



# **RHODE ISLAND**

HIV, Sexually Transmitted Infections,  
Viral Hepatitis, and Tuberculosis  
Surveillance Report

2021

## Acknowledgments

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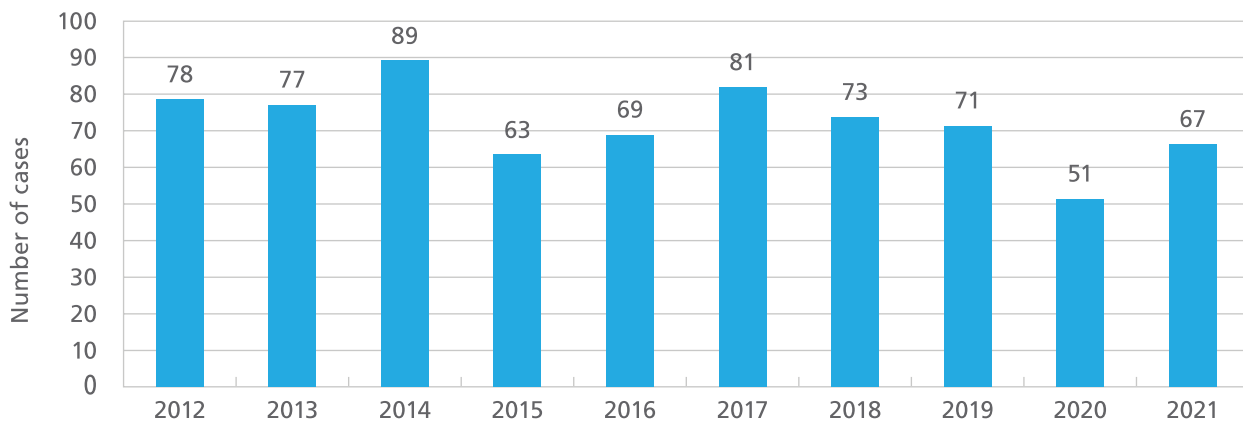
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# 01 | HIV/AIDS

The human immunodeficiency virus (HIV) is a pathogen that can be spread through sexual contact, needle sharing, and from a woman to her child through pregnancy, birth, and breastfeeding. While HIV is not a curable disease, people living with HIV who are in medical care and are taking their medications can achieve an undetectable HIV viral load and have a normal life expectancy. If left untreated, HIV infection can lead to acquired immunodeficiency syndrome, or AIDS. Because the immune system is greatly weakened for people diagnosed with AIDS, those living with AIDS have an increased susceptibility to certain infections and cancers that can lead to serious illness and death.

**FIGURE 1**  
**Number of Newly Diagnosed Cases of HIV, Rhode Island, 2012-2021**



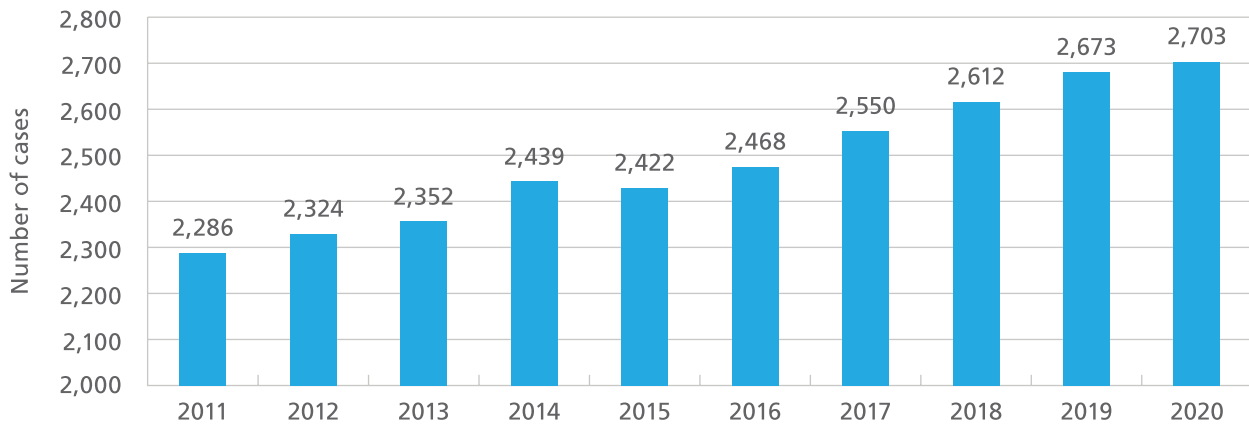
Source: Rhode Island Department of Health

Over the last 10 years, there has been an overall annual reduction in the number of newly diagnosed cases of HIV in Rhode Island from 78 to 67 cases. The dip in cases in 2020 may be related to factors related to COVID-19, including changes in individual sexual behaviors and health care access.



**FIGURE 2**

**Estimated Number of Persons Diagnosed and Living with HIV, Rhode Island, 2011-2020**



Source: Rhode Island Department of Health

There were 2,703 Rhode Islanders diagnosed and living with HIV in 2020. Due to advances in HIV treatment, people who are living with HIV are living longer lives and represent a growing segment of Rhode Island's population. The numbers above account for the migration of people living with HIV who move into and out of the state.

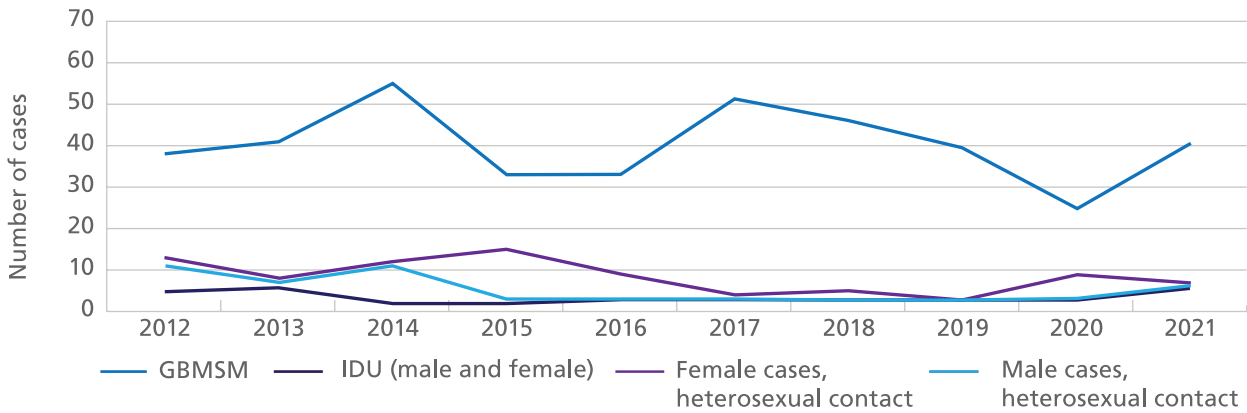
**HIV/AIDS Deaths**

Between 1983 and 2020, a total of 1,957 deaths have occurred among Rhode Island residents diagnosed with HIV/AIDS. However, only 209 (10.7%) of those deaths occurred from 2016-2020, and deaths decreased annually in this five-year period. Between 2010 and 2019, the national age-adjusted rate of HIV-related deaths fell by nearly half.<sup>1</sup> This reduction in deaths underscores the impact of improved treatment and access to care for people living with HIV.



**FIGURE 3a**

**Number of Newly Diagnosed Cases of HIV, by Mode of Exposure, Rhode Island, 2012-2021**

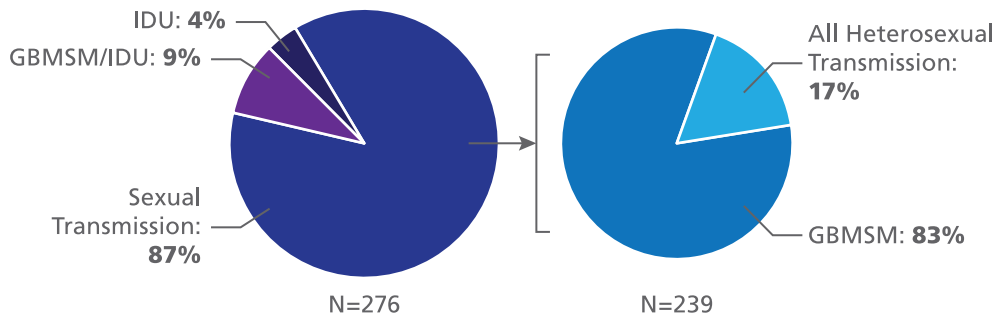


Source: Rhode Island Department of Health  
People of unknown or unreported sexual orientation and cases where mode of exposure could not be determined are not included in this figure. Cases for which mode of exposure could not be determined are not included in this figure.

In the last 10 years, 62% of newly diagnosed cases of HIV were among gay, bisexual, or other men who have sex with men (GBMSM). During this same time the number of newly diagnosed cases of HIV among heterosexual males and females, as well as persons who inject drugs, has remained low. In 2021, there were almost three times as many cases of HIV among GBMSM when compared to females, male heterosexuals, and people who inject drugs, combined.

**FIGURE 3b**

**Snapshot: Mode of HIV Exposure, Rhode Island, 2017-2021**



Source: Rhode Island Department of Health  
Note: Between 2017-2021, there were 38 cases of newly diagnosed HIV for which a risk could not be determined.

From 2017- 2021, the predominant mode of HIV exposure among newly diagnosed HIV cases was sexual contact (87%), followed by GBMSM/IDU (9%) and IDU (4%). GBMSM represent the majority (83%) of individuals among those with sexual contact as mode of exposure.

**Intravenous Drug Use**

HIV infection associated with intravenous drug use (IDU) has decreased substantially in the last 20 years. In 2021, less than five newly diagnosed cases of HIV were attributed to IDU. In the last five years, fewer than 4% of newly diagnosed cases were associated with IDU. A significant factor in the success of reducing IDU-associated transmission is the ENCORE (Education, Needle Exchange, Counseling, Outreach and Referral) Program that has been operating in Rhode Island since 1995.

Source: Rhode Island Department of Health

## HIV Cluster Detection and Response

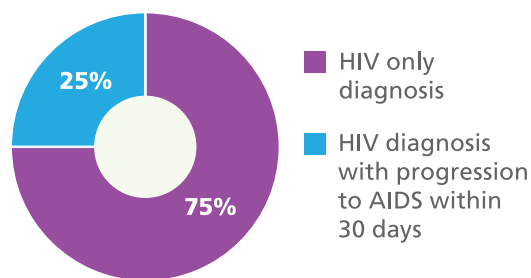
In collaboration with the Centers for Disease Control and Prevention and Brown University, RIDOH has been using molecular methods to identify possible emerging HIV transmission networks in Rhode Island with the goal of reducing the spread of HIV. These methods involve determining genomic similarity among the various HIV strains circulating in Rhode Island. The outcome of this work has helped prioritize HIV prevention and screening activities. More can be learned about this project through these published reports:

- (i) Novitsky et al. Empirical Comparison of Analytical Approaches for Identifying Molecular HIV-1 Clusters. *Scientific Reports* 2020;10:18547. PMID: 33122765 PMCID: PMC7596705;
- (ii) Novitsky et al. Longitudinal Typing of Molecular HIV Clusters in a Statewide Epidemic. *AIDS* 2021;35:1711-1722. PMID 34033589;
- (iii) Novitsky et al. Not All Clusters Are Equal: Dynamics of Molecular HIV-1 Clusters in a Statewide Rhode Island Epidemic (in press, *AIDS*).

Source: Rhode Island Department of Health

**FIGURE 4**

### Percentage of Newly Diagnosed Cases of HIV, by Disease Progression at Diagnosis, Rhode Island, 2017-2021

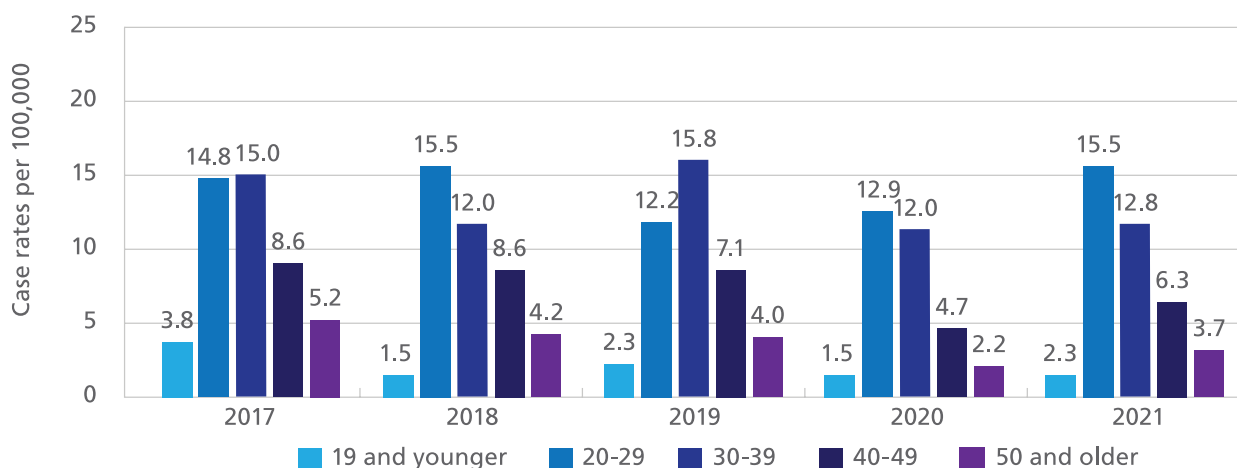


From 2017-2021, about 25% of individuals newly diagnosed with HIV in Rhode Island also had a concurrent HIV stage 3 (AIDS) diagnosis. The average time from untreated HIV infection to development of stage 3 infection is eight years. During this time, undiagnosed HIV-positive individuals can benefit from treatment that would improve their health and reduce chances of HIV transmission to others.

Source: Rhode Island Department of Health

**FIGURE 5**

### Rates of Newly Diagnosed Cases of HIV, by Age, Rhode Island, 2017-2021



Source: Rhode Island Department of Health

In the last five years, the rates of newly diagnosed HIV cases were highest among Rhode Islanders in their 20s and 30s. Rates among individuals ages 20-29 and 30-39 have remained consistently high compared to other groups.

## 02 | RHODE ISLAND HIV CARE CONTINUUM

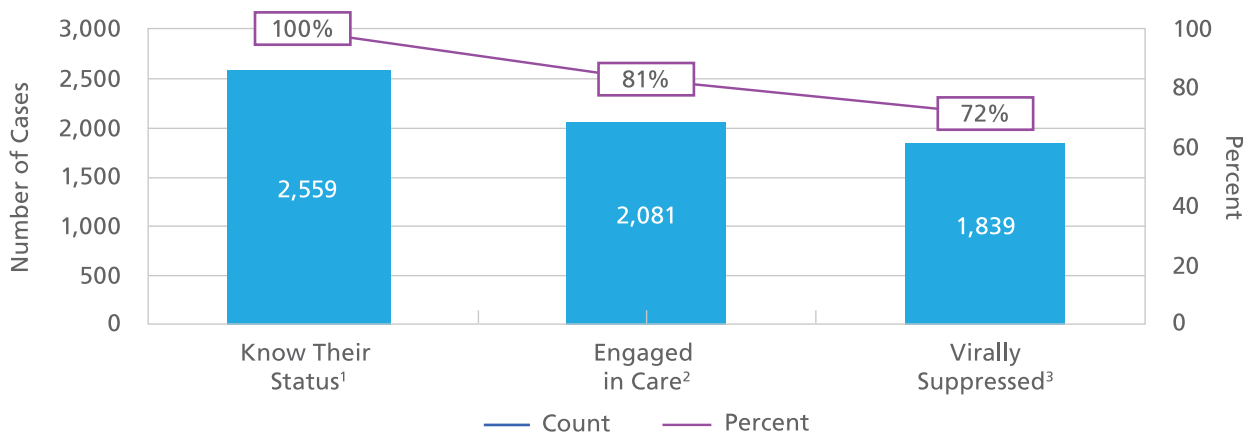
Rhode Island has signed on to the International Association of Providers of AIDS Care (IAPAC) Fast-Track Cities Initiative (a global partnership with local municipalities, the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Human Settlements Program (UN-Habitat), and the City of Paris) to attain the three UNAIDS 90-90-90 targets: 1) 90% of all people living with HIV in Rhode Island will know their HIV status; 2) 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART); and 3) 90% of all people receiving ART will achieve viral suppression.

The Rhode Island HIV Care Continuum is a visual representation of the 90-90-90 care status of individuals diagnosed with HIV and who reside in Rhode Island. As the care continuum below indicates, Rhode Island has made progress on its 90-90-90 goals: 81.3% of Rhode Islanders diagnosed and living with HIV in 2020 were engaged in care and 71.9% achieved viral suppression.

According to CDC, an estimated 1.2 million people aged 13 and older were living with HIV in the United States at the end of 2019. Of those 1.2 million people, an estimated 87% were diagnosed with HIV. Approximately 66% had received HIV medical care and 57% had achieved viral suppression. Rhode Island is currently surpassing these national averages due to its comprehensive approach to re-engagement and retention in care for people living with HIV (PLWH).

**FIGURE 6**

**Rhode Island HIV Care Continuum, Among All Diagnosed with HIV by 2019 and Alive, 2020**



<sup>1</sup> The number of people diagnosed with HIV ("know their status") reflects persons diagnosed through 2019 and alive through the end of 2020 with most recent residence in Rhode Island. Excludes people who we have no information for in more than five years.

<sup>2</sup> As measured by RIDOH receipt of clinical laboratory reports ordered by a healthcare provider that includes a CD4 or HIV viral load count, or a HIV genotype test.

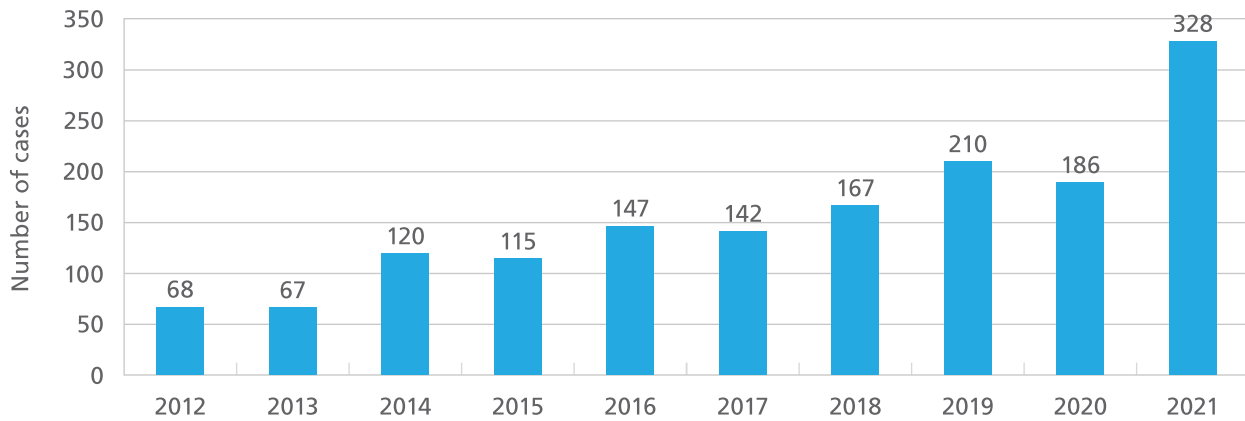
<sup>3</sup> A viral load (VL) test result of < 200 copies/mL represents HIV viral suppression. VL test results are from the most recent test during the specified year (2020).



## 03 | INFECTIOUS SYPHILIS

Syphilis is an infection caused by bacteria that is spread through sexual contact. While syphilis is a treatable disease, people can become re-infected if their partners are not treated. Untreated syphilis can lead to serious long-term health outcomes, including cardiac and neurological problems. Untreated syphilis in pregnant women can result in stillbirths, infant deaths, and babies born with congenital syphilis.

**FIGURE 7**  
**Number of Infectious Syphilis Cases, Rhode Island, 2012-2021**



Source: Rhode Island Department of Health

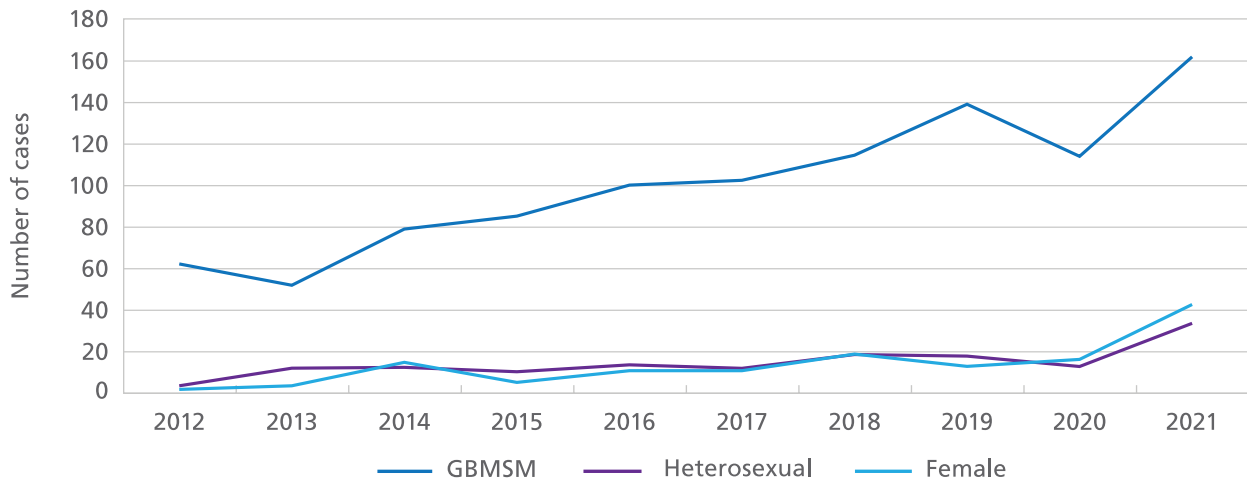
Infectious syphilis is defined as infection within the past year (primary, secondary, or early latent stages), when people are most likely to transmit the infection to others. From 2012-2021, there has been a 382% increase in infectious syphilis cases, from 68 cases in 2012 to 328 cases in 2021. These data represent diagnosed cases based on positive test results and medical history. The decrease in 2020 may represent less testing due factors associated with the COVID-19 pandemic.

### Congenital Syphilis

In the last two years, the Rhode Island Department of Health has received its first reports of congenital syphilis in over 10 years. All cases suspected of meeting the CDC surveillance case definition are thoroughly investigated by a supervising disease intervention specialist, the public health nurse, and the surveillance manager.

**FIGURE 8**

**Number of Infectious Syphilis Cases, by Sex and Sexual Orientation, Rhode Island, 2012-2021**

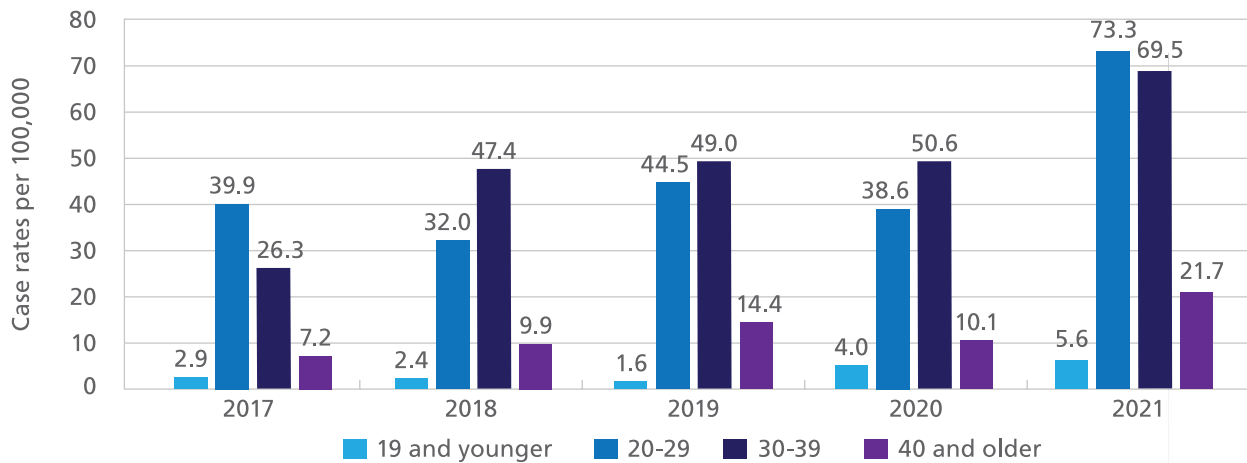


Source: Rhode Island Department of Health

In 2021, while more cases of infectious syphilis were observed among females compared to prior years, males still account for the majority of the reported cases. Gay, bisexual, and other men who have sex with men (GBMSM) are disproportionately affected by infectious syphilis in Rhode Island, a trend that is also observed nationally.

**FIGURE 9**

**Rates of Infectious Syphilis Cases, by Age, Rhode Island, 2017-2021**



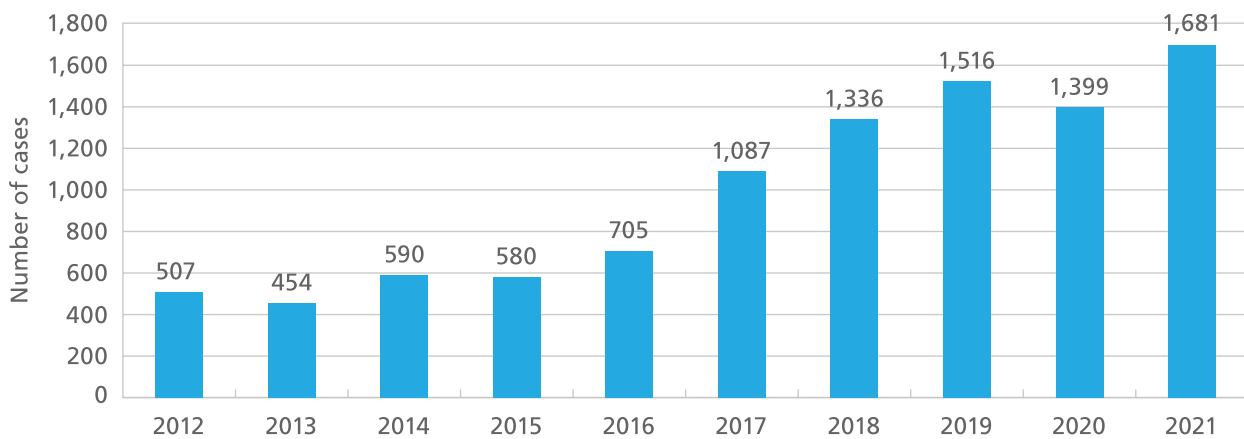
Source: Rhode Island Department of Health

From 2017-2021, people in their 20s and 30s had the highest rates of infectious syphilis in Rhode Island. In 2021, more cases were observed in every age group compared to prior years.

## 04 | GONORRHEA

Gonorrhea is an infection caused by a bacterium that is spread through sexual contact. While gonorrhea is treatable, there are increasing concerns about strains of gonorrhea in the United States that are resistant to standard medications. If left untreated, gonorrhea can have reproductive health consequences for women. Pregnant women can transmit gonorrhea to their newborn babies, resulting in health problems for the child. In men and women, untreated gonorrhea can cause serious and long-lasting health problems, including increased chance of getting HIV, infection in other parts of the body, and infertility.

**FIGURE 10**  
**Number of Gonorrhea Cases, Rhode Island, 2012-2021**

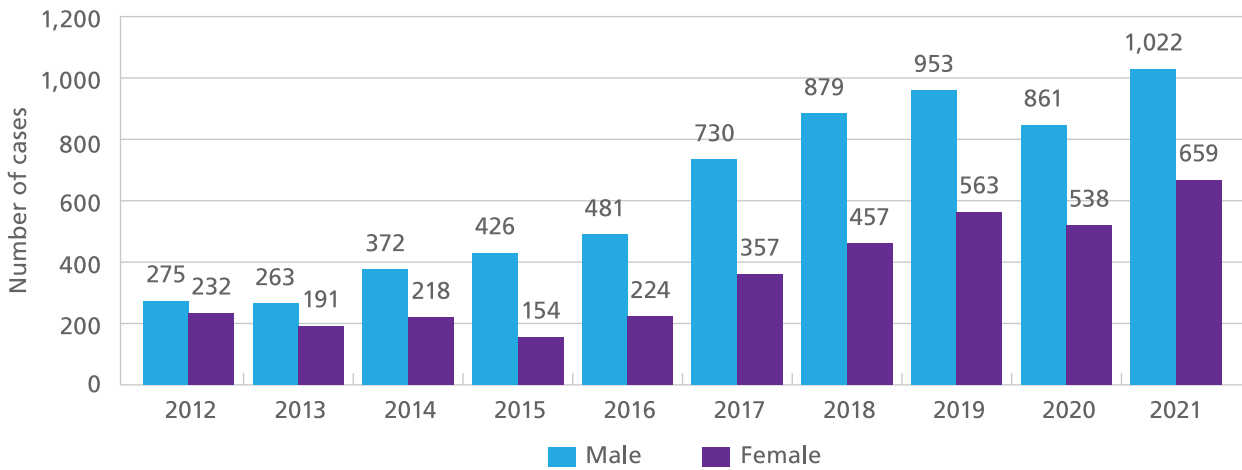


Source: Rhode Island Department of Health

Since 2012, rates of gonorrhea have increased by 232% in Rhode Island. This increase may be partially attributed to increases in extra-genital testing (i.e. testing of the throat and rectum) for gonorrhea by Rhode Island providers in the last ten years. These data represent diagnosed cases based on positive test results. A decrease during 2020 may represent less testing due to restrictions imposed during the COVID-19 pandemic.

**FIGURE 11**

**Number of Gonorrhea Cases, by Sex, Rhode Island, 2012-2021**

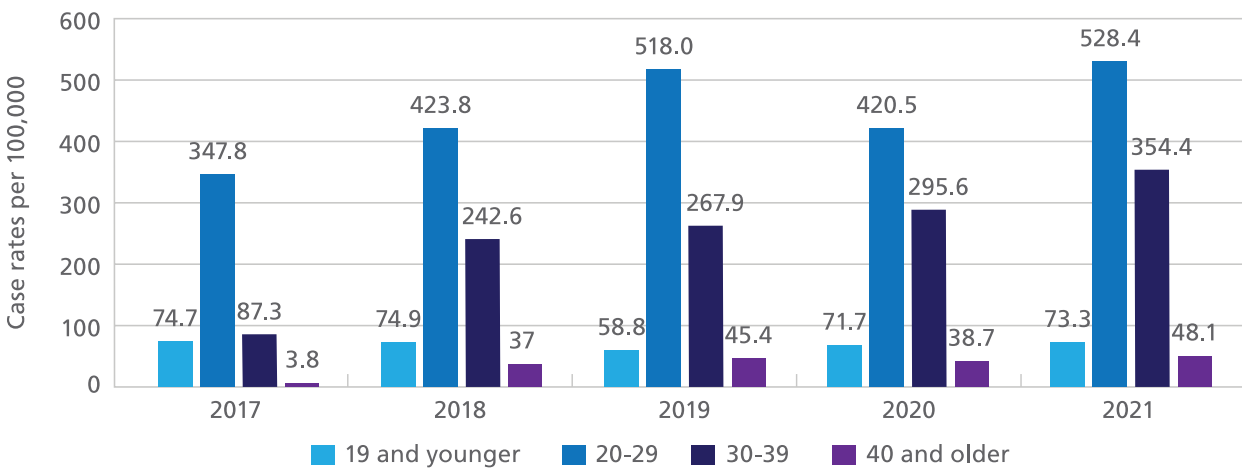


Source: Rhode Island Department of Health

In the last 10 years, more gonorrhea cases have been observed in males than in females.

**FIGURE 12**

**Rates of Gonorrhea Cases, by Age, Rhode Island, 2017-2021**



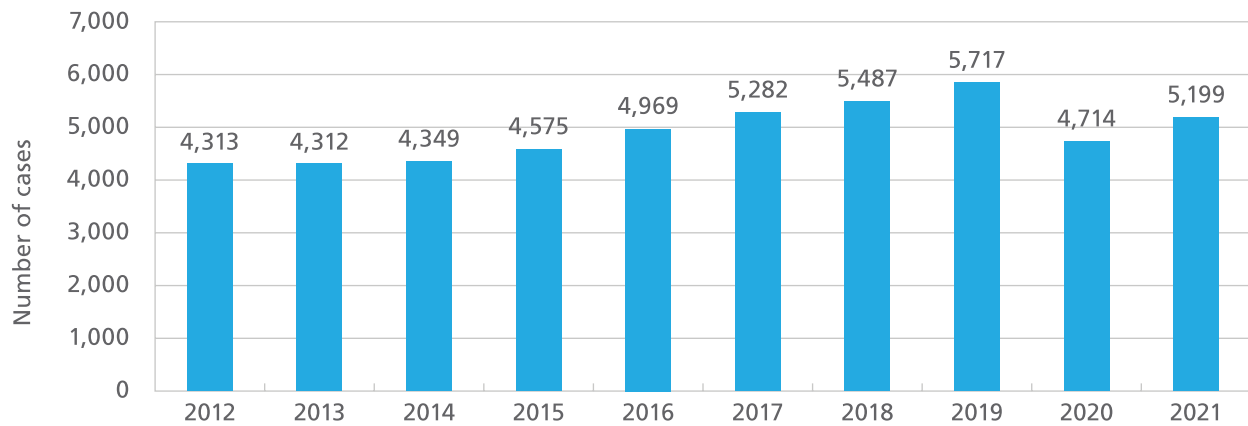
Source: Rhode Island Department of Health

In the last five years, case rates for gonorrhea have been consistently highest among people in their 20s, followed by people in their 30s.

## 05 | CHLAMYDIA

Chlamydia is an infection caused by a bacterium that is spread through sexual contact. While chlamydia is treatable, people can get re-infected if their partners are not treated. In women, untreated chlamydia can cause pelvic inflammatory disease (PID), ectopic pregnancy and infertility. In men, in rare cases, chlamydia can spread to the testicles and epididymis (tubes that carry sperm from the testicles), causing them to become painful and swollen.

**FIGURE 13**  
**Number of Chlamydia Cases, Rhode Island, 2012-2021**

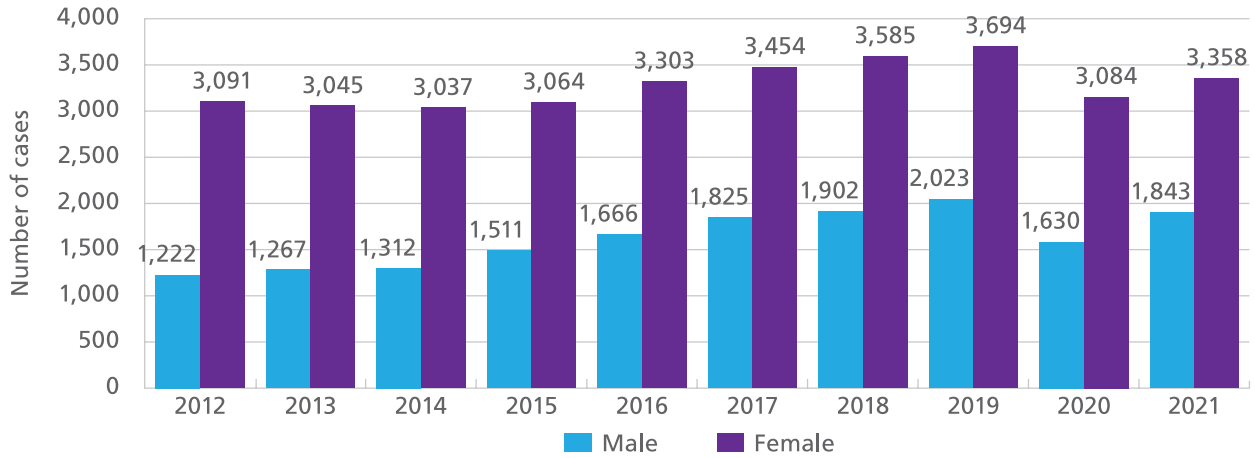


Source: Rhode Island Department of Health

In the last 10 years, the number of chlamydia cases has increased by 14% from 4,146 cases in 2011 to 4,714 cases in 2020. These data represent diagnosed cases based on positive test results. A decrease during 2020 may represent less testing due to restrictions imposed during the COVID-19 pandemic.

**FIGURE 14**

**Number of Chlamydia Cases, by Sex, Rhode Island, 2012-2021**

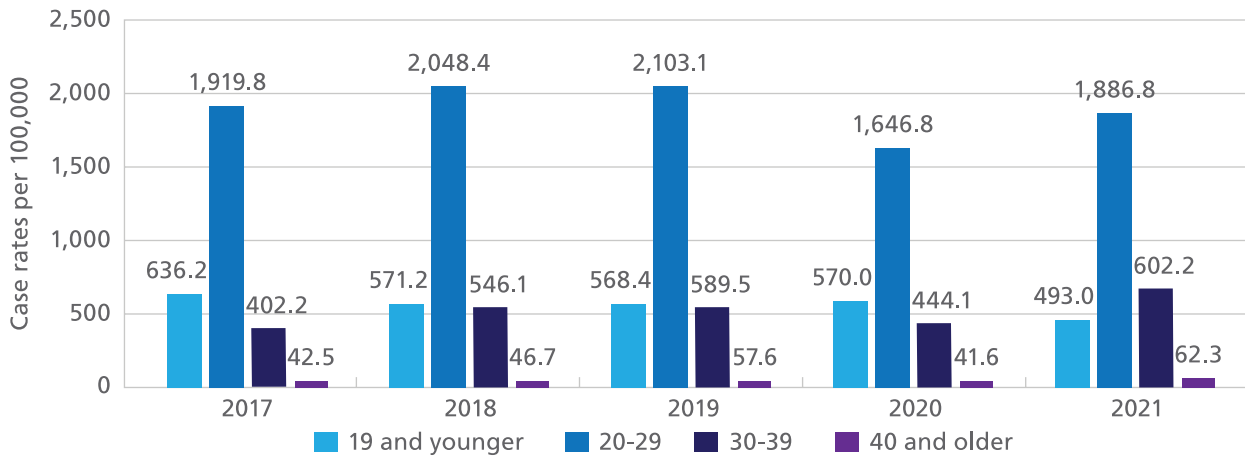


Source: Rhode Island Department of Health

Most chlamydia cases in the last 10 years have been diagnosed in females. In 2021, nearly twice as many cases were diagnosed in females than in males. This difference is likely due to two factors. First, women generally access routine healthcare and subsequent screening more than men. Second, men who have chlamydia often do not have symptoms and do not seek health care for screening and treatment.

**FIGURE 15**

**Rates of Chlamydia Cases, by Age, Rhode Island, 2017-2021**



Source: Rhode Island Department of Health

From 2017-2021, the highest rates of chlamydia were in people in their 20s, followed by people age 30-39 and those age 19 or younger.

## 06 | VIRAL HEPATITIS

The term “hepatitis” refers to inflammation of the liver. When the liver is inflamed, or damaged, its function can be adversely affected. Hepatitis can be caused by heavy alcohol use, toxins, and some medications, as well as several viruses (i.e., viral hepatitis).

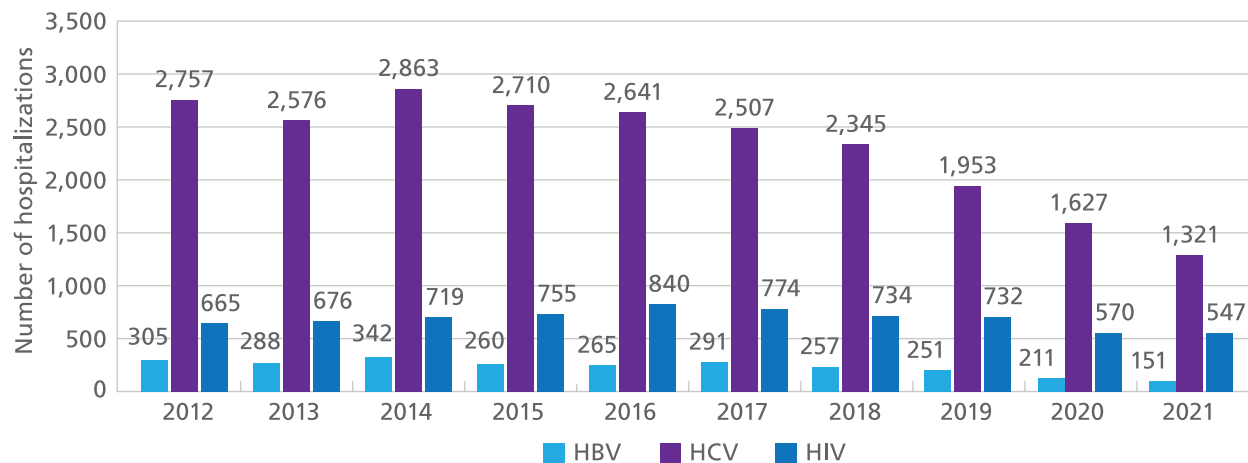
The most common types of viral hepatitis in the United States are hepatitis A, hepatitis B, and hepatitis C. Importantly, Hepatitis C Virus (HCV) is the most common blood-borne infection in the United States. Based on a CDC report released in 2020, it is estimated that 2.4 million persons in the United States are living with HCV.<sup>3</sup> Chronic HCV infection increases the risk for hepatic fibrosis, cirrhosis, and hepatocellular carcinoma and is the most common reason for needing a liver transplant.

An estimated 16,603 to 22,660 people in Rhode Island (approximately 2% of Rhode Islanders) have ever been infected with HCV.<sup>4</sup> Roughly 20% of those infected with HCV will clear their infection without any treatment. The remaining 80% are at risk of developing chronic disease.

The CDC has released universal hepatitis C screening guidelines which include recommendations for all adults aged 18 and older to be screened at least once in their lifetime, and for all pregnant women to be screened during pregnancy. The CDC further recommends one-time screening regardless of age or setting, for people living with HIV, people who inject drugs and/or share needles, people receiving transfusions or transplants, and other populations.

The bars in Figure 16 depict the number of hospitalizations in Rhode Island with any discharge diagnosis of Hepatitis B Virus (HBV), HCV, and HIV. Discharge diagnosis of HCV remained consistently higher than HIV and HBV hospitalizations during the past decade.

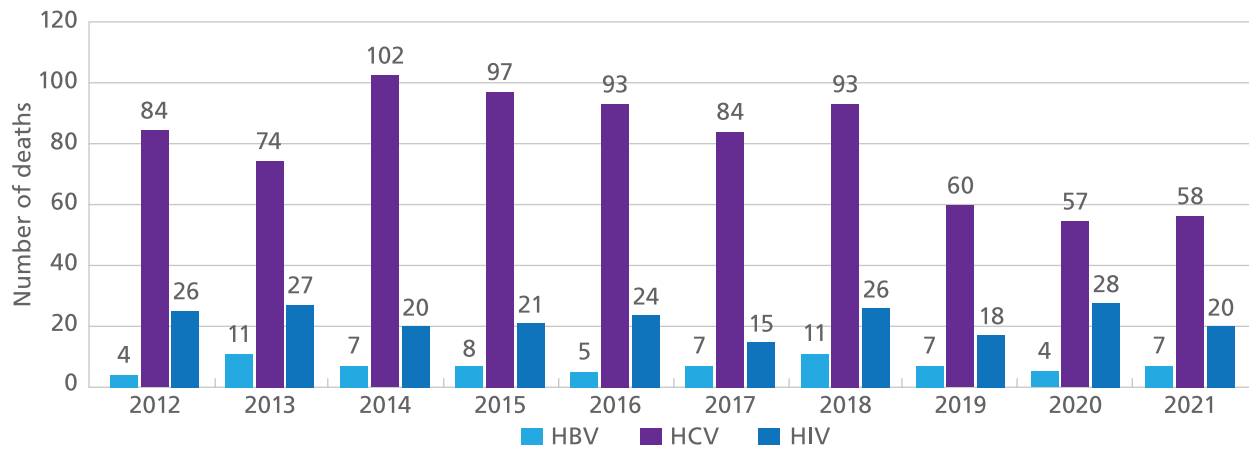
**FIGURE 16**  
**Number of Inpatient Hospitalizations with Any Discharge Diagnosis of HBV, HCV, or HIV, Rhode Island, 2012-2021**



Source: Rhode Island Department of Health

**FIGURE 17**

**Number of Deaths Associated with HBV, HCV, and HIV, Rhode Island, 2012-2021**



Source: Rhode Island Department of Health

In Rhode Island, like national trends, the annual number of deaths attributed to HCV in recent years surpassed the number of deaths attributed to HIV and 59 other nationally notifiable infectious diseases, combined.<sup>5</sup>

In recent years there have been advances in treatment options and improvements in healthcare access for people living with HCV infection. An increase in the availability of direct-acting antiviral (DAA) medication, which are more effective, safer, and better tolerated than previous HCV therapies, have improved cure rates for people living with HCV and reduce the morbidity and mortality associated with HCV.



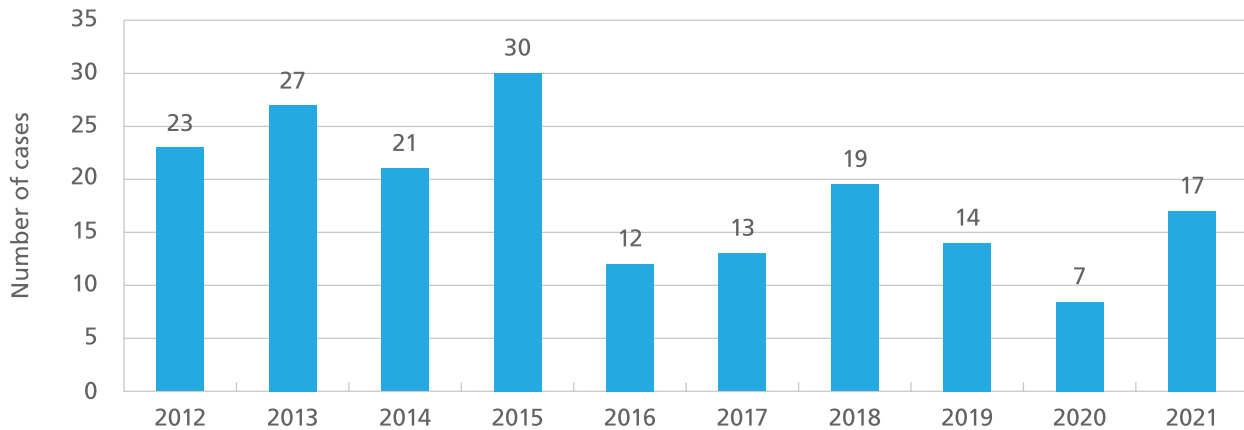
## 07 | TUBERCULOSIS

Tuberculosis (TB) is a disease caused by a bacterium called *Mycobacterium tuberculosis*. TB can be spread from one person to another through the air when speaking or coughing

Active TB can reside within the lungs (pulmonary) or outside the lungs (extrapulmonary). Common symptoms of active TB disease are fever, cough, and weight loss. Diagnosis may involve chest imaging and sputum and/or tissue collection for smear, nucleic acid amplification (NAAT), and/or culture testing. Drug susceptibility testing is often performed to determine the best course of treatment.

Latent TB infection (LTBI) is the presence of *M. tuberculosis* in the body without signs/symptoms and/or radiographic/bacteriologic evidence of TB disease. Approximately 5-10% of infected people will develop TB disease if not treated. HIV infection, injection drug use, low body weight, and other medical conditions are risk factors associated with progression from LTBI to TB disease.

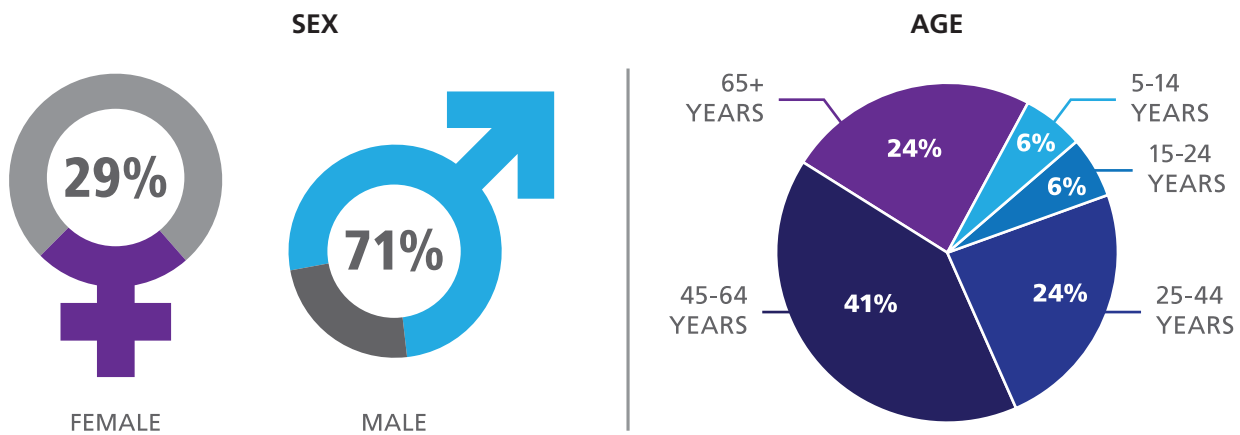
**FIGURE 18**  
**Number of Diagnosed Cases of Active Tuberculosis, Rhode Island, 2012-2021**



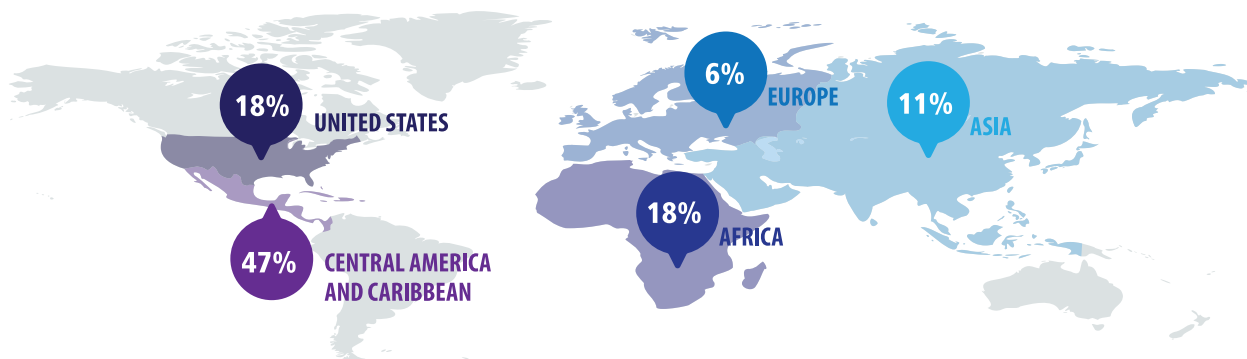
Source: Rhode Island Department of Health

Over the last 10 years, the number of reported cases of active tuberculosis has remained relatively low, ranging from 7 to 30 cases on any annual basis. Over the last five years, the rate of active TB in Rhode Island has remained under 2 cases per 100,000 population.

## Demographic Characteristics of Active Tuberculosis Cases (n=7), 2021



## Country of Birth



## CLINICAL CHARACTERISTICS - 2021

<b>70.5%</b>	Proportion of TB cases with pulmonary disease
<b>35.2%</b>	Proportion of TB cases with a positive sputum smear
<b>70.5%</b>	Proportion of TB cases with a positive culture <i>(note this includes non-sputum culture positives)</i>

## Tuberculosis Drug Resistance

TB resistance can occur when people are infected with a drug resistant strain of TB, receive suboptimal TB medication regimens, or receive incomplete treatment. Multi-drug resistant TB (MDR-TB) and extensively-drug resistant TB (XDR-TB) are rare and more severe kinds of TB that are resistant to first and second-line medications such as fluoroquinolones. It is important to diagnose and treat MDR-TB appropriately to prevent further transmission of drug-resistant disease. There were no cases of MDR-TB in 2021.

**FIGURE 19**

**Demographic Characteristics of Active Tuberculosis Cases, Rhode Island 2012-2021**

<b>Total Number of Cases</b>	183	
<b>Race/Ethnicity</b>		
Non-Hispanic White	27	14.7%
Non-Hispanic Black	38	20.8%
Hispanic or Latino	65	35.5%
Asian	53	29.0%
Am Indian/AK Native	<5	NA
HI Native/Pacific Islander	<5	NA
<b>Sex</b>		
Female	81	44.3%
Male	102	55.7%
<b>County of Residence</b>		
Bristol	5	2.7%
Kent	9	4.9%
Newport	7	3.8%
Providence	157	85.9%
Washington	5	2.7%

<b>Country of Origin</b>		
United States	38	19.1%
Not United States	148	80.9%
<b>Age Group</b>		
0-4	<5	1.6%
5-14	<5	2.2%
15-24	15	8.2%
25-44	54	29.5%
45-64	48	26.2%
65+	59	32.3%
<b>Site of disease</b>		
Pulmonary	112	61.2%
Extra-pulmonary	54	29.5%
Both	17	9.3%
<b>Sputum Smear (+)</b>	62	33.9%
<b>HIV (+)</b>	11	6.0%
<b>MDR-TB</b>	<5	1.6%

Source: Rhode Island Department of Health

**Contact Investigation**

All infectious cases of active disease are interviewed within three days of diagnosis by a RIDOH community nurse health coordinator. The primary objective of patient interview is to elicit contacts who may have been exposed to the patient during the infectious period and who may require testing and/or treatment. Contacts may include household members, workplace colleagues, healthcare workers, transportation contacts (bus driver, Uber, etc.), or others deemed potentially at-risk.

**Latent TB Infection (LTBI)**

In Rhode Island it is estimated that about 15,000-20,000 individuals are living with latent TB infection (LTBI). It is important to identify LTBI cases and promote initiation and completion of treatment to reduce the number of individuals who have LTBI that become active TB cases. LTBI has been reportable in Rhode Island since 2010. LTBI cases prioritized for active follow up and treatment completion include contacts to active cases, and immigrants, refugees, and international parolees.

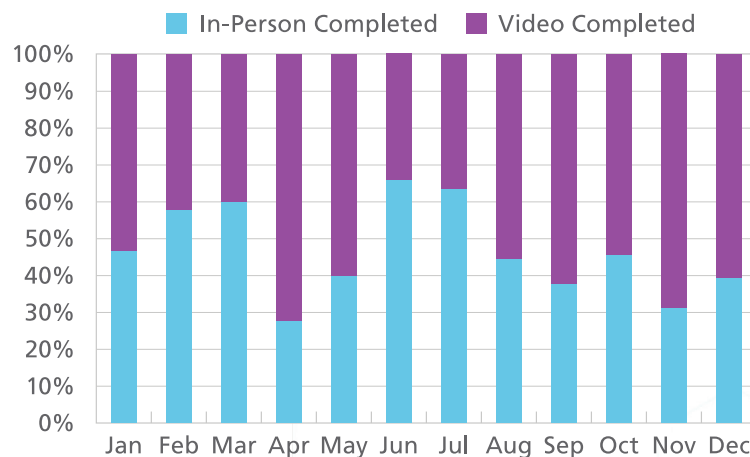
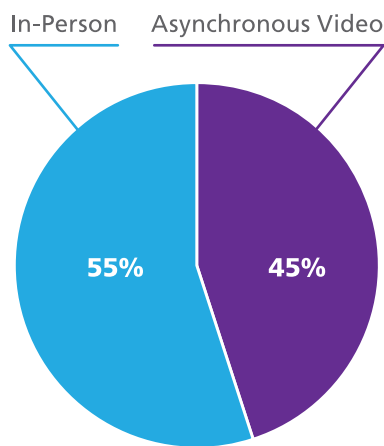
## TB Directly Observed Therapy (DOT) Program

RIDOH has two over-arching priorities to prevent TB transmission in Rhode Island.

1. Treat all active cases to ensure all patients are cured and prevent transmission to others.
2. Assure adherence to therapy, which can take up to 9 months or longer, to prevent the development of antibiotic-resistant strains of TB.

To achieve these goals and assure that patients are adherent to their medications, RIDOH has a program called "universal directly-observed-therapy (DOT)". This program includes RIDOH staff visits to patients' homes and/or internet-based video contact to ensure compliance with medication. Over the last 10 years, the DOT program has had an average medication administration success rate of 98%.

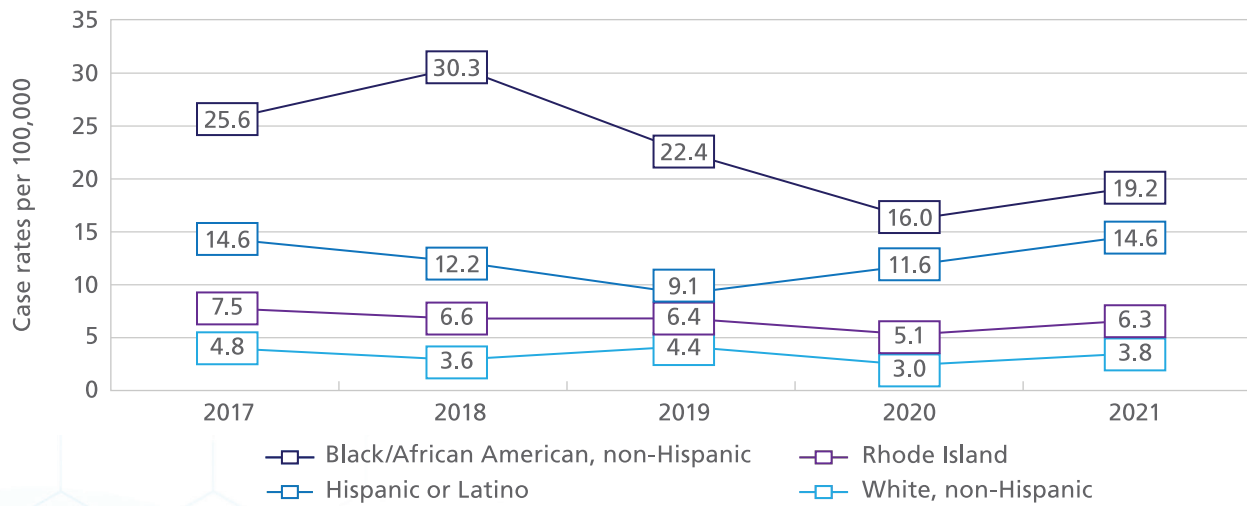
### Method of DOT Administration, 2021



## 08 | RACIAL AND ETHNIC GROUPS

According to the CDC, acknowledging the inequities in STI and HIV rates by race and ethnicity is one of the first steps in reducing these disparities. The factors contributing to these health inequities are complex and can include poverty, income inequality, access to healthcare, and stigma/discrimination. Another contributing factor is that in communities where STI prevalence is higher, individuals face a greater chance of encountering an infected partner than those in lower-prevalence communities.

**FIGURE 21**  
**Rates of Newly Diagnosed Cases of HIV, by Racial and Ethnic Group, Rhode Island, 2017-2021**

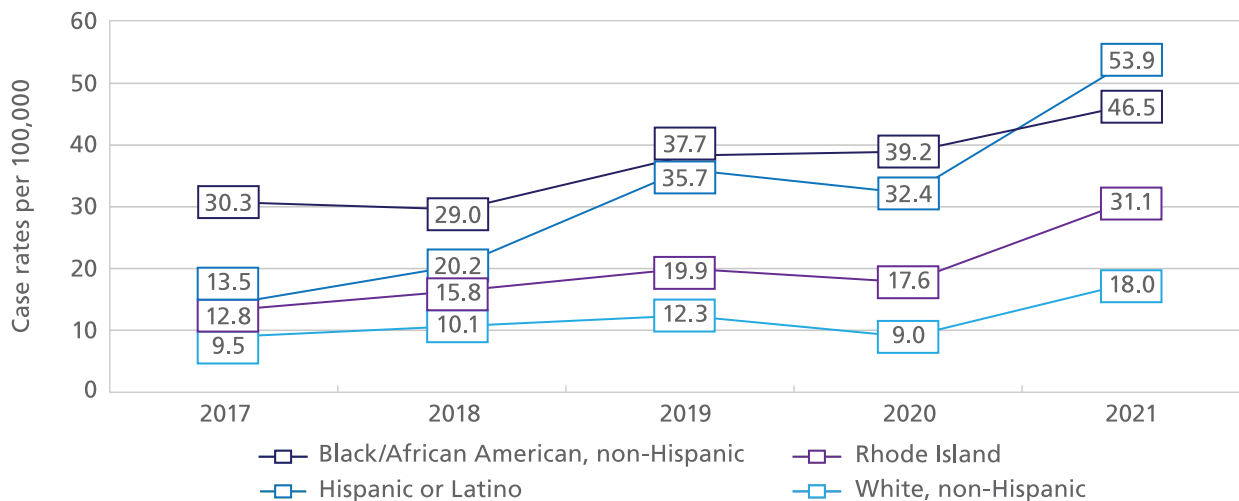


Source: Rhode Island Department of Health

While HIV diagnoses have decreased overall in the last 10 years, disparities in HIV rates among racial and ethnic groups in Rhode Island persist. When compared to the Non-Hispanic White population, in 2021, the rates of HIV were five times higher among the Black/African American population, and over twice as high among the Hispanic/Latino population.

FIGURE 22

Rates of Infectious Syphilis, by Racial and Ethnic Group, Rhode Island, 2017-2021

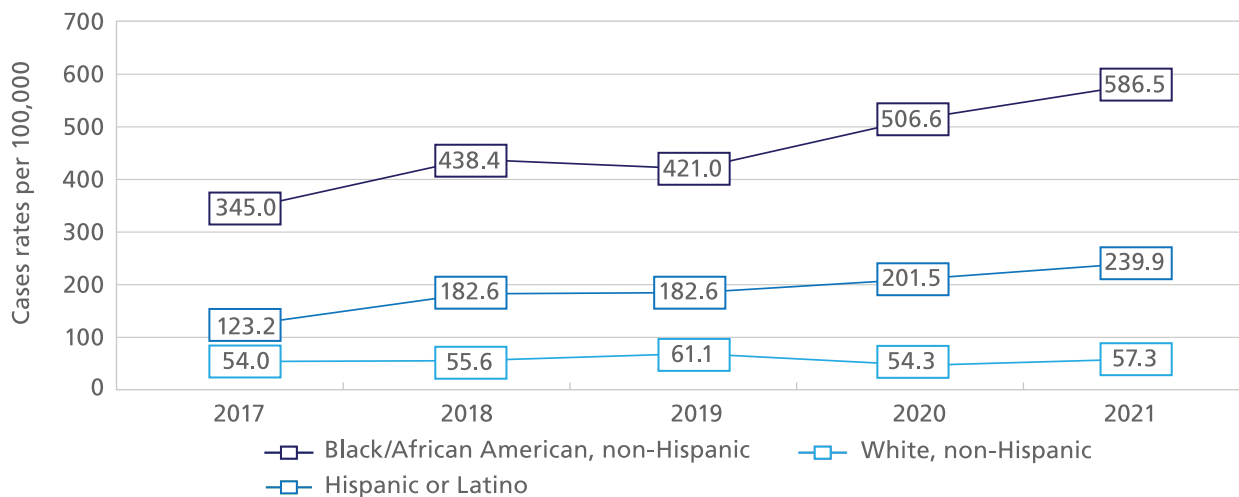


Source: Rhode Island Department of Health

Infectious syphilis diagnoses have increased in the last 10 years and disparities in rates among racial and ethnic groups in Rhode Island have grown. In 2021, the rates of infectious syphilis were highest among the Hispanic/Latino population.

FIGURE 23

Rates of Gonorrhea, by Racial and Ethnic Group, Rhode Island, 2017-2021

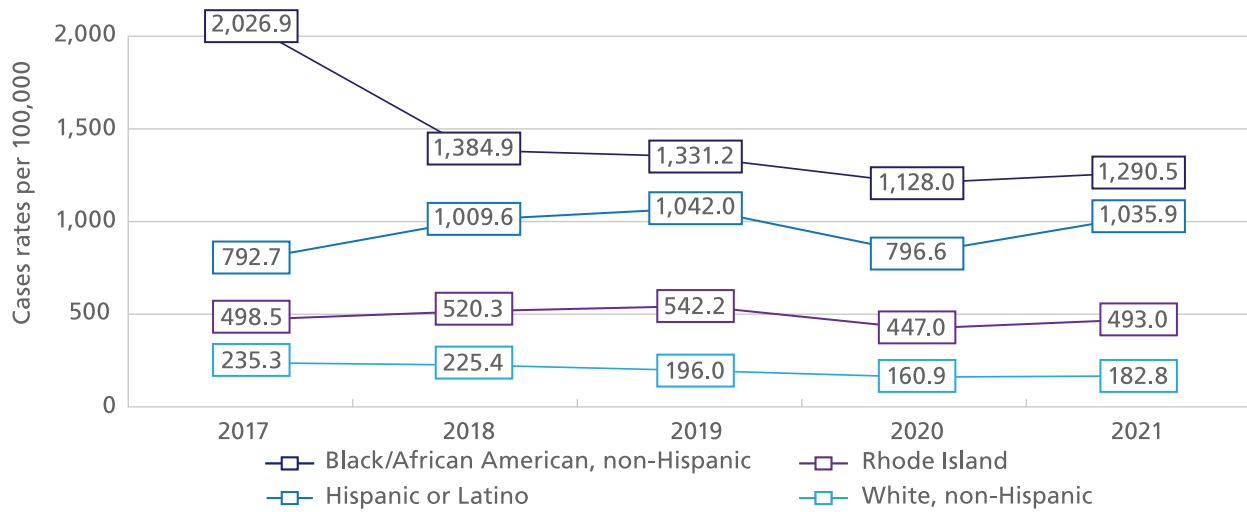


Source: Rhode Island Department of Health

Gonorrhea diagnoses have increased in the last 10 years and disproportionately affect Black/African American and Hispanic populations. In 2021, gonorrhea rates among the Black/African American population were more than ten times higher, and among the Hispanic population more than four times higher, than the rate among the non-Hispanic white population.

FIGURE 24

Rates of Chlamydia, by Racial and Ethnic Group, Rhode Island, 2017-2021



Source: Rhode Island Department of Health

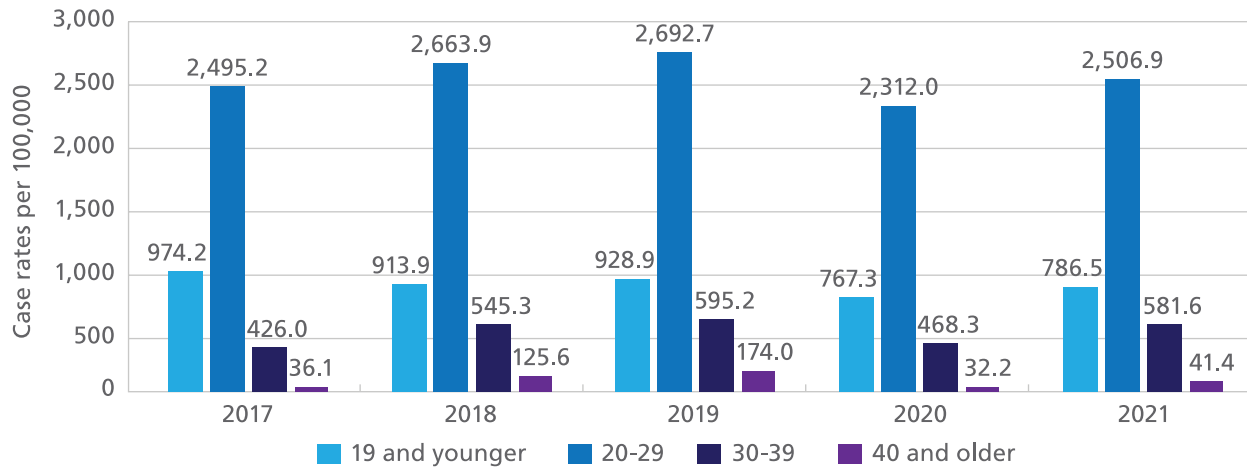
Chlamydia diagnoses have steadily increased in the last 10 years and disproportionately affect Black/African American and Latino communities. In 2021, chlamydia rates were seven times higher among the Black/African American population (B/AA) as compared to the non-Hispanic white population.

## 09 | FEMALES

According to the CDC, in addition to the biological factors that put females at a higher risk of STDs, females may be less likely to negotiate safer sexual practices, such as condom use, than males. These social factors can significantly affect a female's sexual and reproductive health and, subsequently, the health of newborn babies.

**FIGURE 25**

**Rates of Chlamydia in Females, by Age, Rhode Island, 2017-2021**



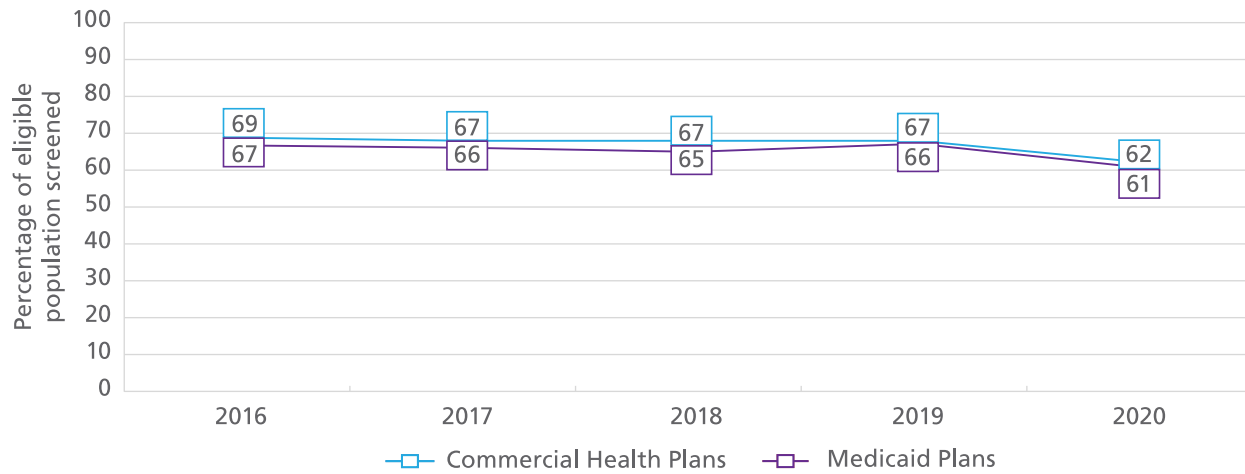
Source: Rhode Island Department of Health

Over the past five years, rates of chlamydia in females have remained highest in the 20-29 age group, followed by the 19 and younger age group. In 2021, the rate of chlamydia among females in their 20s was more than three times higher than any other age group.



**FIGURE 26**

**Screening for Chlamydia in Females Age 16-24, by Insurance Plan, Rhode Island, 2016-2020**



Source: Rhode Island Department of Health

Through the Healthcare Effectiveness and Data Information Set (HEDIS), insurance claim data are used to calculate annual estimates of the percentage of sexually active females, age 16-24, who are screened for chlamydia. The data above for commercial health plans was collected from Blue Cross Blue Shield of Rhode Island, United Health Care, and Neighborhood Health Plan. The data for Medicaid plans was collected from Tufts Health, Neighborhood Health Plan, and United Health Care.

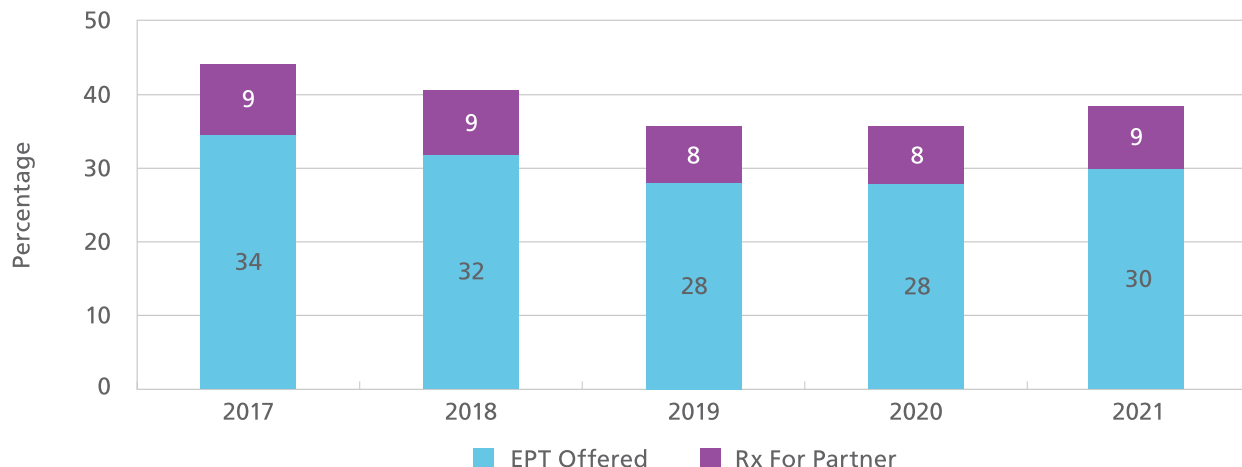
### HIV Risk Factors and Females

Characteristics of the 59 females that were newly diagnosed with HIV in Rhode Island from 2017 to 2021 include:

- Born outside of the United States: 58%
- Injected non-Prescription drugs in their lifetime: 10%
- Sex with someone known to be HIV positive: 16.4%
- Sex with someone who injects drugs: 13%
- Sex while high or intoxicated: 20%
- History of incarceration: 11.5%
- Forced to have sex: 16.4%

**FIGURE 27**

**Expedited Partner Therapy Offered/Accepted for Partners of Cases of Chlamydia, Rhode Island, 2017-2021**



Source: Rhode Island Department of Health  
Offer and acceptance of EPT based on provider report on the RIDOH STD Case Report Form

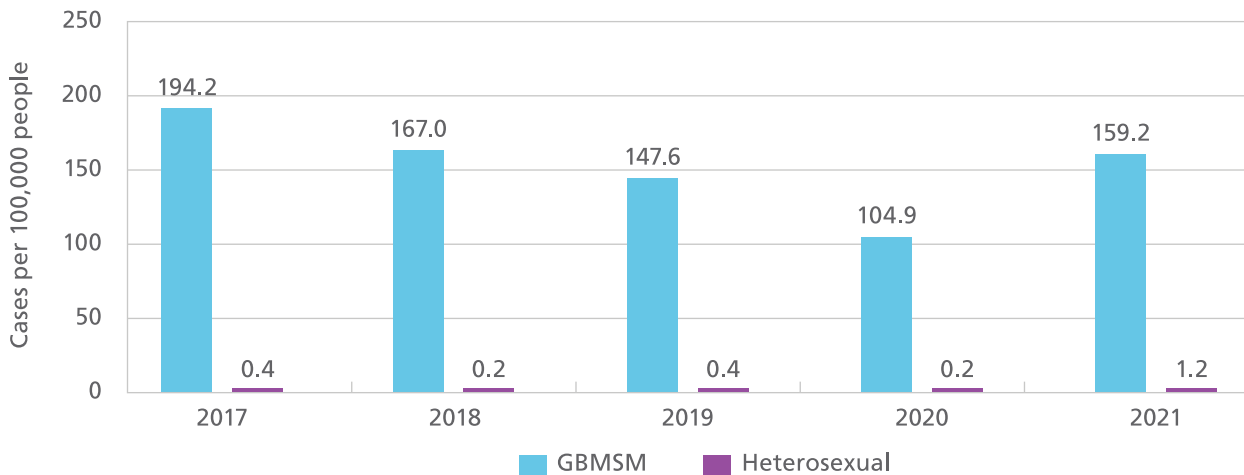
Legislation permitting Expedited Partner Therapy (EPT) was approved in Rhode Island in 2006. This legislation allows physicians to prescribe prescription drugs for a patient's sexual partners without evaluating or testing their patients' partners. CDC recommends EPT as a useful option to facilitate partner management, particularly for treatment of male partners of women with chlamydial infection. Between 2017-2021 an average of 30.4% total chlamydia cases were offered EPT for their partners, and an average of 8.6% total cases accepted the prescription for their partner(s).

## 10 | GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN (GBMSM)

According to the CDC, the relatively high incidence of HIV and STI infection among GBMSM may be related to multiple factors, including individual behaviors and sexual network characteristics.<sup>6,9</sup> The number of lifetime or recent sex partners, rate of partner exchange, and frequency of condomless sex each influence an individual's probability of exposure to STIs.<sup>7</sup> However, GBMSM network characteristics such as high prevalence of STIs, interconnectedness and concurrency of sex partners, and possibly limited access to health care, also affect the risk of acquiring an STI.<sup>8,9</sup> Furthermore, experiences of stigma – verbal harassment, discrimination, or physical assault based on attraction to men – are associated with increased sexual risk behavior among GBMSM.

**FIGURE 28**

**Rates of Newly Diagnosed Cases of HIV in Males, by Mode of Sexual Exposure, Rhode Island, 2017-2021**

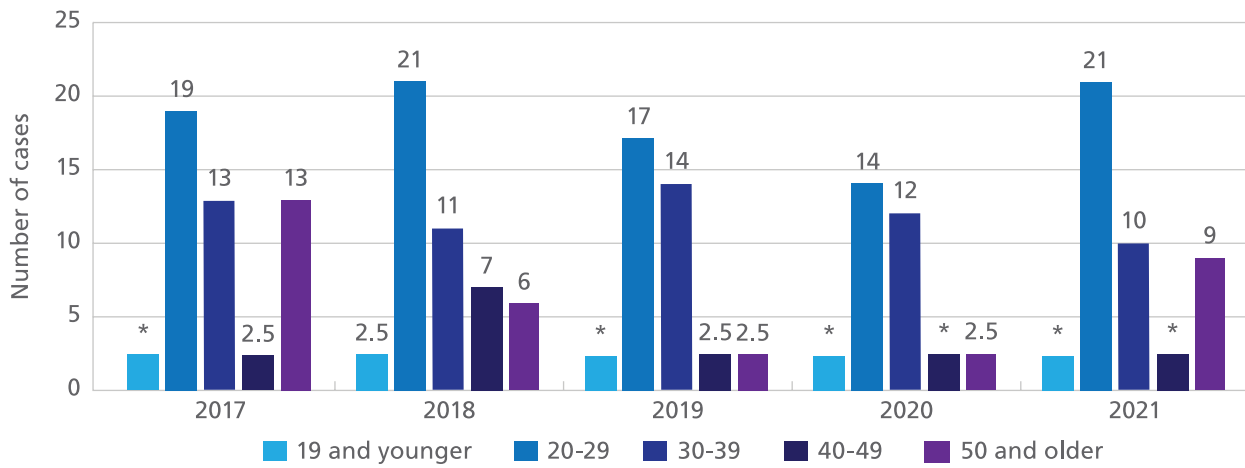


Source: Rhode Island Department of Health

In the last five years, the rates of newly diagnosed cases of HIV among GBMSM have been substantially higher than heterosexual men. In the GBMSM population, the rate of HIV cases in 2021 was 133 times higher compared to the rate of HIV cases among heterosexual men.

**FIGURE 29**

**Newly Diagnosed Cases of HIV in GBMSM, by Age, Rhode Island, 2017-2021**

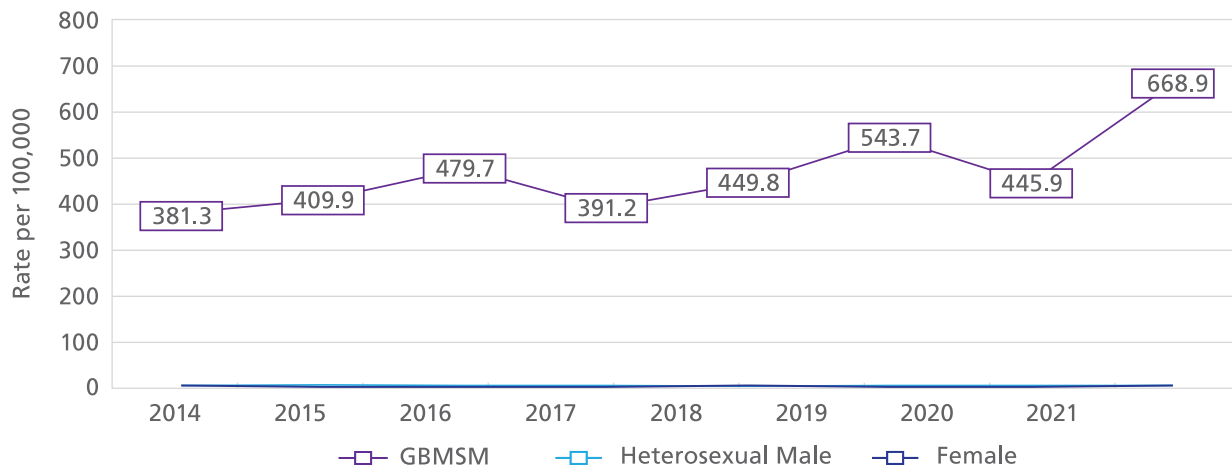


Source: Rhode Island Department of Health

From 2017-2021, there has been an increase in the number of newly diagnosed cases of HIV in GBMSM in their 20s and 30s. Like other areas in the United States, young gay and bisexual Black/African American and Hispanic/Latino men in Rhode Island have been increasingly affected by HIV.

**FIGURE 30**

**Rates of Infectious Syphilis in Males, by Sexual Orientation, Rhode Island, 2014-2021**



Source: Rhode Island Department of Health

Infectious syphilis was diagnosed in the GBMSM population at a rate more than 89 times higher than in the heterosexual male and female populations in 2021. Over the last 10 years this trend has been consistently observed.

**FIGURE 31**

**GBMSM with HIV and Infectious Syphilis, Rhode Island, 2017-2021**

Year	Cases identifying as GBMSM	Self-reported HIV positive	Percent HIV positive in GBMSM
2017	100	24	24.0
2018	115	31	27.0
2019	139	50	36.0
2020	114	62	54.4
2021	171	45	26.3

Source: Rhode Island Department of Health

A substantial percentage of GBMSM diagnosed with infectious syphilis in recent years are also living with HIV. Of the 132 self-identified (by interview) GBMSM who had infectious syphilis in 2021, 33 individuals (25%) reported HIV-positive status. HIV-positive men who are co-infected with infectious syphilis are more likely to spread HIV to their sexual partners than HIV-positive men who do not have infectious syphilis.

# 11 | TRANSGENDER AND GENDER DIVERSE POPULATIONS

## Background

According to the CDC, transgender and gender diverse people often experience high rates of stigma and socioeconomic and structural barriers to care that negatively affect health care usage and increase susceptibility to HIV and sexually transmitted diseases. As defined by the CDC, persons who are transgender have a gender identity that differs from the sex that they were assigned at birth. Transgender and gender diverse people may face the challenges of stigma, discrimination, social rejection, and exclusion, as well as insensitivity to their specific health needs by providers. In addition, trans and gender diverse people of color face systemic racism.

## Case Reporting and Surveillance in Rhode Island

The process for capturing and counting the number of transgender people who are diagnosed with HIV, syphilis, gonorrhea, and chlamydia in Rhode Island is based on case report forms submitted by health care providers. These case report forms include discrete variables for "sex at birth" and current sex which are subsequently entered into the database system. For HIV and STI surveillance and reporting purposes, these variables are used to classify the gender of cases into the following categories: "transgender," "male," "female," or "other." Additional database fields also capture gender diverse populations that include Gender Identity/Transgender Information (with options to select cisgender/FTM/MTF/other) and Sexual Orientation/Preference.

## Reported Cases of Selected Diseases Among Transgender People Rhode Island, 2020-2021

• HIV Less than 5 • Infectious Syphilis 6 • Latent or Unknown Duration Syphilis 7 • Gonorrhea 14 • Chlamydia 24

Between 2020-2021 a total of 51 STI cases were reported as having a current sex different than their birth sex and/or identifying as transgender.

## Key National Facts

- While the estimated overall HIV prevalence for U.S. adults is less than 0.5%, the HIV prevalence among transgender people is 9.2%. Specifically, the HIV prevalence for transgender women is 14.1% and for transgender men it is 3.2%.
- Nationally, HIV diagnoses among transgender adults and adolescents increased 9% in the U.S. from 2015 to 2019.
- In 2019, 46% transgender women and 41% of transgender men who received an HIV diagnosis in the U.S. were Black or African American.

## Gender identity is independent of sexual orientation

Sexual orientation and identities among trans\* people are diverse. People who are trans\* or gender diverse might have sex with cisgender men, cisgender women, or other trans\* and gender diverse people

## 12 | NEWBORNS

Pregnant people who are diagnosed with HIV, syphilis, and hepatitis C can pass these infections to their newborns. While the number of babies born with these infections remains low in Rhode Island, the various health consequences of these infections can be severe. For example, health outcomes of congenital syphilis include premature delivery, development disabilities, blindness, deafness, miscarriage, and stillbirth.

The prevention of mother-to-child transmission of HIV, syphilis, and hepatitis C includes screening and treatment of all people during pregnancy, and as appropriate, screening and treating of newborns. Early enrollment in prenatal care for all pregnant people is critical to ensure proper screening and treatment for both mothers and their newborns.

There are Rhode Island laws that require HIV and syphilis screening be incorporated into routine prenatal care. People who are diagnosed with HIV or syphilis during pregnancy receive medical case management from RIDOH nursing staff to promote healthy outcomes for their newborns.

### **HIV**

In 2021, among the 11,011 births in Rhode Island, 12 infants were born to mothers who were living with HIV. None of these infants were diagnosed with HIV infection. In the past 10 years, there was a combined total of fewer than five babies born with HIV infection in Rhode Island.

### **Congenital Syphilis**

In 2021, among the 11,001 births in Rhode Island, there were less than five infants diagnosed with congenital syphilis. Less than five congenital cases have been reported in Rhode Island over the past 10 years. Nationally, there has been a sharp rise in congenital syphilis. Congenital syphilis cases have more than tripled in recent years in the U.S., with more than 2,000 cases reported in 2020 alone. This is the highest number reported in one year since 1994.

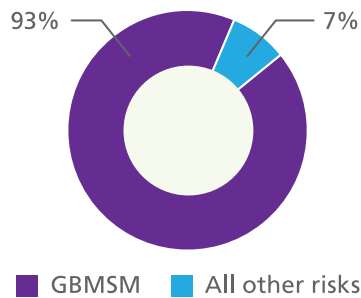
### **Hepatitis C**

According to the CDC, increasing reported incidence of acute and chronic hepatitis C (HCV) infection among persons aged 20-39 years over the past decade affects the number of pregnant women with HCV infection and infants who are exposed to HCV at birth. Based on review of clinical laboratory reports and follow-up with healthcare providers from the perinatal program, in 2021, there were 46 newborns born to HCV-antibody positive mothers in Rhode Island.

## 13 | YOUTH AND YOUNG ADULTS

According to the CDC, prevalence estimates suggest that young people (ages 15–24) account for half of all newly diagnosed STIs and that 25% of sexually active adolescent females have an acquired STI.<sup>11</sup> Compared with older adults, sexually active young people are at higher risk of acquiring STIs due to a combination of behavioral, biological, and cultural reasons. The higher prevalence of STIs among adolescents also may reflect multiple barriers to accessing quality STI prevention services, including inability to pay, lack of transportation, discomfort with facilities and services designed for adults, and concerns about confidentiality.

**FIGURE 32**  
**Percentage of Young Adult (18-24 years) Male Newly Diagnosed Cases of HIV, by Risk, Rhode Island, 2017-2021**



Between 2017-2021, among young adults, there were nine female cases and 54 male cases. Among the 54 young adult male cases, 93% were GBMSM (N=50).

Overall, males outnumbered females in the number of newly diagnosed cases of HIV among young adults (18-24) in Rhode Island by a ratio of 6:1.

Source: Rhode Island Department of Health

**FIGURE 33**  
**Rates of Chlamydia in Young Adults versus Overall Population, Rhode Island, 2017-2021**

Year	Rate Among Young adults ages 15-24 (cases per 100,000)	Rate Among Rhode Island Population (cases per 100,000)
2017	2,333	501
2018	2,259	520
2019	2,296	542
2020	1,901	447
2021	1,963	493

Source: Rhode Island Department of Health

**FIGURE 34**  
**Rates of Gonorrhea in Young Adults versus Overall Population, Rhode Island, 2017-2021**

Year	Rate Among Young adults ages 15-24 (cases per 100,000)	Rate Among Rhode Island Population (cases per 100,000)
2017	305	103
2018	355	127
2019	348	144
2020	338	133
2021	386	157

The incidence of both chlamydia and gonorrhea among people ages 15-24 far exceeded the overall state rate for the last five years.



## Youth Risk Behavior Survey

The Youth Risk Behavior Survey (YRBS) is an anonymous and voluntary, self-administered survey conducted every two years among random samples of high school students in Rhode Island. Its purpose is to monitor risk behaviors related to the major causes of mortality, disease, injury, and social problems among youth in the United States.

**FIGURE 35**

### Sexual Risk Behavior Among High School Students in Rhode Island, 2021

Question	Rhode Island	RI 9th Graders	RI 12th Graders
Ever had sex	27%	13%	46%
Were currently sexually active	21%	8%	36%
Used a condom	57%	54%	50%

Source: CDC Youth Risk Behavior Survey, Rhode Island, 2021

In 2021, Rhode Island 12th graders reported more sexual risk-taking behavior than 9th graders. Twelfth graders are more likely to have ever had sex and be currently sexually active.

**FIGURE 36**

### Sexual Risk Behavior, by Sexual Orientation, Percentage of High School Youth Responding “Yes”

Question	Heterosexual	Gay, Lesbian, Bisexual
Ever had sex	27%	27%
Currently sexually active	20%	20%
Used a condom at last intercourse	63%	57%

Source: CDC Youth Risk Behavior Survey, Rhode Island, 2021

The Rhode Island high school students participating in the 2021 YRBS self-identified as follows:

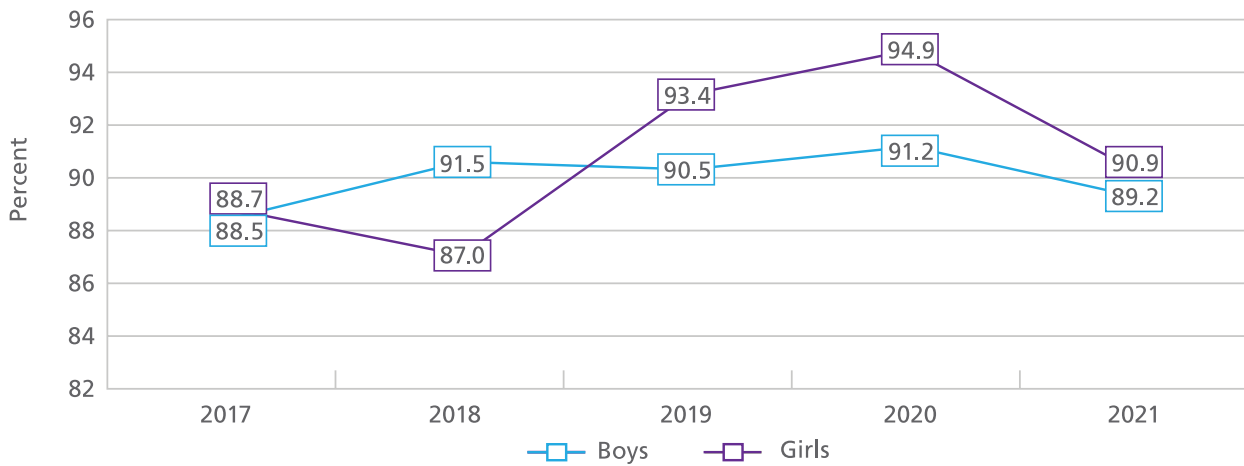
- heterosexual (72%)
- gay or lesbian (4%)
- bisexual (12%)
- not sure (5%)
- other identity (4%)

Gay, lesbian, and bisexual youth generally reported higher sexual activity and risk behaviors than heterosexual youth.

## Human Papilloma Virus (HPV)

FIGURE 37

HPV Vaccination Percentages, Rhode Island, 2017-2021



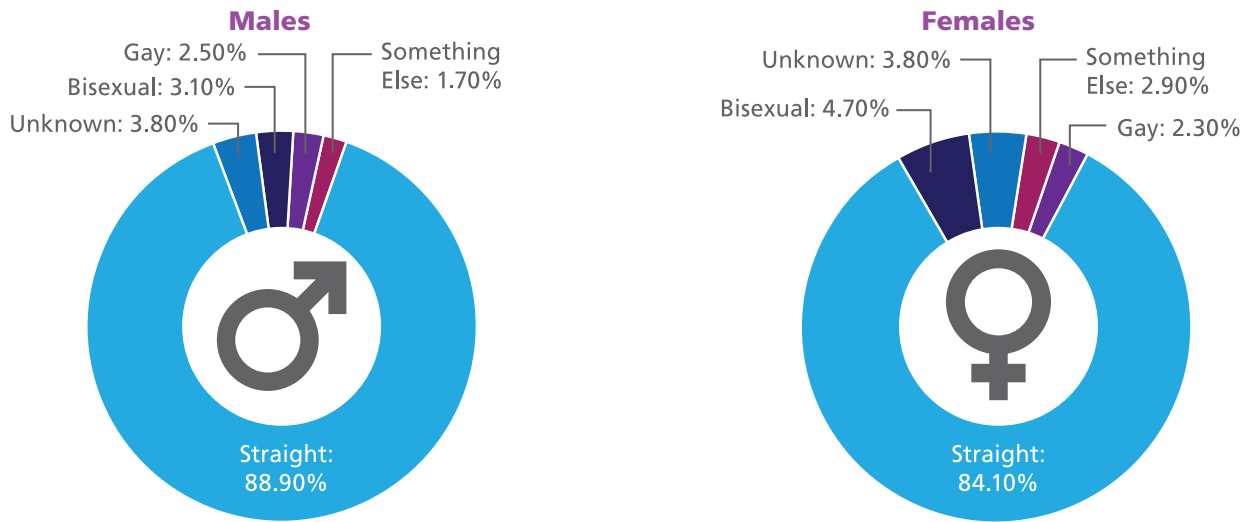
Source: Rhode Island Department of Health

RIDOH began administering human papilloma virus (HPV) vaccine for girls in 2006 and for boys in 2010. In 2020, Rhode Island had the highest coverage rate in the nation for at least one dose of HPV vaccine for both boys (91.2%) and girls (94.9%) ages 13-17. In 2021, the rate among boys was 89.2% and among girls 90.9%. HPV is transmitted through contact with infected skin, usually through sexual contact. HPV vaccine protects individuals from HPV infection, which can cause warts in the genital area and/or lead to abnormal cells on the cervix, vulva, anus, penis, mouth, and throat, sometimes leading to cancer. The vaccine is most effective when given before young people engage in sexual activity.

## 14 | STD BEHAVIORAL RISK FACTORS AMONG ADULTS

There are many behavioral risk factors that place a sexually active individual at risk for acquiring a sexually transmitted infection (STI). These behavioral factors include, but are not limited to, gender of sex partner, condom use, number of sexual partners, alcohol/substance use in combination with sex, and type of sexual practices (oral, vaginal, anal). Trends in STI rates are often associated with changes in these behavioral risk factors. Insights into these behaviors can be obtained through findings from the Rhode Island Behavioral Risk Factor Surveillance System (BRFSS) conducted by RIDOH in collaboration with the CDC. Below are highlights from the most recent survey administered in 2021.

**FIGURE 38**  
**Breakdown of Adult Sexual Orientation, Rhode Island, 2021**



Source: Behavioral Risk Factor Surveillance System, 2021


### Sexual Activity of Adults (18-64) in the Past Year, Rhode Island, 2021

Out of 100 Rhode Islanders in the past 12 months:



## Characteristics of Adults (18-64) with Multiple Sex Partners, Rhode Island, 2021

**50%**   
used a condom at last  
sexual intercourse

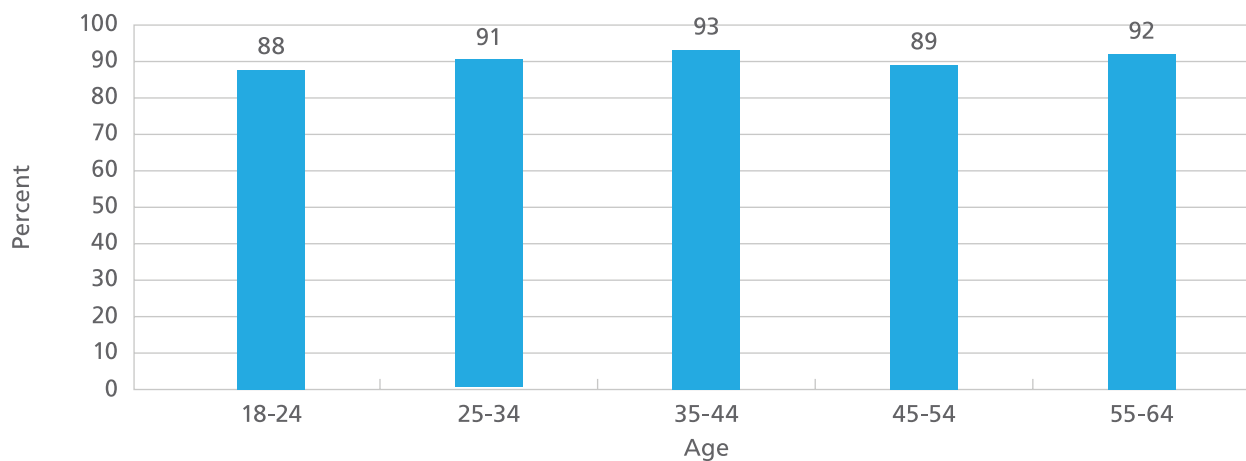
**63%**   
received an  
STI test within the past  
12 months\*

**70%**   
have ever  
received an HIV test

\*This question reads "Have you been tested for a Sexually Transmitted Infection or venereal disease in the past 12 months?"

**FIGURE 39**

### Percentage of People Who Have Had Sex in the Past 12 Months, by Age Group, Rhode Island, 2021



Source: Behavioral Risk Factor Surveillance System, 2021

## 15 | GEOGRAPHIC DISTRIBUTION OF HIV/STIs IN RHODE ISLAND

While cases of HIV and STIs have been reported in every city and town in Rhode Island, higher case counts and concentrations of HIV/STIs are generally found in more urban settings. Below is a ranking of the Rhode Island municipalities that have the highest number of cases of HIV and STIs.

**FIGURE 40**

### Top Five Ranking Municipalities, by Number of Cases of HIV, Rhode Island, 2017-2021

Municipality	Number of cases (2017-2021)	Average rate (cases per 100,000)	Municipality population estimate
Providence	97	10.16	190,934
Cranston	50	12.06	82,934
Pawtucket	43	11.38	75,604
North Providence	22	12.90	34,114
Woonsocket	18	8.33	43,240

Source: Rhode Island Department of Health

**FIGURE 41**

### Top Five Ranking Municipalities, by Number of Cases of Syphilis, Rhode Island, 2017-2021

Municipality	Number of cases (2017-2021)	Average rate (cases per 100,000)	Municipality population estimate
Providence	375	196.4	190,934
Pawtucket	116	153.4	75,604
Cranston	88	106.1	82,934
Woonsocket	65	150.3	43,240
North Providence	48	140.7	34,114

Source: Rhode Island Department of Health

**FIGURE 42****Top Five Ranking Municipalities, by Number of Cases of Gonorrhea, Rhode Island, 2021**

Municipality	Number of cases	Average rate (cases per 100,000)	Municipality population estimate
Providence	773	404.9	190,934
Pawtucket	262	346.5	75,604
Cranston	140	168.8	82,934
Woonsocket	92	212.8	43,240
Central Falls	66	193.5	34,114

Source: Rhode Island Department of Health

**FIGURE 43****Top Five Ranking Municipalities, by Number of Cases of Chlamydia, Rhode Island, 2021**

Municipality	Number of cases	Average rate (cases per 100,000)	Municipality population estimate
Providence	1,927	1,009.2	190,934
Pawtucket	637	842.5	75,604
Cranston	439	529.3	82,934
Woonsocket	307	710.0	43,240
Central Falls	235	1,040.6	22,583

Source: Rhode Island Department of Health

For more information on the distribution of HIV and STDs in Rhode Island or for additional municipality information, please refer to *Appendix 1: Geographic Burden of HIV and STDs in Rhode Island* or contact the Center for HIV, Hepatitis, STI, and TB Epidemiology at 401-222-2577.

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## 16 | GLOSSARY OF TERMS AND DATA SOURCES

**Behavioral Risk Factor Surveillance System (BRFSS):** The BRFSS is a survey of non-institutionalized adults (age 18 years or older) and is administered by telephone to a random-digit-dialed sample of cell phones and landlines. Data from the sample are weighted to obtain state population-level estimates.

**Gay, Bisexual, and Other Men Who Have Sex with Men (GBMSM):** For the purposes of this report, GBMSM includes all men who have sex with men. This classification indicates a sexual behavior that is a risk factor for transmitting HIV and other STIs and not how individuals self-identify in terms of their sexuality.

**Extragenital testing:** Traditional methods of testing for gonorrhea and chlamydia include urine-based, cervical, or vaginal tests. STDs can infect various parts of the body and traditional tests cannot always identify infections in other areas of the body. Depending on sexual behavior, individuals may be infected in the throat or rectum. Swab-based tests of the throat and rectum can identify gonorrhea and chlamydia infections of those sites and allow for proper treatment.

**Expedited Partner Therapy (EPT):** For some chlamydia cases, a doctor may prescribe EPT for the patient's sexual partner(s) when it is unlikely the partner will be tested and treated. The CDC recommends EPT as a useful option to facilitate partner management, particularly for treatment of male partners of women with chlamydial infection.

**Healthcare Effectiveness and Data Information Set (HEDIS):** HEDIS is a dataset managed by the National Committee for Quality Assurance that is used by healthcare plans to monitor performance for certain aspects of healthcare. For STIs, this includes insurance claim data that is used to calculate yearly estimates for the percentage of sexually active females, age 16-24, that are screened for chlamydia. Medicare data from UnitedHealthcare and Neighborhood Health Plan of Rhode Island are used to calculate chlamydia screening estimates for Rhode Island. Commercial health plan data is obtained from Blue Cross & Blue Shield of Rhode Island and UnitedHealthcare. These four plans account for most health insurance providers in Rhode Island.

**HIV/AIDS and STD surveillance data:** All HIV/AIDS and STI data are collected from case and laboratory reports received from healthcare providers, laboratories, and other entities in accordance with the *Rhode Island Rules and Regulations Pertaining to Reporting of Infectious, Environmental and Occupational Diseases [R23-10-DIS]*.

**HPV vaccination data source:** CDC, National Immunization Survey – Teen (NIS-Teen), 2008-2014.

**Infectious syphilis:** Includes primary, secondary, and early latent stages.

**Population-based rate calculations:** Rates are expressed as cases per 100,000 population. All rates for 2013-2017 are based on the 2017 US Census, except rates by municipality which are based on the 2016 American Communities Survey.

**Race/ethnicity:** Surveillance data is routinely collected and analyzed for all racial and ethnic groups, including American Indian/Alaskan Native, Asian, Black/African American, Hispanic or Latino, Native Hawaiian/Pacific Islander, and White. Individuals may be categorized as multi-race or other racial categories. The following conventions were used when reporting racial and ethnic data in this report:

1. Individuals classified as Hispanic or Latino represent individuals who may have also identified as another racial group.
2. Individuals classified as White or Black/African American represent only those individuals who also identified as non-Hispanic.
3. Omission of certain racial/ethnic groups (American Indian/Alaskan Native, Asian, and Native Hawaiian/ Pacific Islander) from this report has been done to protect the privacy and confidentiality of those populations that have small case counts and population sizes. Please contact RIDOH's Center for HIV, Hepatitis, STI, and TB Epidemiology for more information on these populations.

**Transgender women:** (also known as trans women, transfeminine persons, or women of transgender experience) are women who were assigned male sex at birth (born with male anatomy).

**Transgender men:** (also known as trans men, transmasculine persons, or men of transgender experience) are men who were assigned female sex at birth (i.e., born with female anatomy).

**Youth Risk Behavior Survey (YRBS):** A national, school-based survey funded by the CDC and conducted by state, territorial, and local education and health agencies and tribal governments.

## 17 | DATA LIMITATIONS

**BRFSS:** The BRFSS relies on information reported directly by the respondent, which may have a potential for bias.

**Population estimates for GBMSM:** No standard estimate exists for the number of GBMSM that live in the United States or in an individual state. Research by Spencer Lieb et al and results from the BRFSS were used to estimate that 5% of the adult male population in Rhode Island identifies as gay or bisexual.<sup>9</sup> Rates of disease for the GBMSM population were calculated using this estimate and data from the US Census.

**Deaths attributed to HIV, HBV, and HCV:** Vital status for cases of HIV is obtained by matching information from RIDOH's Center for Vital Records, the National Death Index, and the Social Security Death Master File. Matching against national datasets is subject to availability and typically occurs one year after traditional case surveillance data are available. Thus, the most current complete death data available for this report is from 2018. HBV- and HCV-associated deaths in Rhode Island may include non-Rhode Island residents.

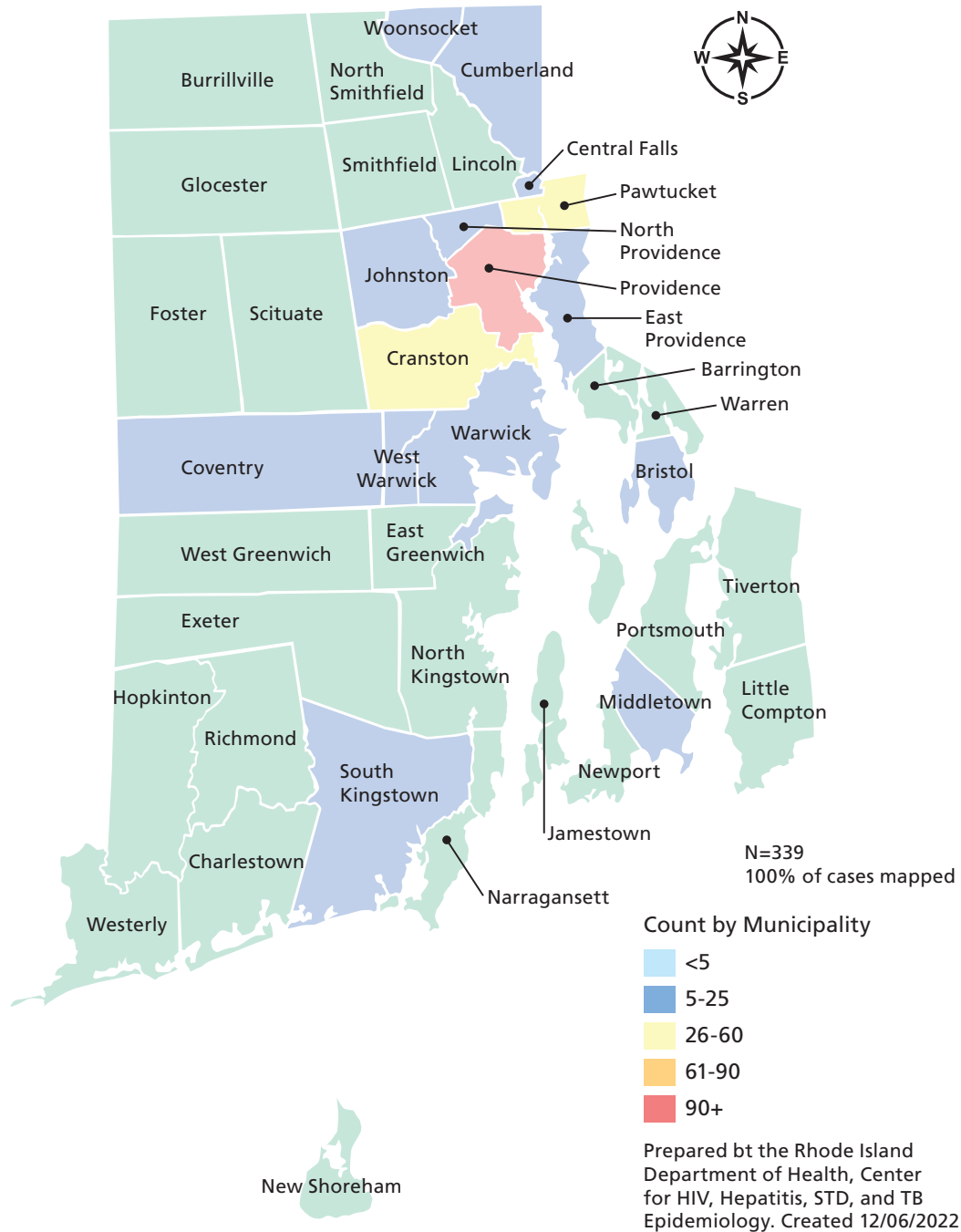
**HIV/AIDS prevalence:** Prevalence estimates are generated using the CDC's CD4 Depletion Model, which is subject to various assumptions about data completeness and accuracy. Estimates are calculated using CDC-supplied SAS code and are based on data supplied to CDC by Rhode Island. Rhode Island's data are based on multiple data sources. Vital status data received by RIDOH, the National Death Index, and Social Security Death Master File are used to identify individuals who are deceased, although these sources are subject to lag. Routine interstate review for duplicates is carried out semi-annually to identify cases who may have been reported in more than one jurisdiction and to ensure individuals are only counted once in the national dataset. Through a combination of duplicate review, ad-hoc record searches, and laboratory results, address information is updated on cases to better reflect current residence information, accounting for interstate and intrastate migration. In 2014, accounting for interstate migration was improved and the prevalence estimates from 2014 on have been updated with the new methodology.

**Newly diagnosed cases of HIV versus incident cases of HIV:** The data presented in this surveillance report represents newly diagnosed cases of HIV and not trends for new infection of HIV. Rhode Island, like all states and US territories, collects and reports data on persons diagnosed with HIV infection. However, because HIV diagnosis can occur at any point after infection, these estimates may not reflect all recent infections. Prevalence estimates are calculated using CDC-provided SAS code to provide estimates that include both those diagnosed as well as undiagnosed with HIV to understand the entire burden of HIV on the state.



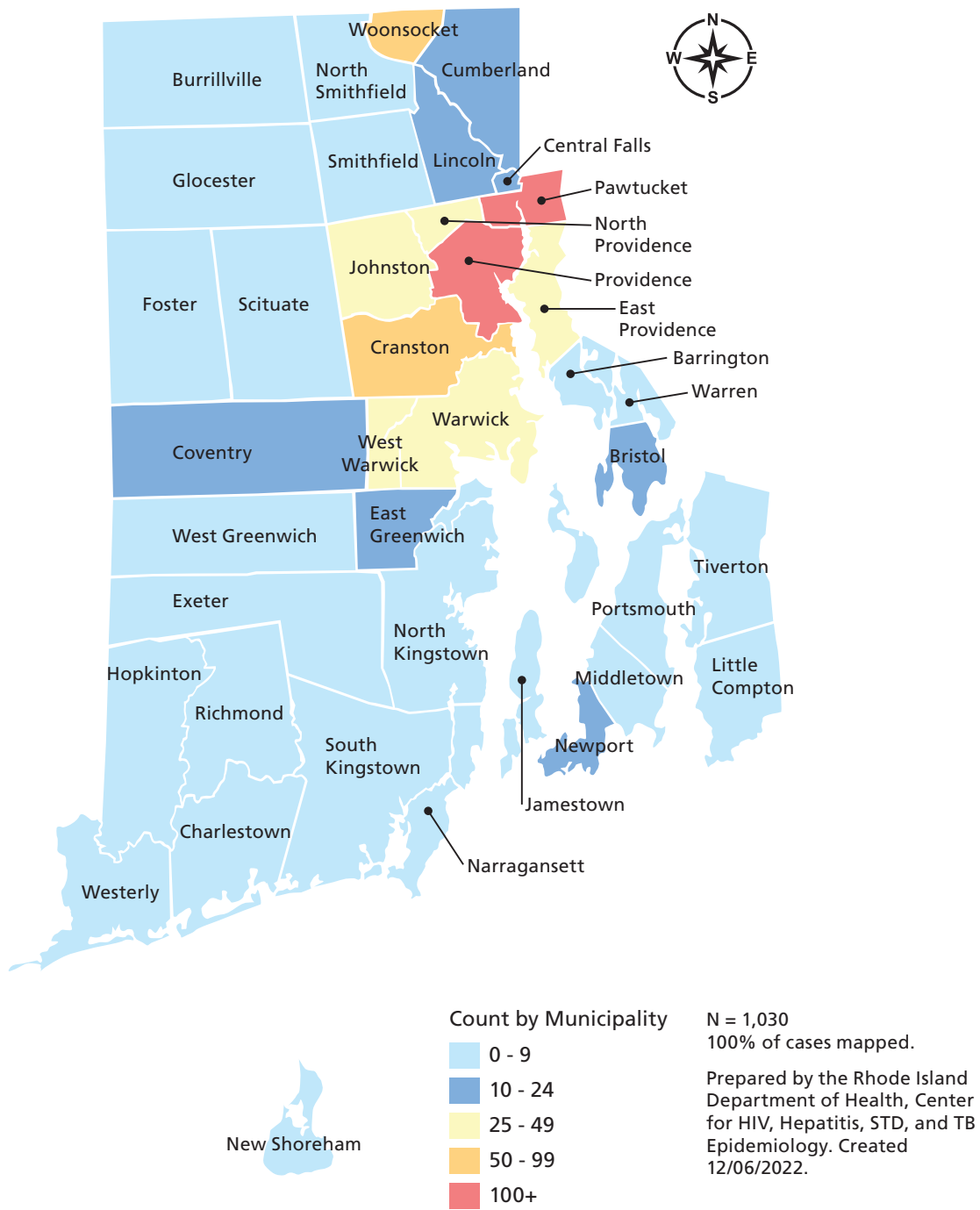
# 18 | APPENDIX

Newly-Diagnosed Cases of HIV, by Municipality, Rhode Island 2017-2021



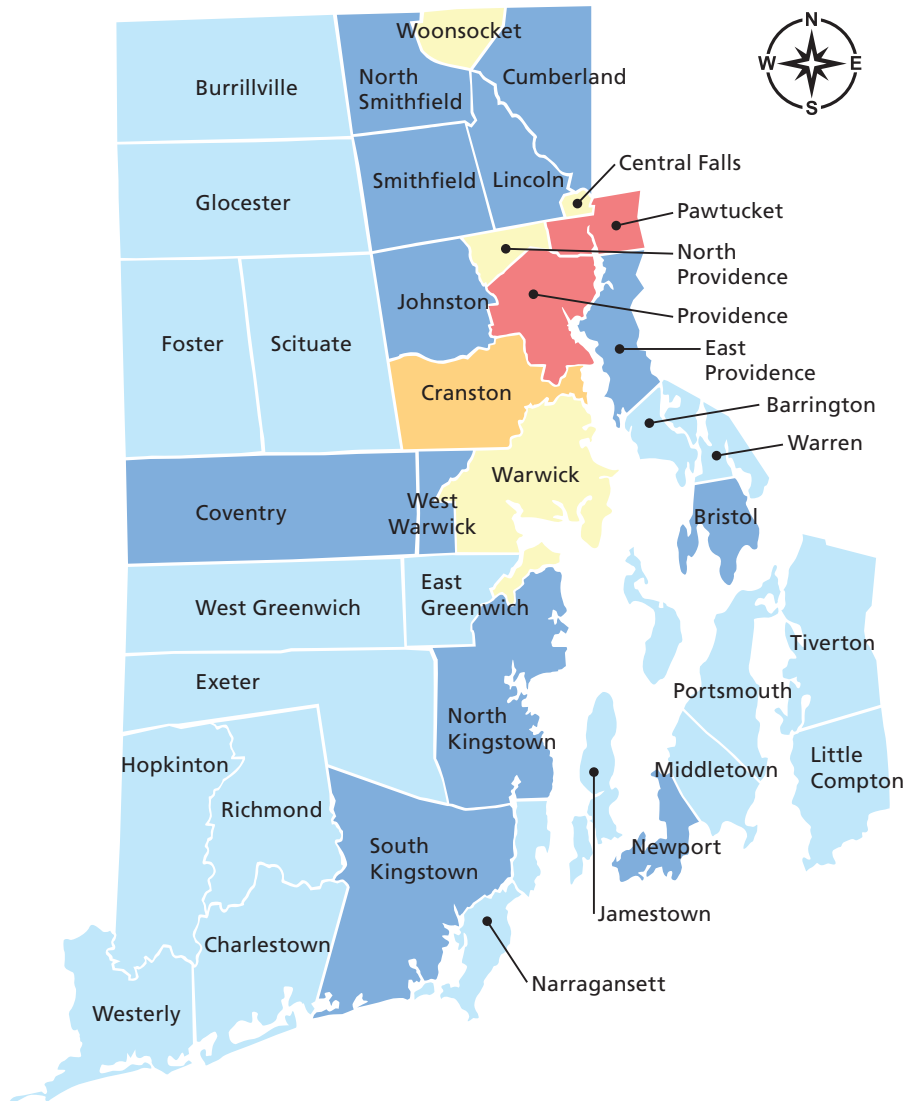
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## Reported Cases of Infectious Syphilis, by Municipality, Rhode Island, 2017-2021

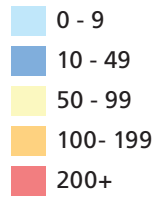


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## Reported Cases of Gonorrhea, by Municipality, Rhode Island, 2021



### Count by Municipality

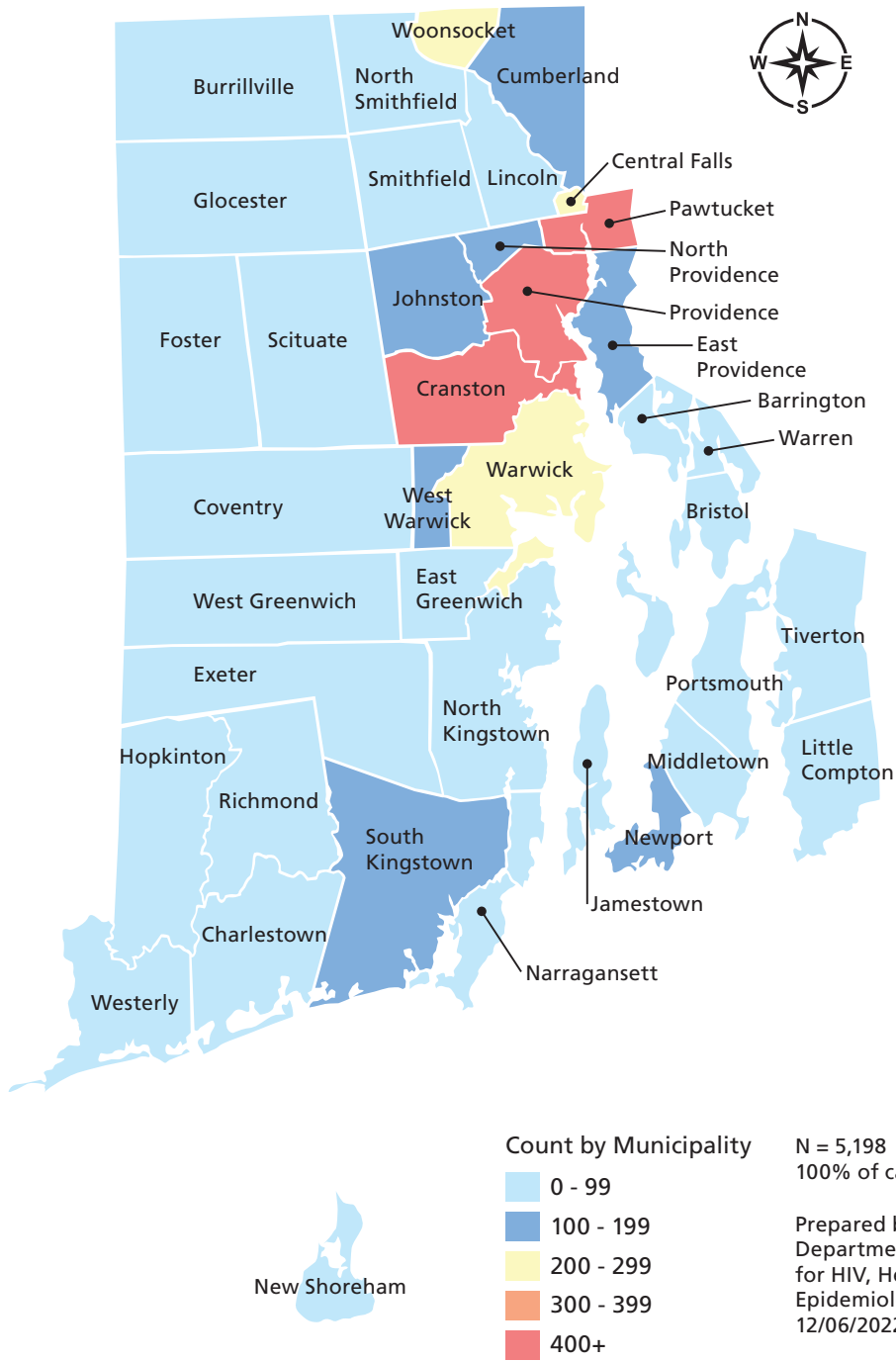


N = 1,681  
100% of cases mapped.

Prepared by the Rhode Island Department of Health, Center for HIV, Hepatitis, STD, and TB Epidemiology. Created 12/06/2022.

Map shown is not to scale or positional accuracy

## Reported Cases of Chlamydia, by Municipality, Rhode Island, 2021



Map shown is not to scale or positional accuracy

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This publication was supported by Cooperative Agreement Number, 1NU62PS924548-02, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.



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