
RHODE ISLAND
DEPARTMENT OF HEALTH

Invasive Group A Streptococcus 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 Invasive Group A Streptococcus

- Invasive Group A Streptococcus (GAS) includes infections in normally sterile sites such as blood, cerebrospinal fluid, or pleural fluid.
- Invasive GAS may manifest in several ways
  - Pneumonia
  - Bacteremia
  - Necrotizing fasciitis
- These bacteria are spread through direct contact with an infected individual's nose or throat discharges or through contact with infected skin lesions.
- Infants and elderly persons have the highest incidence of invasive GAS infections.

Data Overview, Invasive Group A Streptococcus

- In 2016, there were 45 cases of invasive Group A Streptococcal disease in Rhode Island.
- The incidence rate was 4.3 cases per 100,000 people.
- This is the highest number of cases and incidence rate for invasive Group A Streptococcal disease in the past five years.
- In recent years, the rates of disease seem to be increasing over time.
- It is unclear why rates appear to be changing this way.

Reported Cases of Invasive Group A Streptococcus, Rhode Island, 2012-2016

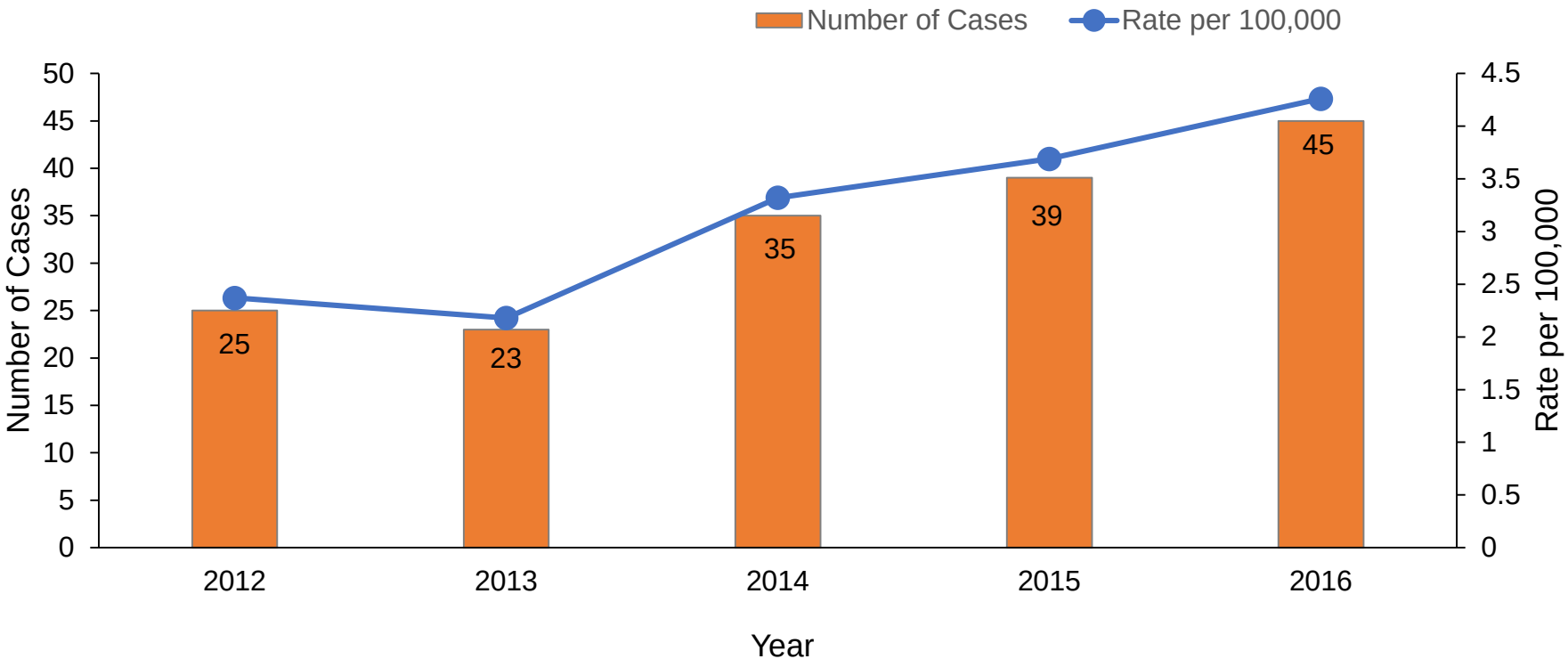

Figure 1: In 2016, there were 45 cases of invasive Group A Streptococcal disease in Rhode Island, with a rate of 4.3 cases per 100,000 population. This is the highest number of cases in the past five years. It is unclear why rates appear to be increasing over time.

Rate of Invasive Group A Streptococcus, Age Group, Rhode Island, 2016

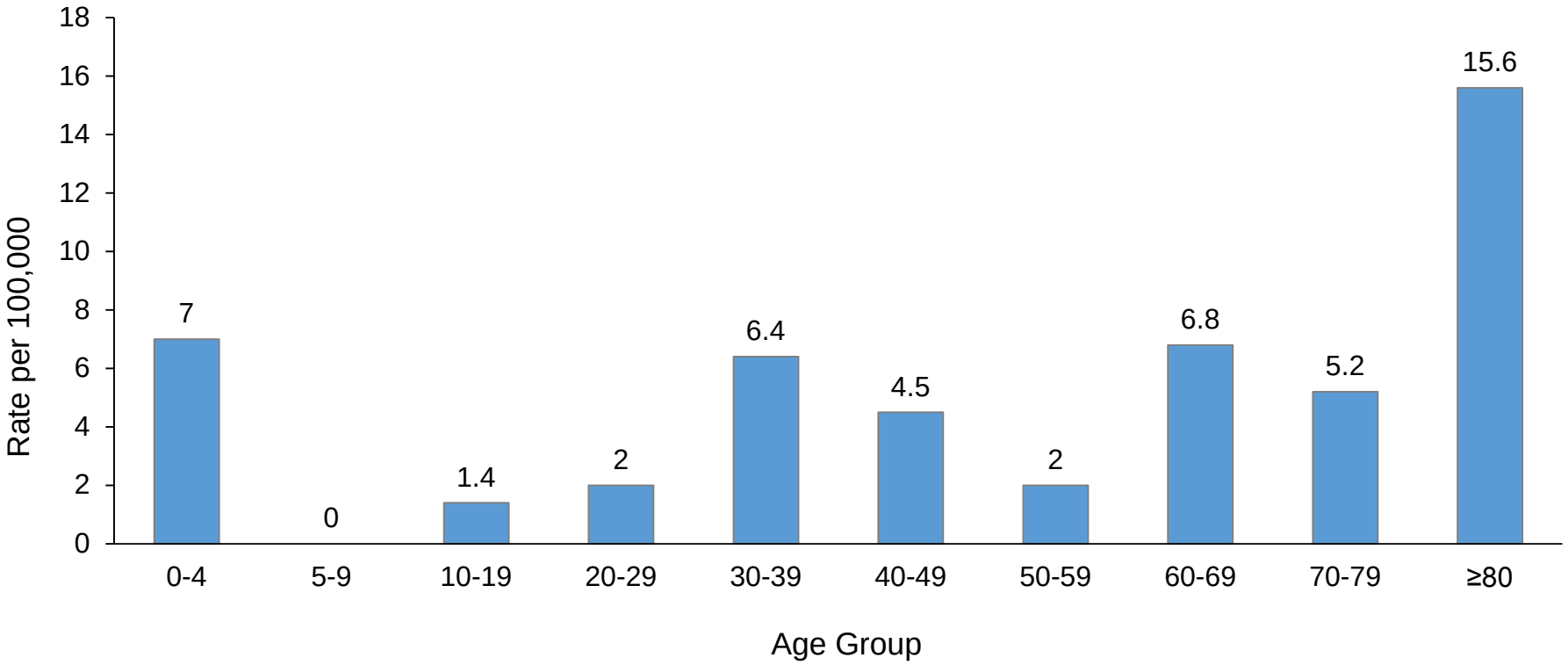

Figure 2: Invasive Group A Streptococcal disease disproportionately affects the elderly population as noted by the elevated rates for those 60 and older. In 2016, elderly persons aged 80 and older had the highest rate of invasive Group A Streptococcal infections with 15.6 cases per 100,000 population. Those 80 and over have the highest five-year average rate at 11.7 cases per 100,000 people.

Rate of Invasive Group A Streptococcus, Gender and Year, Rhode Island, 2012-2016

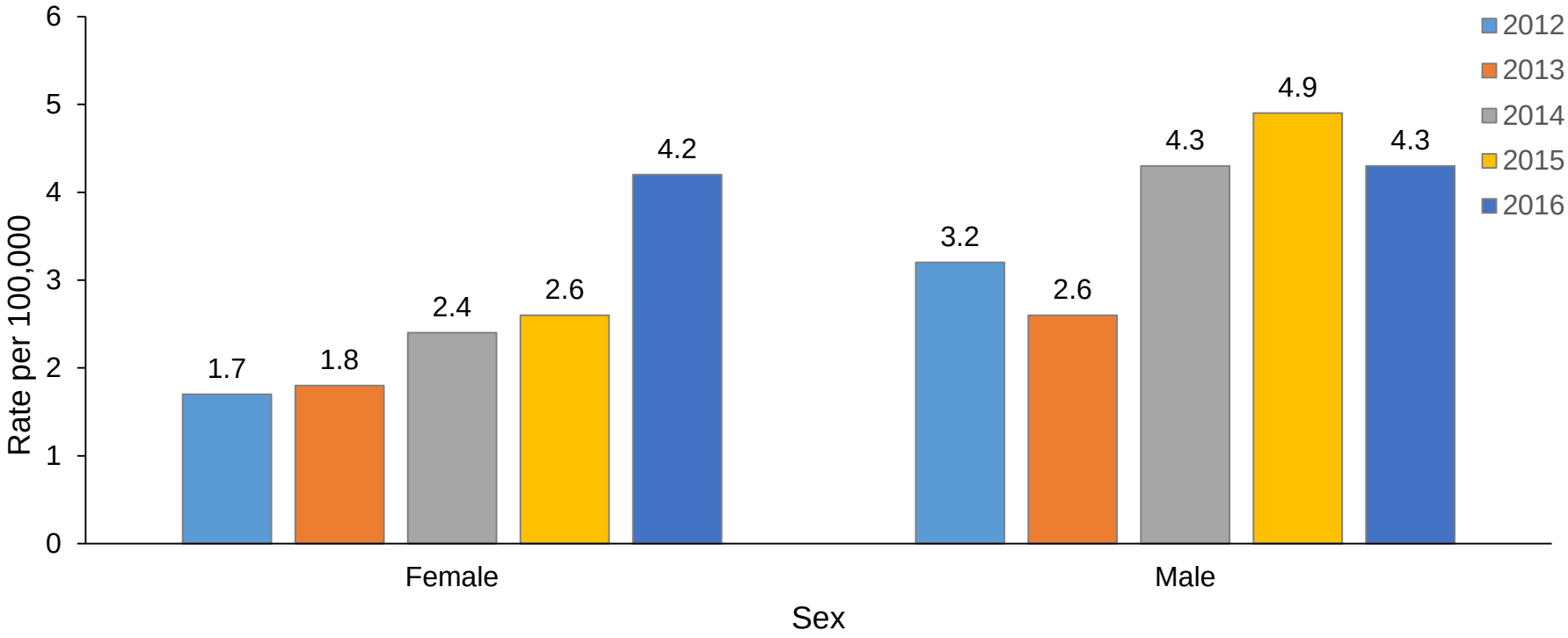

Figure 3: In Rhode Island, males generally have higher rates of invasive Group A Streptococcal disease than females. In 2016, the rate in males and females was similar at 4.3 cases per 100,000 people and 4.2 cases per 100,000 people, respectively. It is unclear why rates in females were elevated in 2016.

Rate of Invasive Group A Streptococcus, County and Year, Rhode Island, 2012-2016

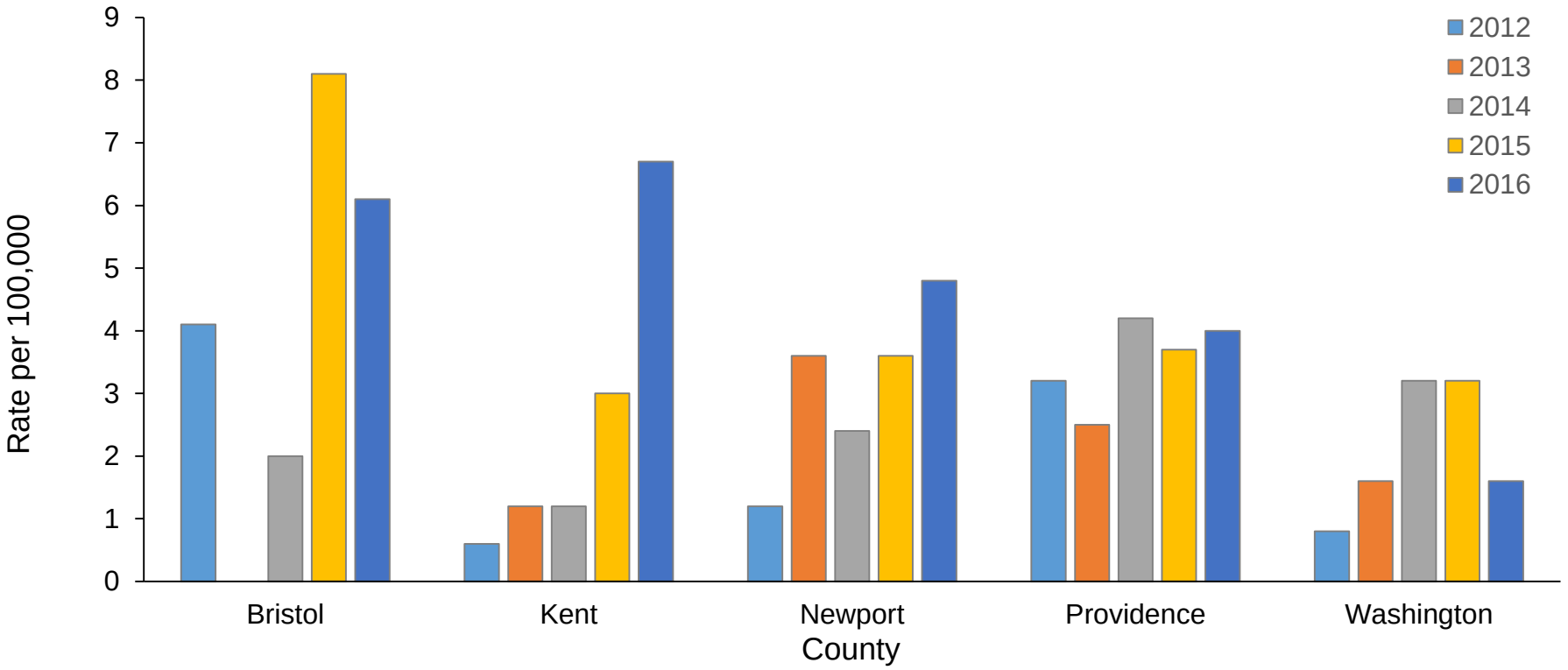

Figure 4: In 2016, Kent County had the highest rate of invasive Group A Streptococcus cases (6.7 cases per 100,000 people). Due to small case numbers, rates in counties fluctuate over time. The five-year average (2012-2016) rate was highest in Bristol County (4.1 cases per 100,000 people) and lowest in Washington County (2.1 cases per 100,000 people).

Reported Cases of Invasive Group A Streptococcus, Month and Year, Rhode Island, 2012-2016

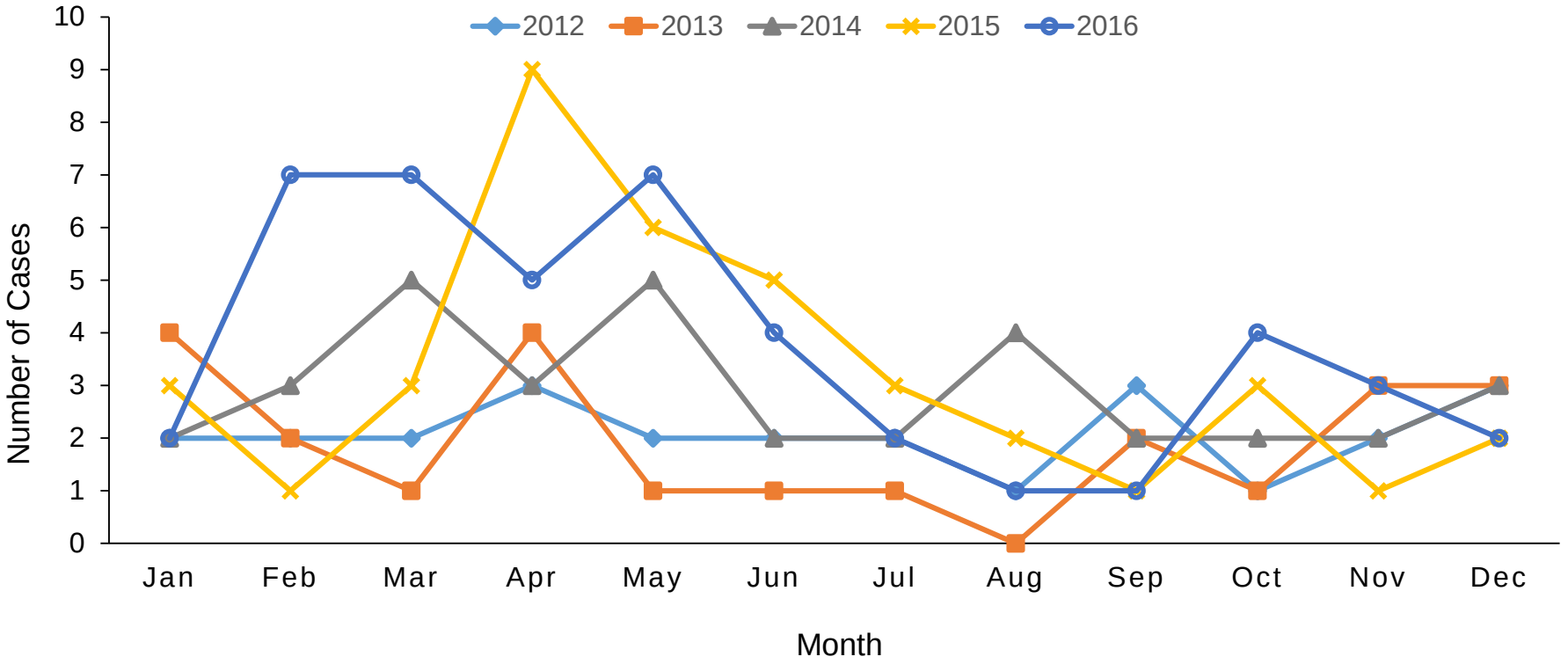

Figure 5: Invasive Group A Streptococcal disease occurs year-round in Rhode Island, with no clear trend in seasonality. There is no known reason for the increases in cases early in 2016.

Invasive Group A Streptococcus Frequency and Rates by Year, Rhode Island, 2012-2016

Table 1. Frequency by Year					
	2012	**2013**	**2014**	**2015**	**2016**
Number of Cases	25	23	35	39	45

Table 2. Rate by Year					
	2011	**2012**	**2013**	**2014**	**2015**
Rate per 100,000	2.4	2.2	3.3	3.7	4.3

Invasive Group A Streptococcus Frequency, Age Group and Year, Rhode Island, 2012-2016

Table 3. Frequency by Age Group and Year					
	2012	2013	2014	2015	2016
0-4	0	1	1	2	4
5-9	2	0	3	1	0
10-19	4	0	1	1	2
20-29	3	2	3	6	3
30-39	1	1	1	1	8
40-49	5	4	2	4	7
50-59	1	4	9	6	3
60-69	1	3	5	7	7
70-79	2	4	3	6	3
≥80	6	4	7	5	8
Total	25	23	35	39	45

Invasive Group A Streptococcus Rates, Age Group and Year, Rhode Island, 2012-2016

Table 4. Rate by Age Group and Year					
	2012	**2013**	**2014**	**2015**	**2016**
0-4	0.0	1.7	1.7	3.5	7.0
5-9	3.3	0.0	5.0	1.7	0.0
10-19	2.8	0.0	0.7	0.7	1.4
20-29	2.0	1.4	2.0	4.1	2.0
30-39	0.8	0.8	0.8	0.8	6.4
40-49	3.2	2.6	1.3	2.6	4.5
50-59	0.7	2.6	5.9	4.0	2.0
60-69	1.0	2.9	4.9	6.8	6.8
70-79	3.5	6.9	5.2	10.4	5.2
≥80	11.7	7.8	13.6	9.7	15.6

Invasive Group A Streptococcus Frequency and Rates, Gender and Year, Rhode Island, 2012-2016

Table 5. Frequency by Sex and Year					
	2012	**2013**	**2014**	**2015**	**2016**
Female	9	10	13	14	23
Male	16	13	22	25	22
Total	25	23	35	39	45

Table 6. Rate by Sex and Year					
	2012	**2013**	**2014**	**2015**	**2016**
Female	1.7	1.8	2.4	2.6	4.2
Male	3.2	2.6	4.3	4.9	4.3

Invasive Group A Streptococcus Frequency, County and Year, Rhode Island, 2012-2016

Table 7. Frequency by County and Year					
	2012	2013	2014	2015	2016
Bristol	2	0	1	4	3
Kent	1	2	2	5	11
Newport	1	3	2	3	4
Providence	20	16	26	23	25
Washington	1	2	4	4	2
All	25	23	35	39	45

Invasive Group A Streptococcus Rates by County and Year, Rhode Island, 2012-2016

Table 8. Rate by County and Year					
	2012	2013	2014	2015	2016
Bristol	4.0	0.0	2.0	8.0	6.1
Kent	0.6	1.2	1.2	3.0	6.7
Newport	1.2	3.6	2.4	3.6	4.8
Providence	3.2	2.6	4.2	3.7	4.0
Washington	0.8	1.6	3.2	3.2	1.6

Invasive Group A Streptococcus Frequency, Month and Year, Rhode Island, 2012-2016

Table 9. Frequency by Month and Year					
	2012	2013	2014	2015	2016
Jan	2	4	2	3	2
Feb	2	2	3	1	7
Mar	2	1	5	3	7
Apr	3	4	3	9	5
May	2	1	5	6	7
Jun	2	1	2	5	4
Jul	2	1	2	3	2
Aug	1	0	4	2	1
Sep	3	2	2	1	1
Oct	1	1	2	3	4
Nov	2	3	2	1	3
Dec	3	3	3	2	2
All	25	23	35	39	45

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.