www.cdc.gov/mumps/outbreaks.html>