





# **Malaria 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 Malaria

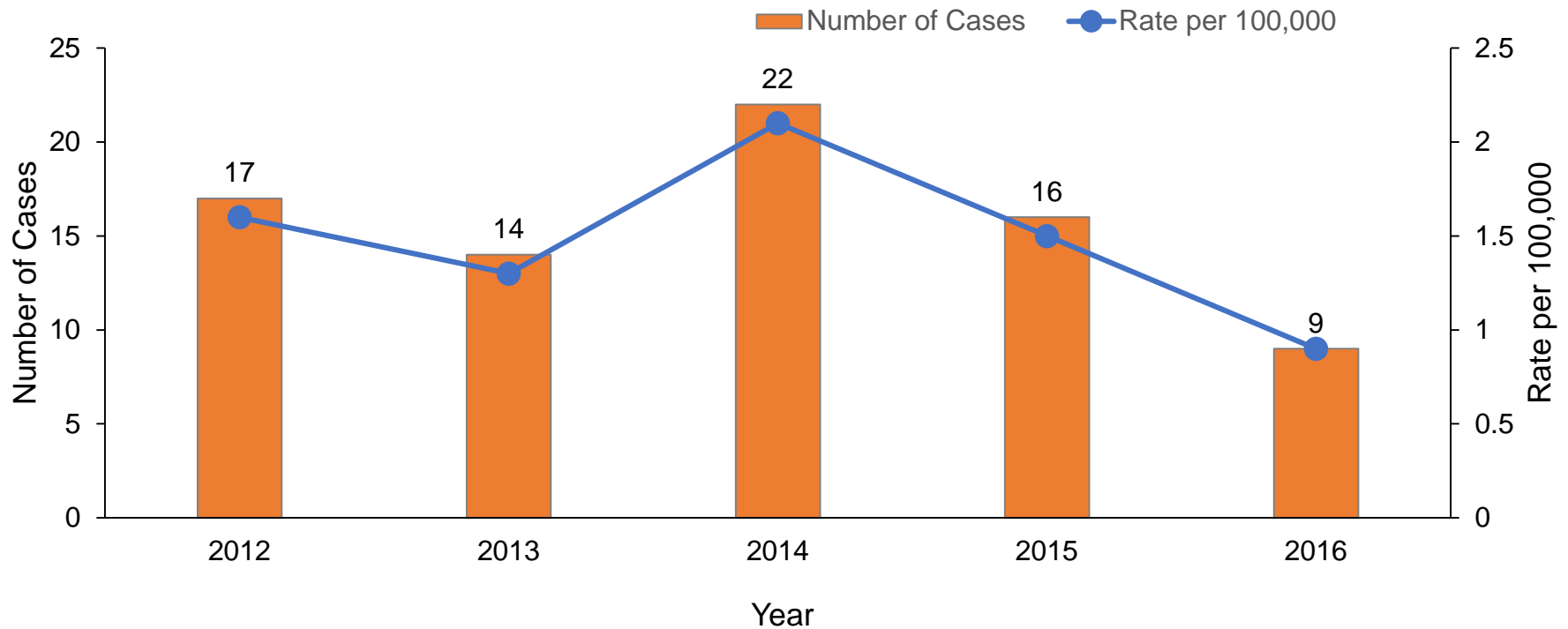
- Malaria is a parasitic infection transmitted by the bite of an infected mosquito. Illness is characterized by high fevers, shaking chills, and flu-like symptoms.
- The typical incubation period for malaria is 7-30 days.
- Malaria is not endemic in the United States. Approximately 1,500 travel-associated cases of malaria are diagnosed in the U.S. each year, according to CDC.



# Data Overview, Malaria

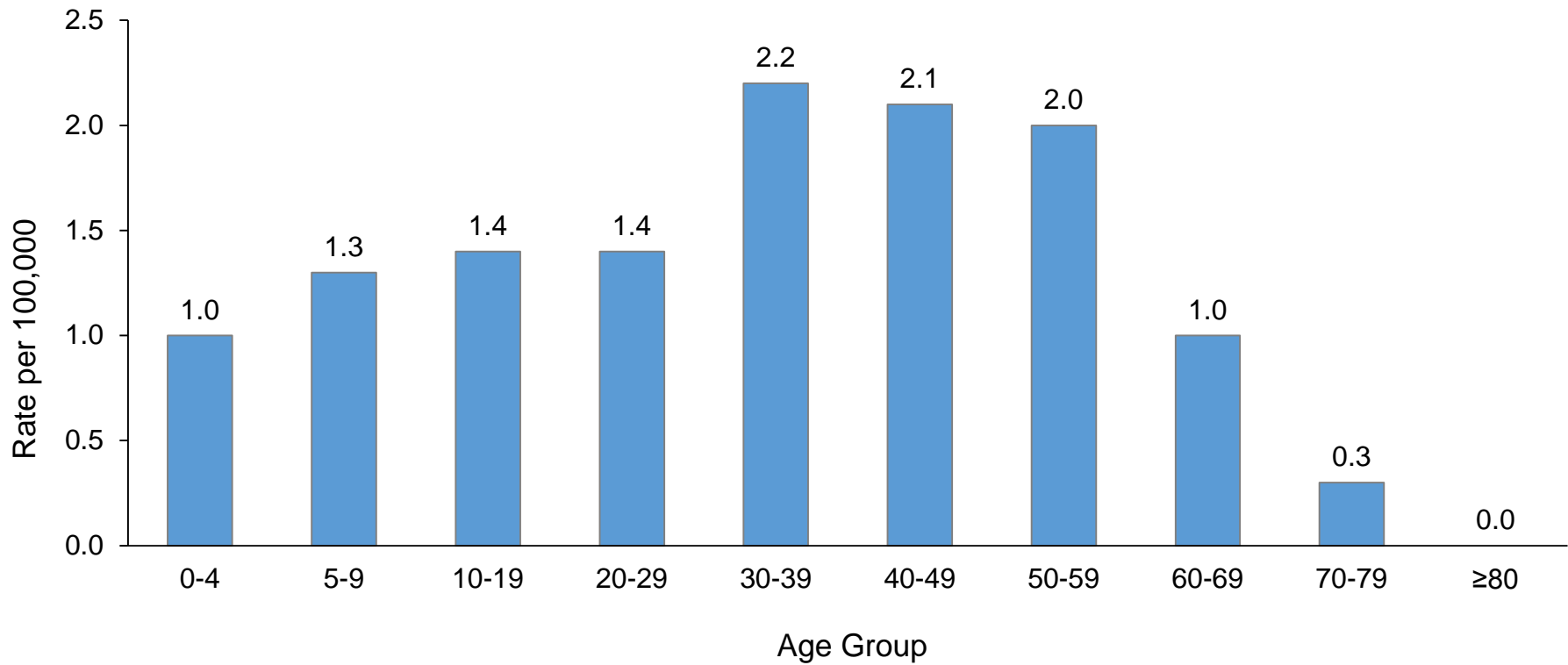
- In 2016, Rhode Island had 9 cases of malaria, with a rate of 0.9 cases per 100,000 people.
- All cases of malaria in Rhode Island are associated with travel to malaria-endemic countries.
- Rhode Island has low case counts of malaria infection. In order to ensure patient privacy, data from 2012-2016 have been combined or averaged for analysis by age group, sex, county, and month of infection.

# Reported Cases of Malaria, Rhode Island, 2012-2016



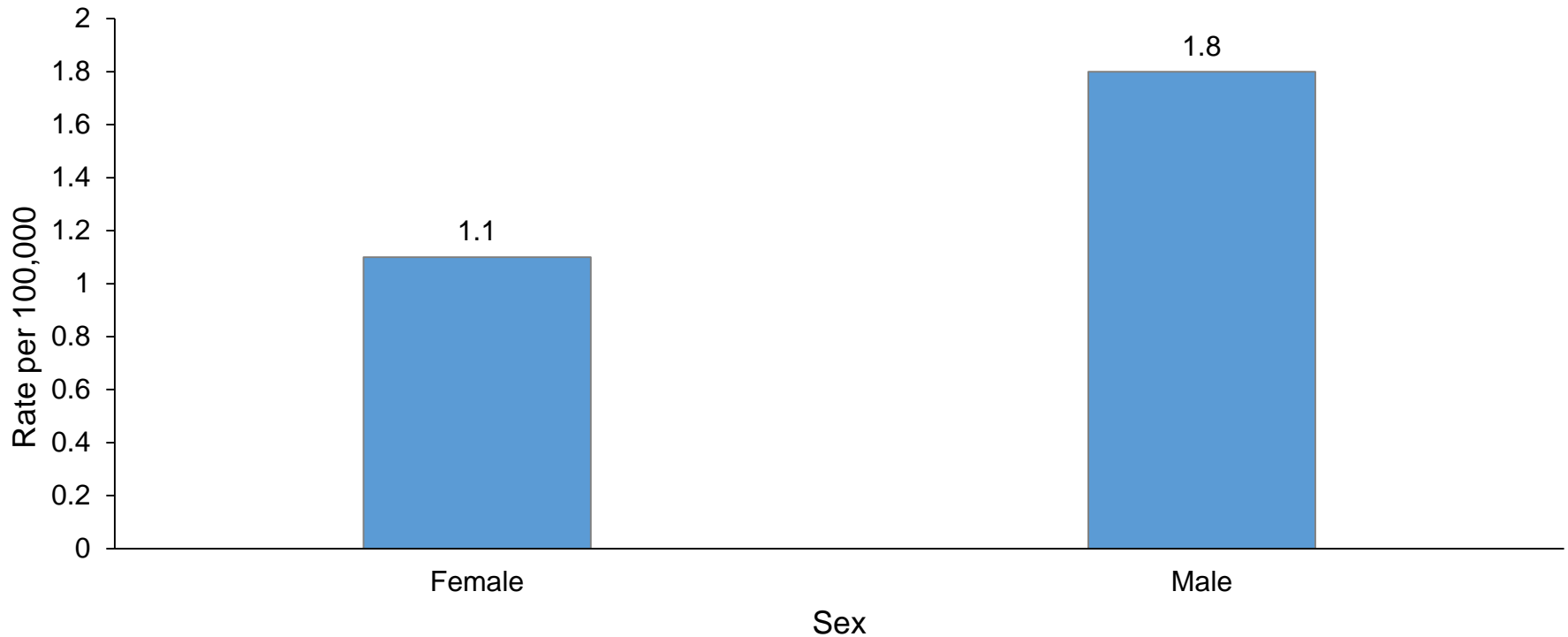
**Figure 1:** In 2016, Rhode Island had 9 cases of malaria, with a rate of 0.9 cases per 100,000 people. Rhode Island has low numbers of malaria cases, and all of the cases are associated with travel outside of the United States.

# Rate of Malaria, by Age Group, Rhode Island, 2012-2016



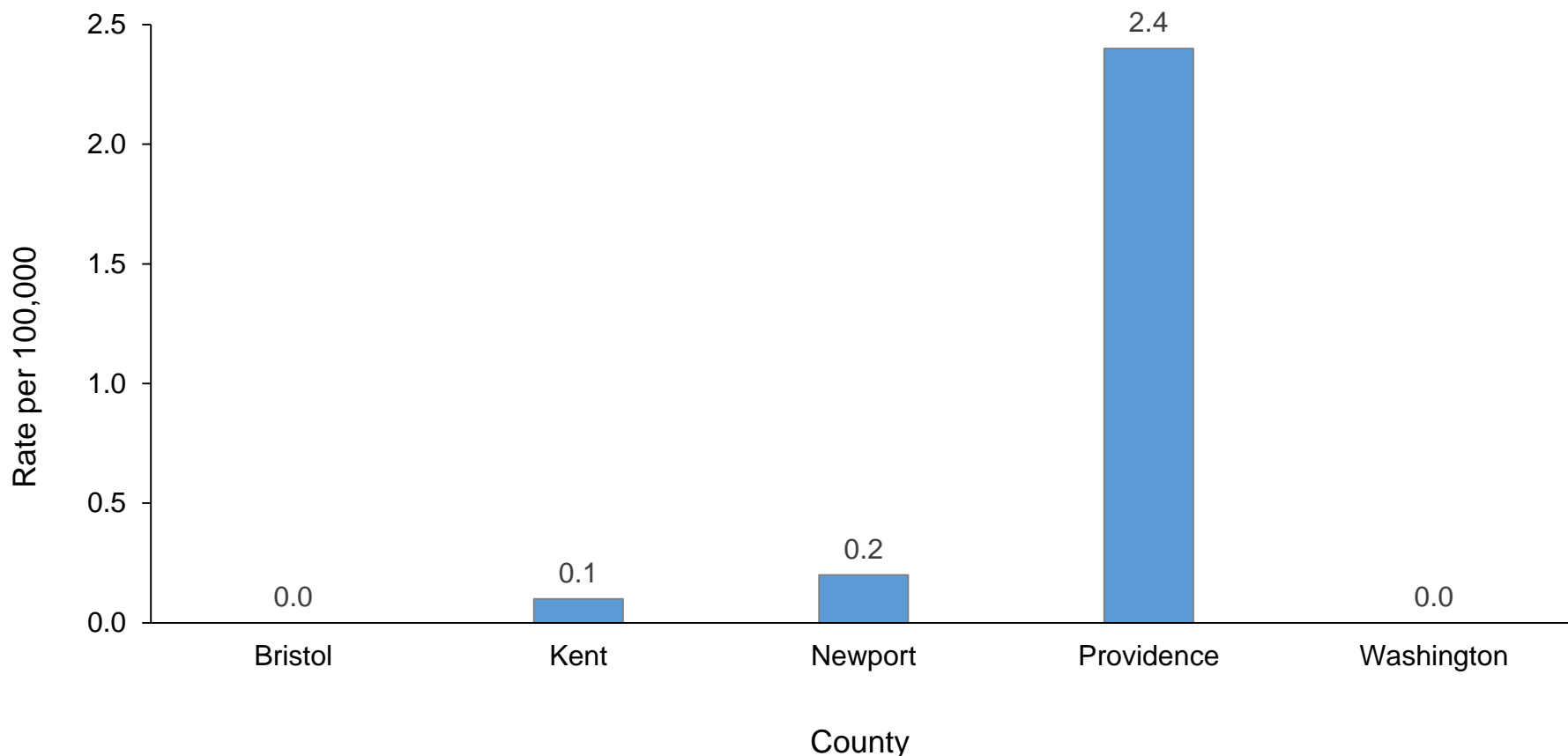
**Figure 2:** Adults 30-59 years old had the highest five-year average rates of malaria, compared to other age groups.

# Rate of Malaria, by Gender, Rhode Island, 2012-2016



**Figure 3.** The five-year average rate of malaria in Rhode Island was slightly higher in males (1.8 cases per 100,000 people) than in females (1.1 cases per 100,000 people).

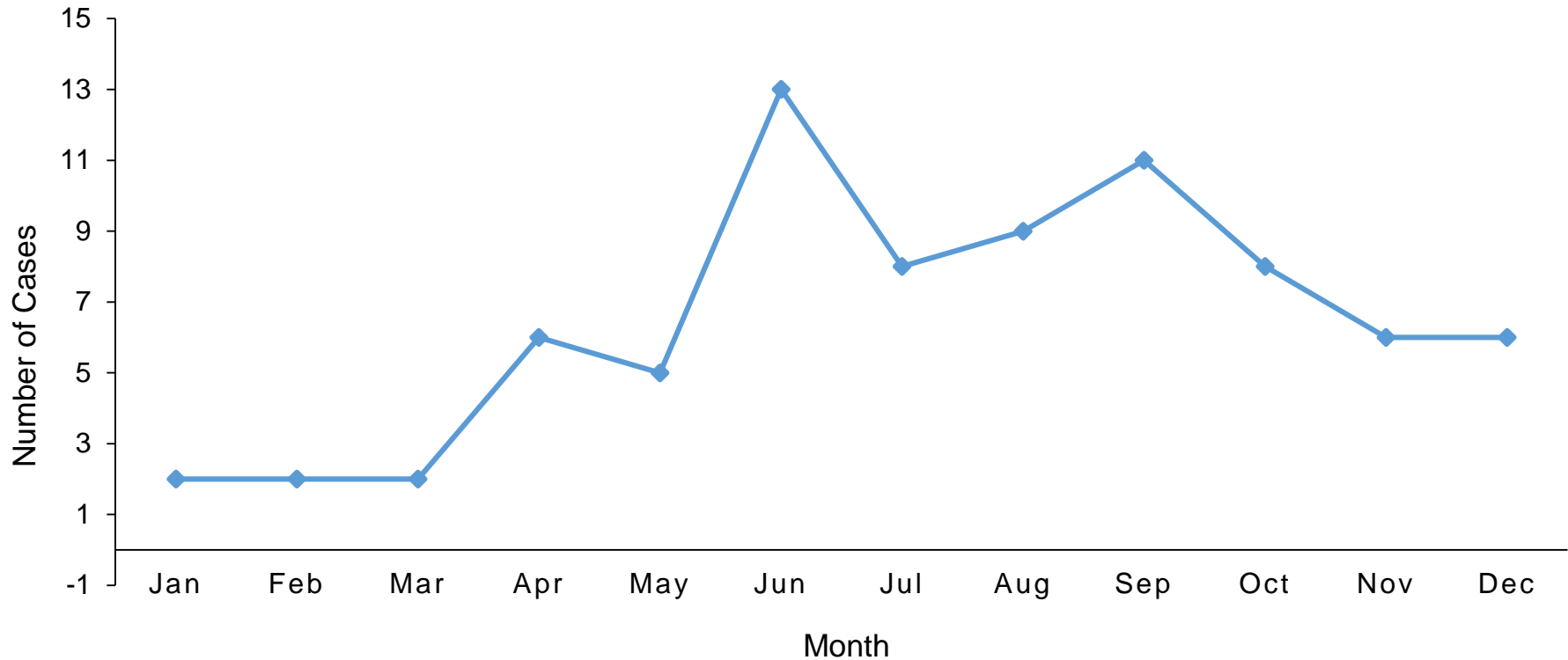
# Rate of Malaria, by County and Year, Rhode Island, 2012-2016



**Figure 4:** Between 2012 and 2016, 97% of malaria cases in Rhode Island occurred in residents of Providence County. Newport and Kent Counties were the only other counties where residents were diagnosed with malaria during this time period.



# Reported Cases of Malaria, by Month, Rhode Island, 2012-2016



**Figure 5:** Malaria cases in Rhode Island tend to occur at higher levels in the summer months, which is when many Rhode Islanders travel to malaria-endemic countries.

# Malaria Frequency and Rates by Year, Rhode Island, 2012-2016



**Table 1. Frequency by Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Number of Cases</b>	17	14	22	16	9

**Table 2. Rate by Year**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Rate per 100,000</b>	1.6	1.3	2.1	1.5	0.9

# 5-Year Cumulative Malaria Frequency, by Age Group and Year, Rhode Island, 2012-2016



**Table 3. 5-Year Cumulative Frequency by Age Group and Year**

	2012-2016
0-4	3
5-9	4
10-19	10
20-29	10
30-39	14
40-49	16
50-59	15
60-69	5
70-79	1
≥80	0

# 5-Year Average Malaria Rates, by Age Group and Year, Rhode Island, 2012-2016



<b>Table 4. 5-Year Average Rate by Age Group and Year</b>	
	<b>2012-2016</b>
<b>0-4</b>	1.0
<b>5-9</b>	1.3
<b>10-19</b>	1.4
<b>20-29</b>	1.4
<b>30-39</b>	2.2
<b>40-49</b>	2.1
<b>50-59</b>	2.0
<b>60-69</b>	1.0
<b>70-79</b>	0.3
<b>≥80</b>	0.0

# 5-Year Cumulative Malaria Frequency and Average Rates, by Gender and Year, Rhode Island, 2012-2016



**Table 5. 5-Year Cumulative Frequency by Sex and Year**

	2012-2016
<b>Female</b>	31
<b>Male</b>	46
<b>Unknown</b>	1
<b>Total</b>	78

**Table 6. 5-Year Average Rate by Sex and Year**

	2012-2016
<b>Female</b>	1.1
<b>Male</b>	1.8

# 5-Year Cumulative Malaria Frequency, by County and Year, Rhode Island, 2012-2016



**Table 7. 5-Year Cumulative Frequency by County and Year**

	2012-2016
<b>Bristol</b>	0
<b>Kent</b>	1
<b>Newport</b>	1
<b>Providence</b>	76
<b>Washington</b>	0
<b>All</b>	78

# 5-Year Average Malaria Rates by County and Year, Rhode Island, 2012-2016



**Table 8. 5-Year Average Rate by County and Year**

	<b>2012-2016</b>
<b>Bristol</b>	0.0
<b>Kent</b>	0.1
<b>Newport</b>	0.2
<b>Providence</b>	2.4
<b>Washington</b>	0.0

# 5-Year Cumulative Malaria Frequency, by Month and Year, Rhode Island, 2012-2016



<b>Table 9. 5-Year Cumulative Frequency by Month and Year</b>	
	<b>2012-2016</b>
<b>Jan</b>	2
<b>Feb</b>	2
<b>Mar</b>	2
<b>Apr</b>	6
<b>May</b>	5
<b>Jun</b>	13
<b>Jul</b>	8
<b>Aug</b>	9
<b>Sep</b>	11
<b>Oct</b>	8
<b>Nov</b>	6
<b>Dec</b>	6
<b>All</b>	78





# 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/malaria/about/index.html>