RHODE ISLAND DEPARTMENT OF HEALTH

Varicella Surveillance 2011-2015

Rhode Island Department of Health

Division of Preparedness, Response, Infectious Disease and Emergency Medical Services

Center for Acute Infectious Disease Epidemiology

About Varicella

- Varicella (chickenpox) is a very contagious disease caused by the varicella-zoster virus.
- Symptoms include an itchy skin rash with blister-like lesions, covering the body. It may first appear on the face, chest, and back and then spread to other parts of the body. Most patients have a fever, which develops 1-2 days before the rash appears. People may also experience fatigue, loss of appetite, and headache.
- Varicella infection typically lasts 5-7 days and will resolve without treatment.
- Transmission is airborne, spread by breathing and talking.
- Some people who have been vaccinated against chickenpox can still get the disease. However, the symptoms are usually milder with fewer red spots or blisters and mild or no fever.
- People at higher risk for complications from chickenpox include infants, pregnant women, and people with immunosuppressive conditions.

Data Overview, Varicella

- In 2015, there were 53 cases of varicella reported in RI, with a rate of 5.0 cases per 100,000 population. This rate is almost identical to the rate in 2014 (5.1 per 100,000).

- Rates of varicella have remained relatively stable over the last several years, with the exception of 2012, when there was an extended outbreak at a childcare center.

- Children four years of age and under had the highest rates of varicella in RI in 2015: 31.3 cases per 100,000 population.

Reported Cases of Varicella, Rhode Island, 2011-2015

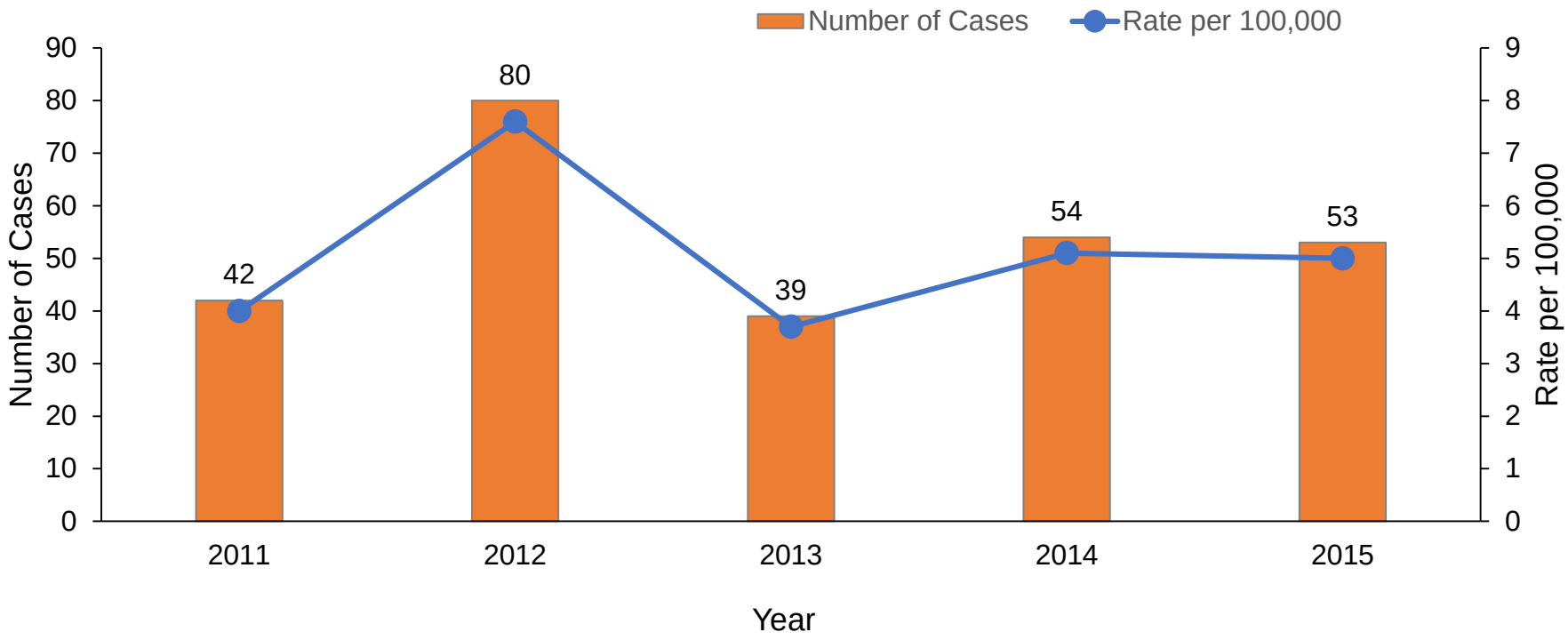

Figure 1. In 2015, there were 53 cases of reported varicella in RI with a rate of 5.0 cases per 100,000 population. This rate is almost identical to the rate in 2014 (5.1 per 100,000). Across the country, varicella is becoming more prevalent with breakthrough disease despite vaccination. The most recent national data is available for 2013, during which the rate was 4.6 cases per 100,000.

Rate of Varicella, by Age Group, Rhode Island, 2015

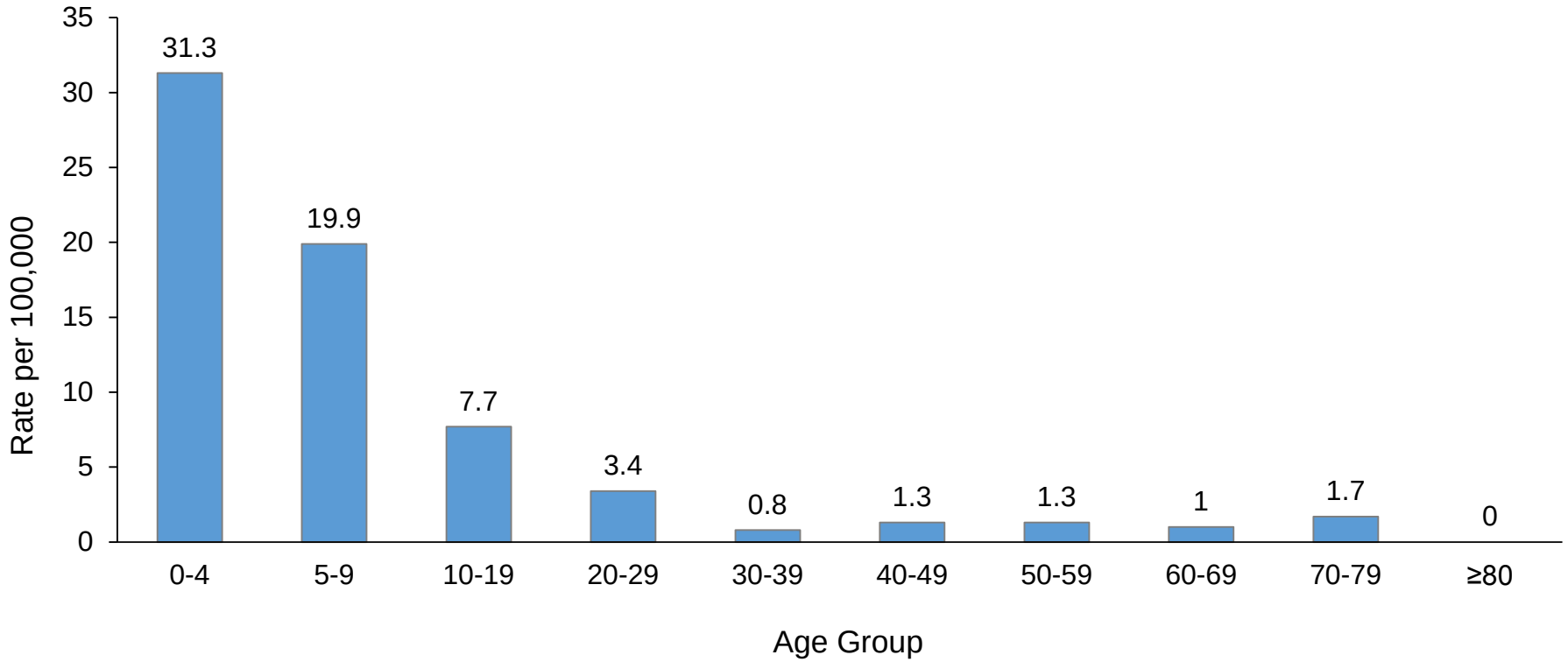

Figure 2: Varicella affects children the most, with rates highest among those 4 years of age and under (31.3 cases per 100,000 population in 2015). Two doses of varicella-containing vaccine are recommended for children, with the first dose between 12-15 months of age and a second dose between 4-6 years of age.

Rate of Varicella, by Sex and Year, Rhode Island, 2011-2015

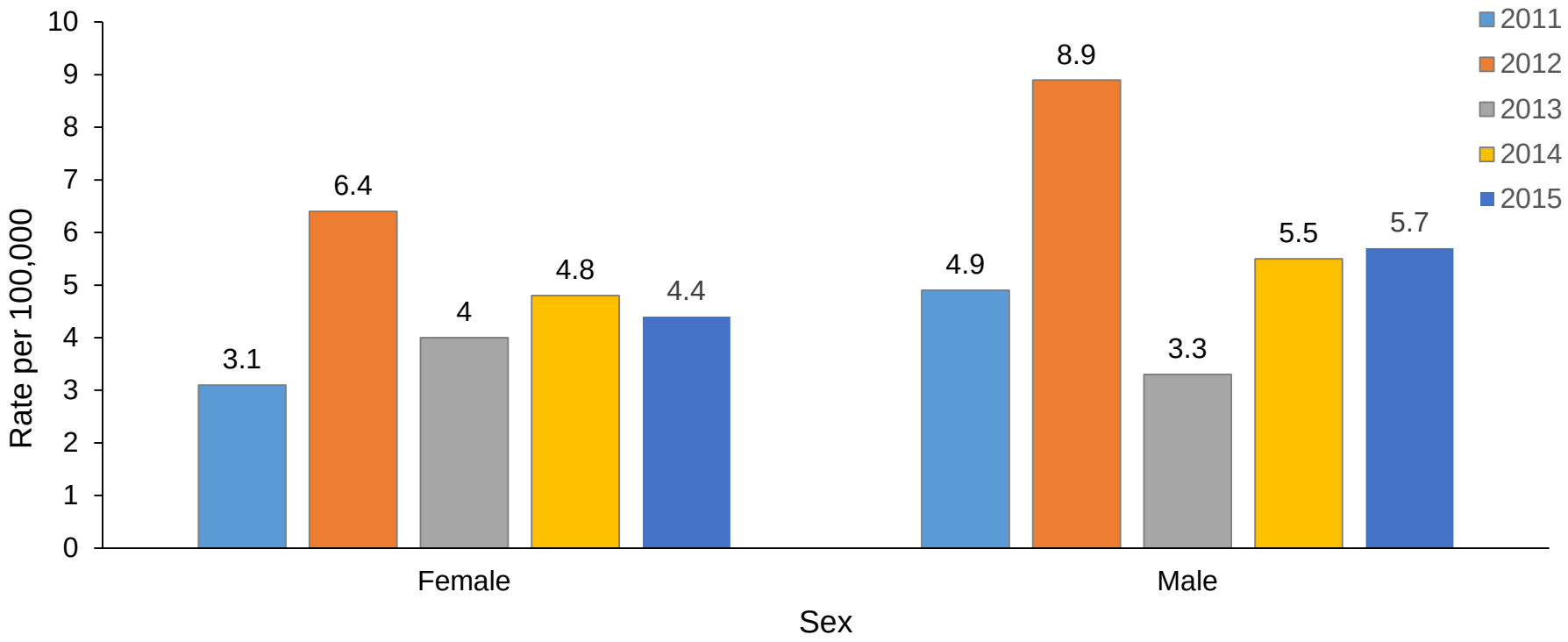

Figure 3: In most of the past 5 years, males have had a slightly higher rate of varicella than females. In 2015, males had a rate of 5.7 cases per 100,000 population, and females had a rate of 4.4 cases per 100,000 population.

Rate of Varicella, by County and Year, Rhode Island, 2011-2015

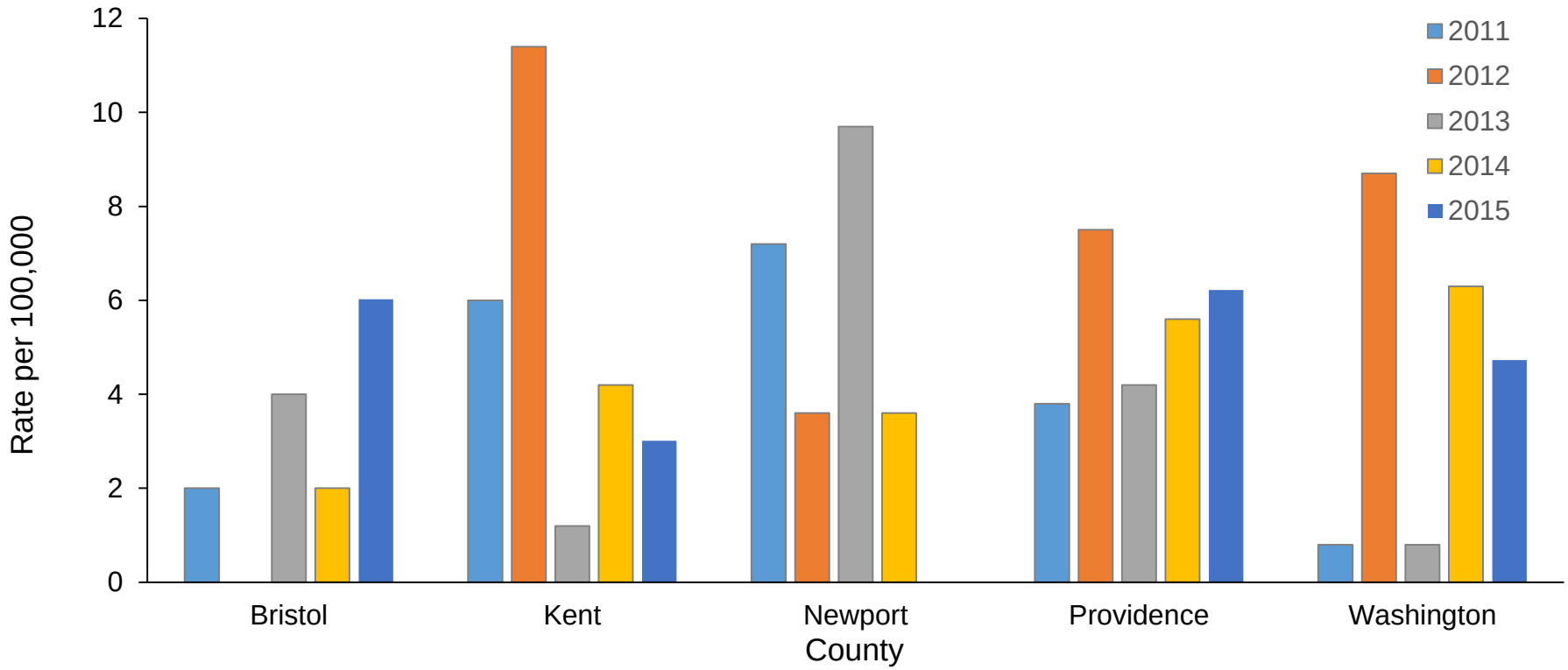

Figure 4: In 2015, the highest rate of varicella cases occurred in Providence County (6.2 cases per 100,000 population), followed closely by Bristol County (6 cases per 100,000 population). Varicella rates vary among counties over the years with no clear trend. The high rate in Kent County in 2012 was due to an outbreak at a child care center.

Reported Cases of Varicella, Month and Year, Rhode Island, 2011-2015

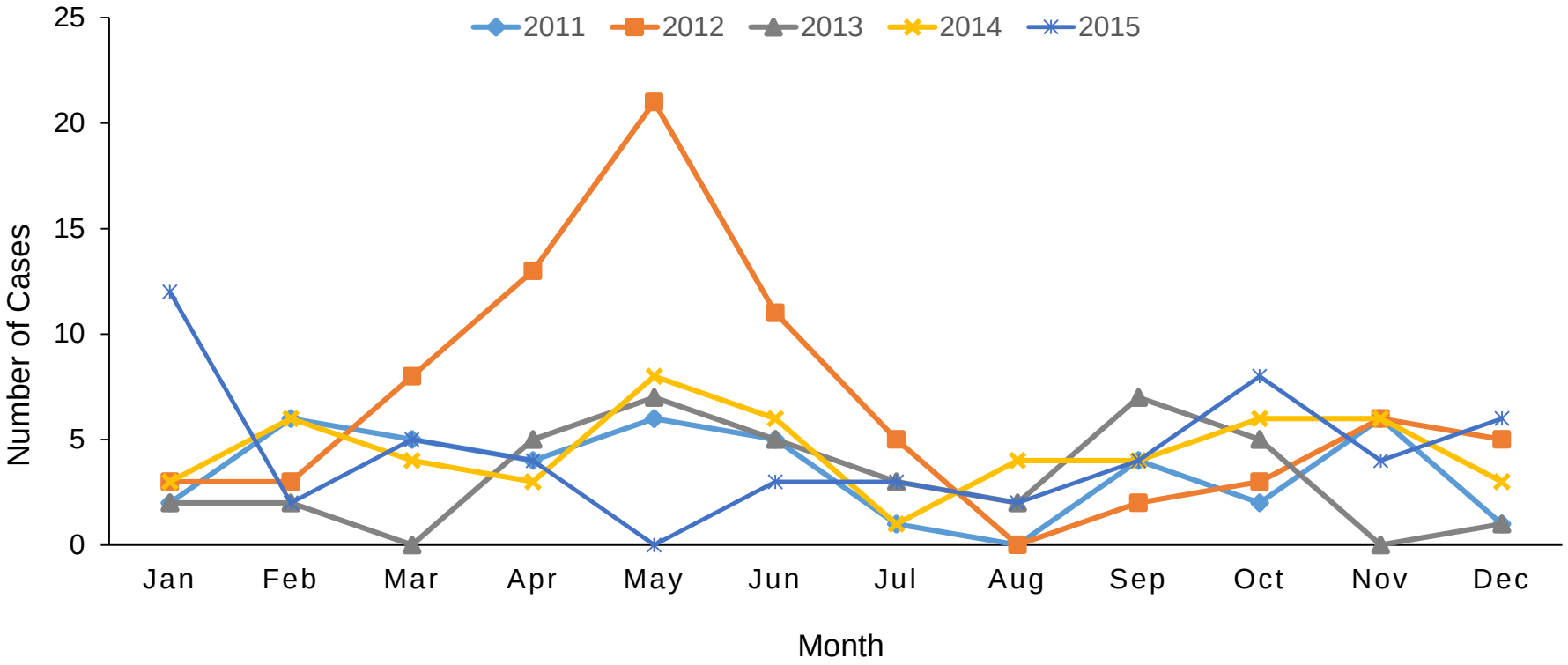

Figure 5: Varicella occurs throughout the year in Rhode Island, with no clear seasonal trend. The sharp peak in April through June of 2012 was due to an extended outbreak in a childcare center.

Varicella Frequency and Rates by Year, Rhode Island, 2011-2015

Table 1. Frequency by Year					
	2011	**2012**	**2013**	**2014**	**2015**
Number of Cases	42	80	39	54	53

Table 2. Rate by Year					
	2011	**2012**	**2013**	**2014**	**2015**
Rate per 100,000	4.0	7.6	3.7	5.1	5.0

Varicella Frequency, by Age Group and Year, Rhode Island, 2011-2015

Table 3. Frequency by Age Group and Year					
	2011	**2012**	**2013**	**2014**	**2015**
0-4	8	24	10	16	18
5-9	17	26	19	15	12
10-19	14	20	5	13	11
20-29	1	0	3	3	5
30-39	1	3	1	0	1
40-49	0	7	0	3	2
50-59	1	0	1	3	2
60-69	0	0	0	0	1
70-79	0	0	0	0	1
≥80	0	0	0	1	0
Total	42	80	39	54	53

Varicella Rates, by Age Group and Year, Rhode Island, 2011-2015

Table 4. Rate by Age Group and Year					
	2011	**2012**	**2013**	**2014**	**2015**
0-4	13.9	41.8	17.4	27.9	31.3
5-9	28.1	43.0	31.4	24.8	19.9
10-19	9.7	13.9	3.5	9.0	7.7
20-29	0.7	0.0	2.0	2.0	3.4
30-39	0.8	2.4	0.8	0.0	0.8
40-49	0.0	4.5	0.0	1.9	1.3
50-59	0.7	0.0	0.7	2.0	1.3
60-69	0.0	0.0	0.0	0.0	1.0
70-79	0.0	0.0	0.0	0.0	1.7
≥80	0.0	0.0	0.0	2.0	0.0

Varicella Frequency and Rates, by Sex and Year, Rhode Island, 2011-2015

Table 5. Frequency by Sex and Year					
	2011	**2012**	**2013**	**2014**	**2015**
Female	17	35	22	26	24
Male	25	45	17	28	29
Total	**42**	**80**	**39**	**54**	**53**

Table 6. Rate by Sex and Year					
	2011	**2012**	**2013**	**2014**	**2015**
Female	3.1	6.4	4.0	4.8	4.4
Male	4.9	8.9	3.3	5.5	5.7

Varicella Frequency, by County and Year, Rhode Island, 2011-2015

Table 7. Frequency by County and Year					
	2011	**2012**	**2013**	**2014**	**2015**
Bristol	1	0	2	1	3
Kent	10	19	2	7	5
Newport	6	3	8	3	0
Providence	24	47	26	35	39
Washington	1	11	1	8	6
All	42	80	39	54	53

Varicella Rates by County and Year, Rhode Island, 2011-2015

Table 8. Rate by County and Year					
	2011	**2012**	**2013**	**2014**	**2015**
Bristol	2.0	0.0	4.0	2.0	6.0
Kent	6.0	11.4	1.2	4.2	3.0
Newport	7.2	3.6	9.7	3.6	0.0
Providence	3.8	7.5	4.2	5.6	6.2
Washington	0.8	8.7	0.8	6.3	4.7

Varicella Frequency, by Month and Year, Rhode Island, 2011-2015

Table 9. Frequency by Month and Year					
	2011	**2012**	**2013**	**2014**	**2015**
Jan	2	3	2	3	12
Feb	6	3	2	6	2
Mar	5	8	0	4	5
Apr	4	13	5	3	4
May	6	21	7	8	0
Jun	5	11	5	6	3
Jul	1	5	3	1	3
Aug	0	0	2	4	2
Sep	4	2	7	4	4
Oct	2	3	5	6	8
Nov	6	6	0	6	4
Dec	1	5	1	3	6
All	**42**	**80**	**39**	**54**	**53**

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.

References

- https://www.cdc.gov/chickenpox/index.html
- http://www.health.ri.gov/diseases/vaccinepreventable/?parm=19