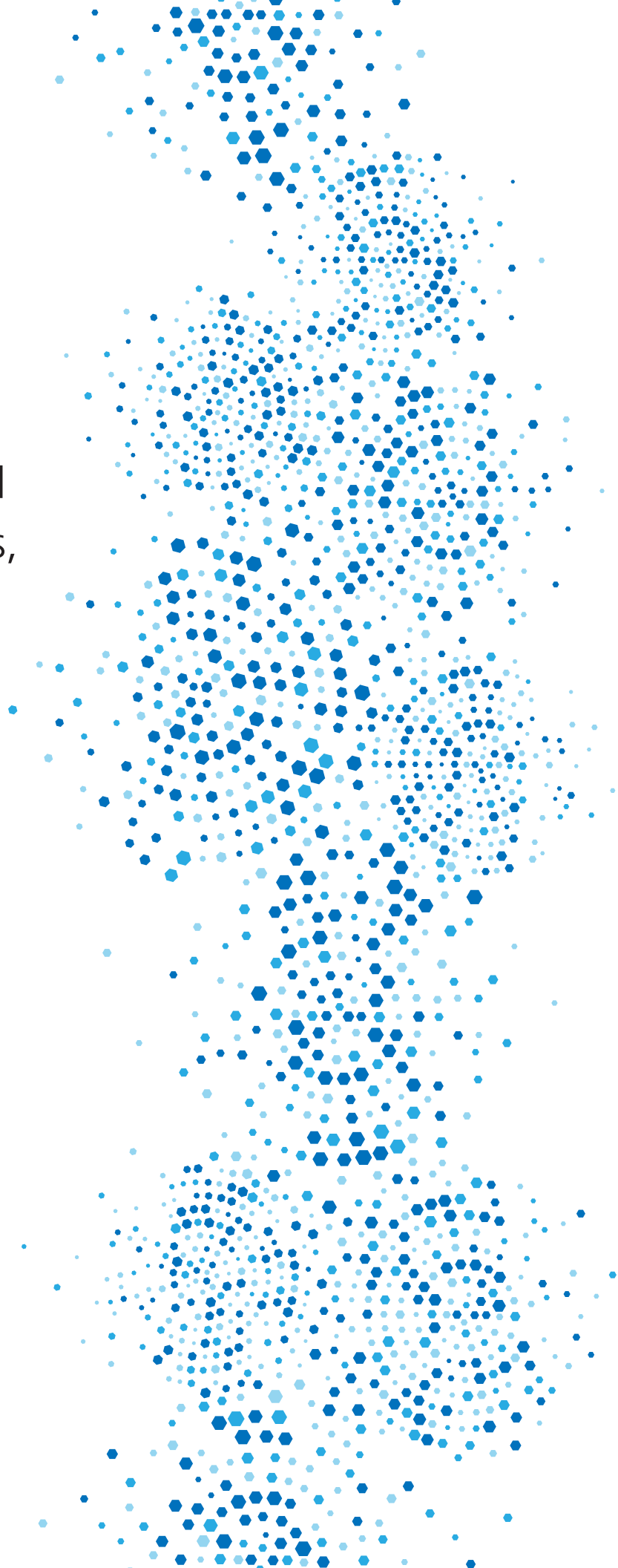




RHODE ISLAND

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

2022



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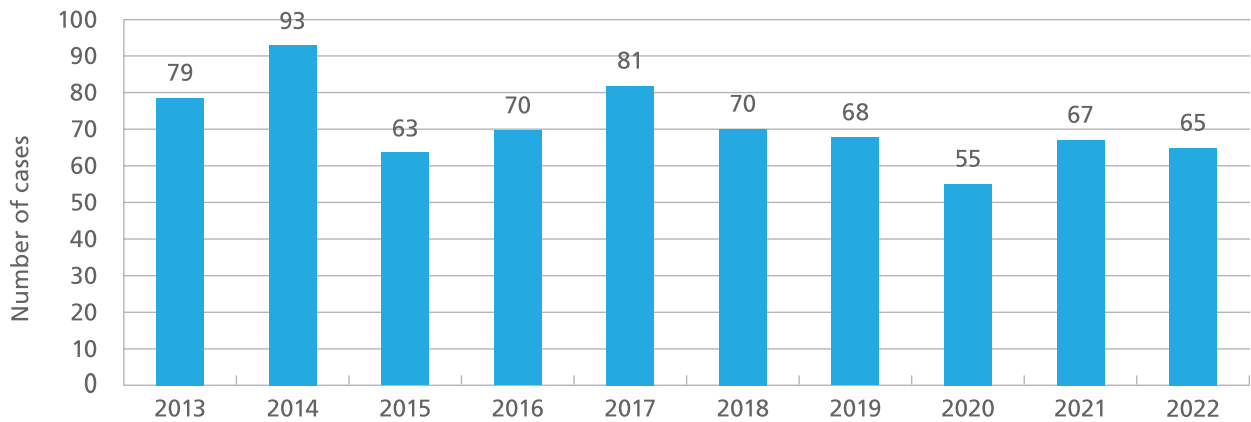
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01 | HIV/AIDS

The human immunodeficiency virus (HIV) is a pathogen that can be spread through sexual contact, needle sharing, and to a 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 potentially lead to serious illnesses and death.

FIGURE 1
Number of Newly Diagnosed Cases of HIV, Rhode Island, 2013-2022



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. After the dip in 2020 due to the COVID-19 pandemic, annual HIV case counts in 2021 and 2022 have been comparable to pre-pandemic levels.

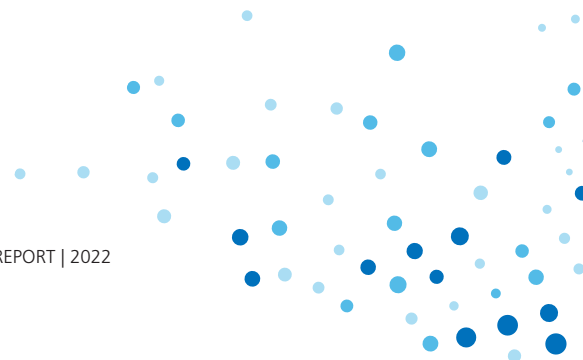
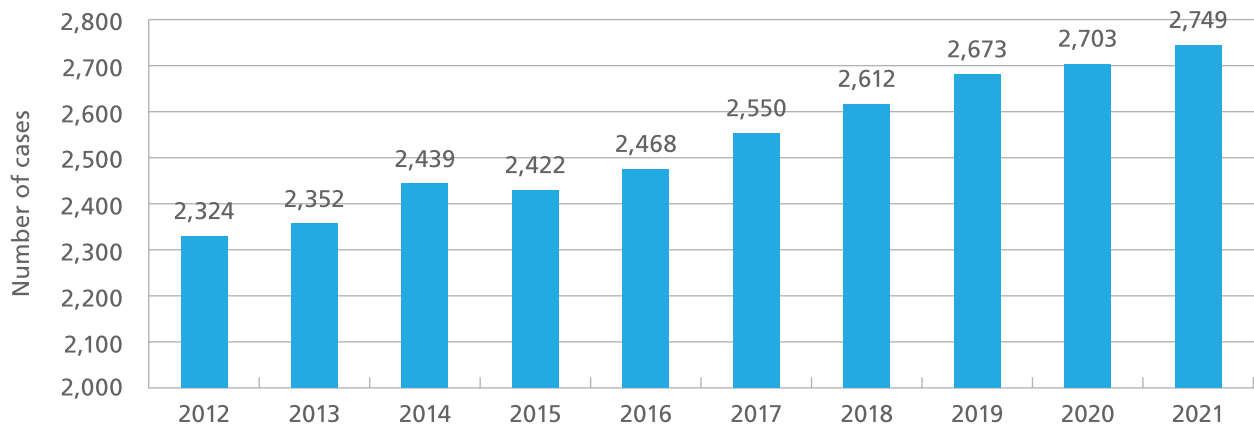


FIGURE 2

Estimated Number of Persons Diagnosed and Living with HIV, Rhode Island, 2012-2021



Source: Rhode Island Department of Health

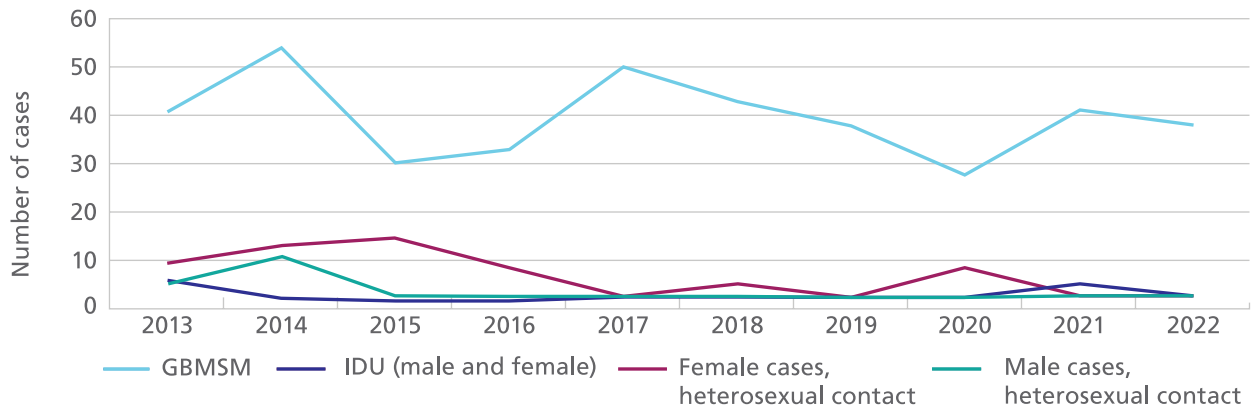
There were 2,749 Rhode Islanders diagnosed with HIV through 2020 and alive through the end of 2021, the most recent year with death data used for this analysis. It is also estimated that about 13% of individuals who are HIV-infected do not know their status¹, indicating that the numbers above are an underestimate of all Rhode Islanders living with HIV. 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 Rhode Island.

HIV/AIDS Deaths

Between 1983 and 2022, a total of 2,014 deaths have occurred among Rhode Island residents diagnosed with HIV/AIDS. However, only 185 (9.2%) of those deaths occurred from 2018-2022, and deaths decreased annually in this five-year period. Between 2010 and 2017, the national age-adjusted rate of HIV-related deaths fell by nearly half.¹ 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, 2013-2022



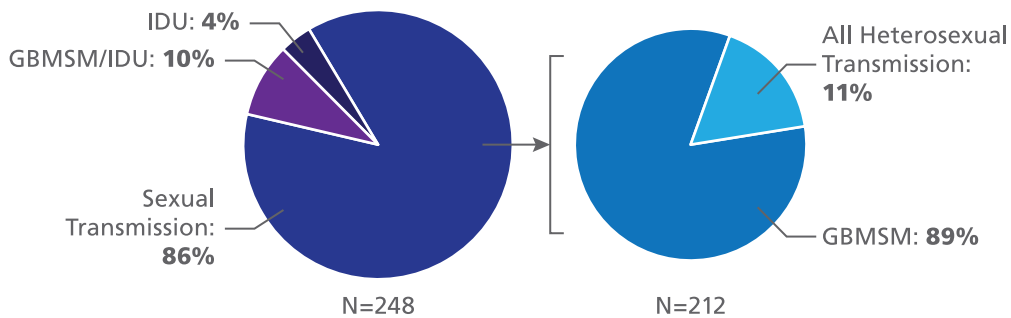
Source: Rhode Island Department of Health

People of unknown or unreported sexual orientation and cases where mode of exposure could not be determined are not included in this figure.

In the last 10 years, among people with known mode of exposure, 64% 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 people who inject drugs, has remained low. In 2022, there were almost five 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, 2018-2022



Source: Rhode Island Department of Health

Note: Between 2018-2022, there were 38 cases of newly diagnosed HIV for which a risk could not be determined.

From 2018-2022, the predominant mode of HIV exposure among newly diagnosed HIV cases was sexual contact (86%), followed by GBMSM/IDU (10%) and IDU (4%). GBMSM represent the majority (89%) of individuals among those with sexual contact as mode of exposure. During this time, there were fewer than five documented mother-to-child transmissions of HIV. Of note, from 2018-2022, there were two cases of mother-to-child transmission.

Intravenous Drug Use

HIV infection associated with intravenous drug use (IDU) has decreased substantially in the last 20 years. In 2022, 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 AIDS Care Ocean State's ENCORE (Education, Needle Exchange, Counseling, Outreach and Referral) Program that has been operating with Rhode Island Department of Health funding since 1995 and other harm reduction initiatives introduced in recent years.

Source: Rhode Island Department of Health

HIV Cluster Detection and Response

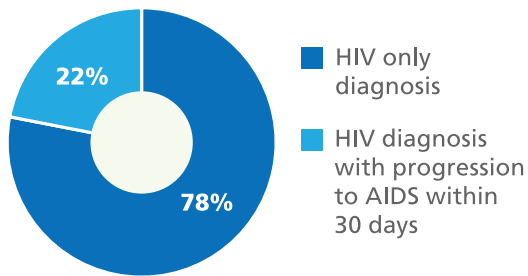
In collaboration with the Centers for Disease Control and Prevention and Brown University, RIDOH has been using molecular methods to identify possible emerging HIV transmission networks in order to reduce the spread of HIV in the state. The tools involve determining genomic similarity among the various 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 PMID: 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, 2018-2022

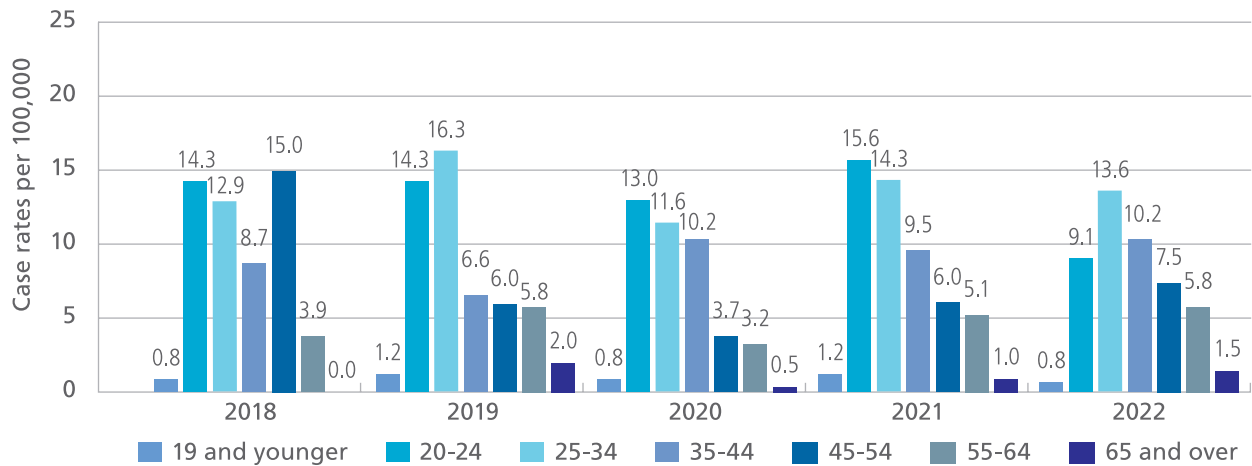


From 2018-2022, about 22% of individuals newly diagnosed with HIV in Rhode Island also had a concurrent HIV stage 3 (AIDS) diagnosis. The average time from untreated HIV infection to development of stage 3 infection is eight years. During this time, undiagnosed people living with HIV can benefit from treatment that would improve their health and reduce the 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, 2018-2022



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, 30s, and 40s. Rates among individuals ages 20-24 and 25-34 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 achieve the three UNAIDS 90-90-90 targets:

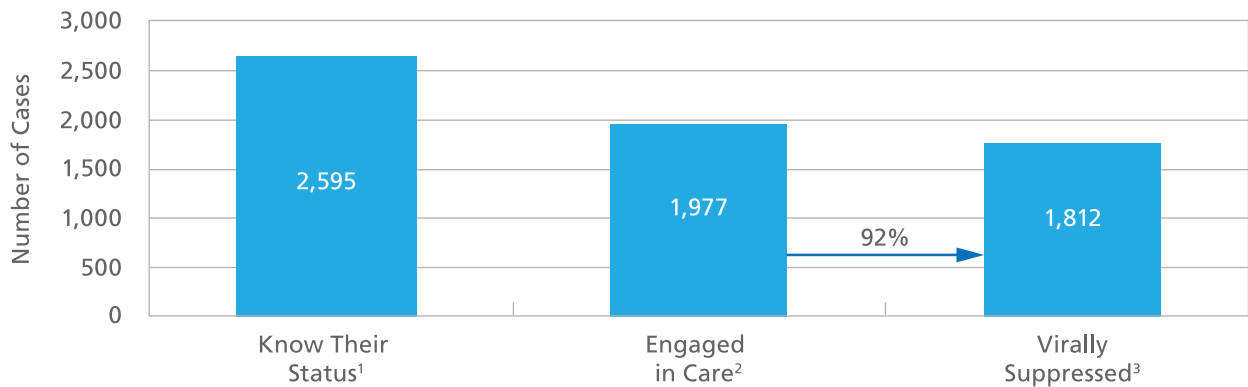
- 1.) 90% of all people living with HIV in Rhode Island will know their HIV status;
- 2.) 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART); and
- 3.) 90% of all people receiving ART will achieve viral suppression.

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: 76.2% of Rhode Islanders diagnosed and living with HIV in 2021 are engaged in care, and 69.8% have 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 2020 and Alive, 2021



¹ The number of people diagnosed with HIV ("know their status") reflects people diagnosed through 2020 and alive through the end of 2021 with most recent residence in Rhode Island. It excludes people who we have no information for more than five years.

² Engaged in care is defined as at least one care visit during the calendar year (2021, the most recent year with available data).

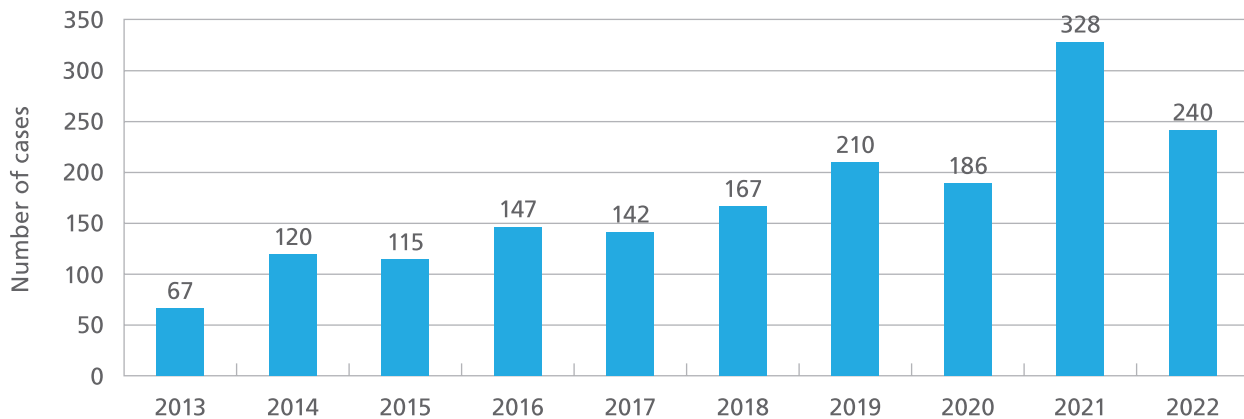
³ A viral load (VL) test result of < 200 copies/mL represents HIV viral suppression. VL test results are from the most recent test during the specified year (2021). Based on Surveillance data from July 2023.

03 | INFECTIOUS SYPHILIS

Syphilis is an infection caused by bacteria that is spread through sexual contact. While syphilis is a curable 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, 2013-2022



Source: Rhode Island Department of Health

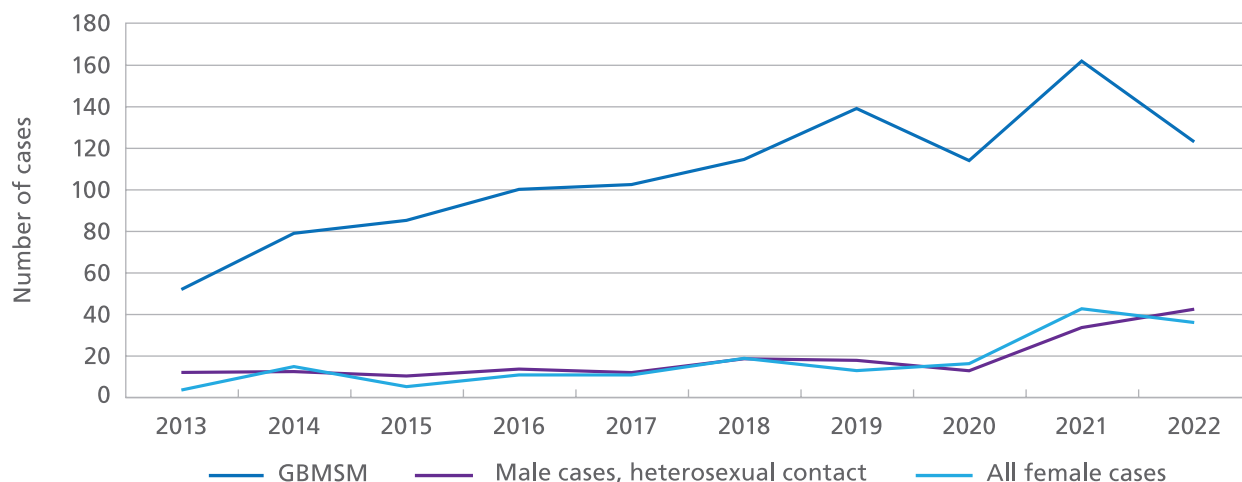
Infectious syphilis is defined as infection within the past year (primary, secondary, or early latent stages), when people are most likely to transmit the infection to others. These data represent diagnosed cases based on positive test results and patient history. From 2013-2022, there was a 258% increase in infectious syphilis cases, from 67 cases in 2013 to 240 cases in 2022. In 2021, RIDOH experienced a spike in reported infectious syphilis, with 328 total cases. The decrease in 2020 may represent less testing due to restrictions imposed during the COVID-19 pandemic, and the subsequent increase in 2021 may represent clinic re-openings and the return to pre-pandemic testing availability.

Congenital Syphilis (CS)

Between 2020-2022 RIDOH received eight reports of congenital syphilis, which were the first reports in over 10 years. All cases suspected of meeting the surveillance case definition of CS are thoroughly investigated by a supervising disease intervention specialist, public health nurse, and the surveillance manager or epidemiologist. Congenital syphilis cases may be classified as meeting maternal criteria, infant criteria, stillbirth criteria, or a combination, per CDC case definitions.

FIGURE 8

Number of Infectious Syphilis Cases, by Sex and Sexual Orientation, Rhode Island, 2013-2022

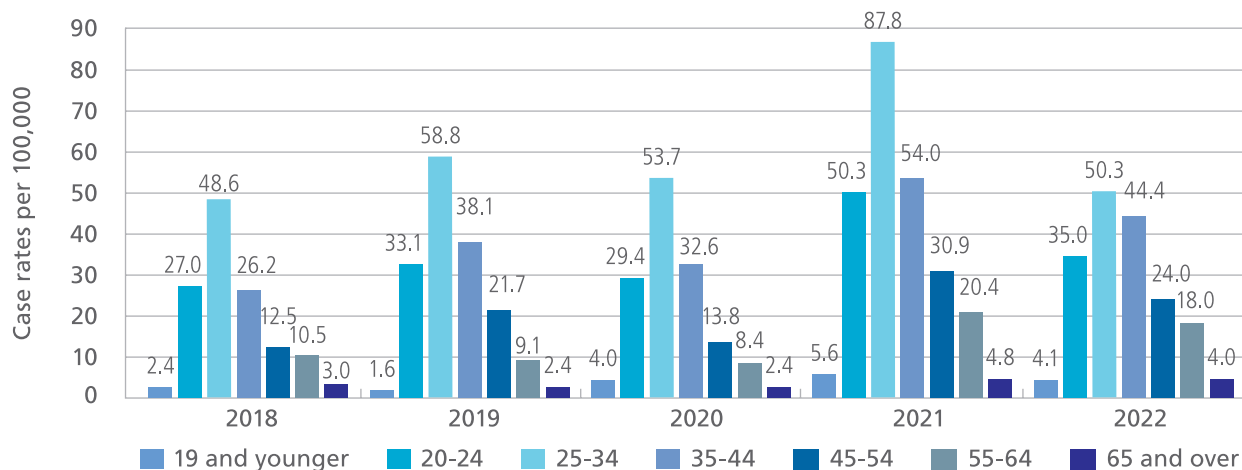


Source: Rhode Island Department of Health

In 2022, the majority of reported infectious syphilis cases were among males. Gay, bisexual, and other men who have sex with men (GBMSM) are disproportionately affected by infectious syphilis in Rhode Island, a trend that is observed nationally. The incidence among females in Rhode Island has increased recently compared to prior years.

FIGURE 9

Rates of Infectious Syphilis Cases, by Age, Rhode Island, 2018-2022



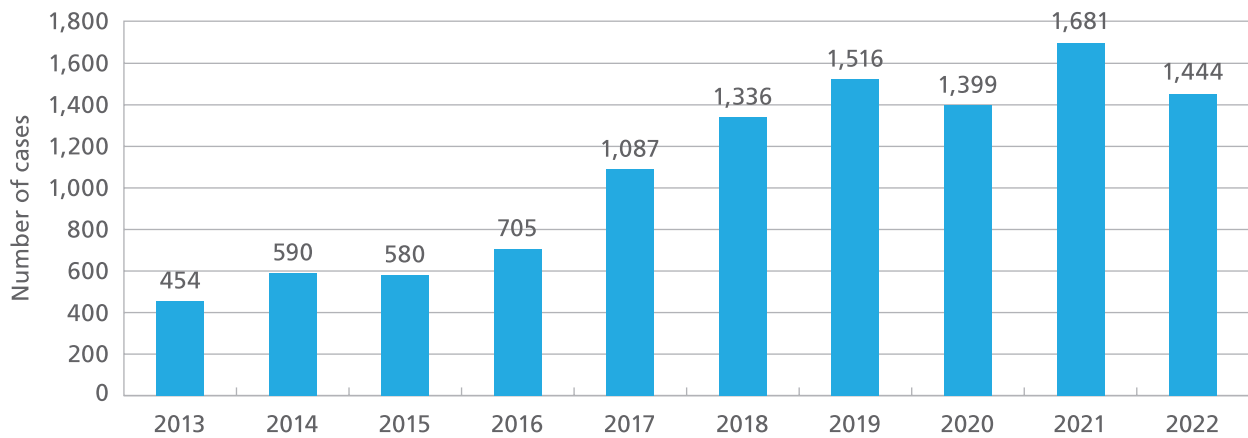
Source: Rhode Island Department of Health

From 2018-2022, 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 bacteria 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 people can transmit gonorrhea to their newborn babies, resulting in health problems for the child.

FIGURE 10
Number of Gonorrhea Cases, Rhode Island, 2013-2022

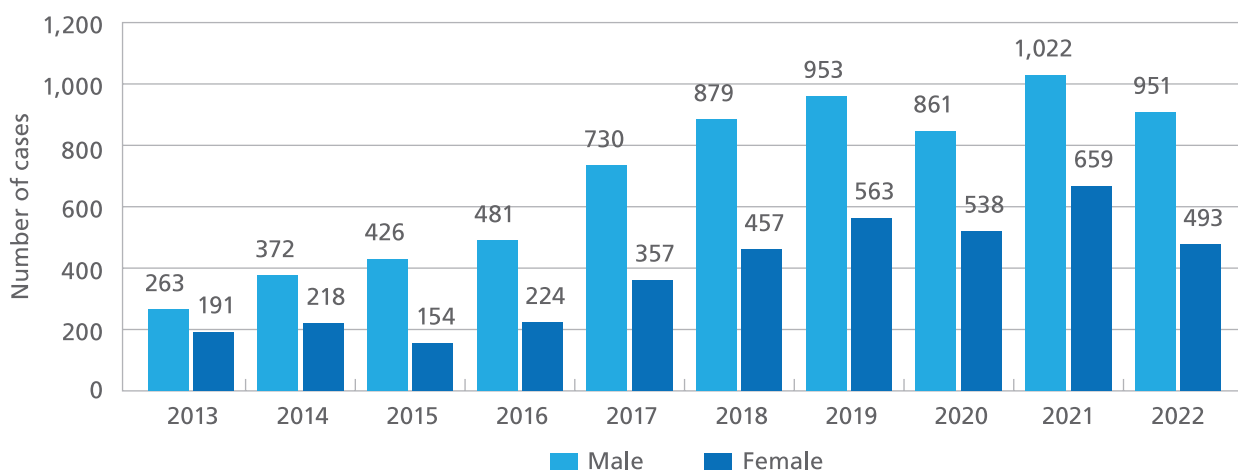


Source: Rhode Island Department of Health

In the last 10 years, rates of gonorrhea have increased by 218% in Rhode Island, from 454 cases in 2013 to 1,444 cases in 2022.

FIGURE 11

Number of Gonorrhea Cases, by Sex, Rhode Island, 2013-2022

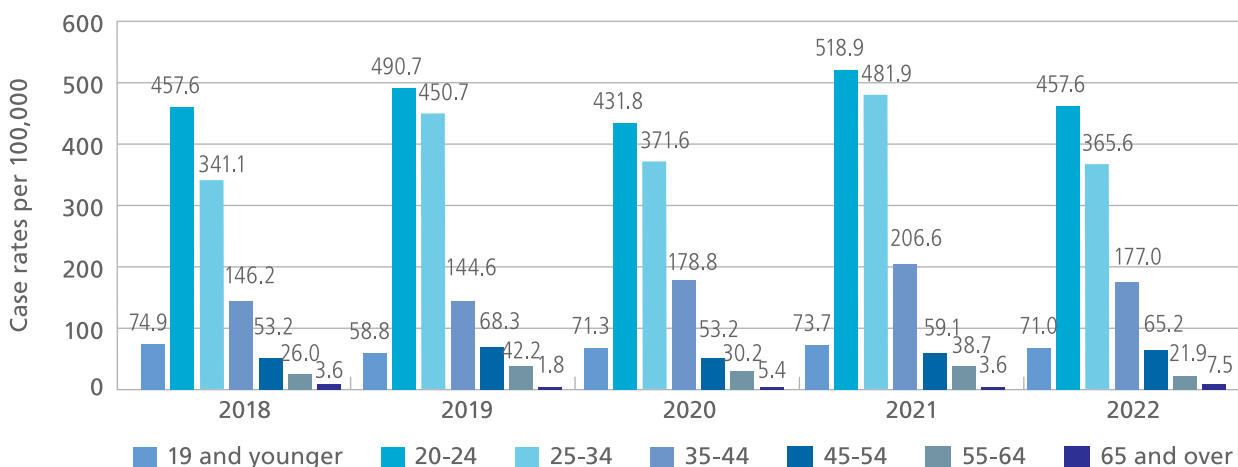


Source: Rhode Island Department of Health

In the last 10 years, more gonorrhea cases have been observed in males than in females. This trend may be attributed to cases among GBMSM as well as men who have sex with women only.¹⁷

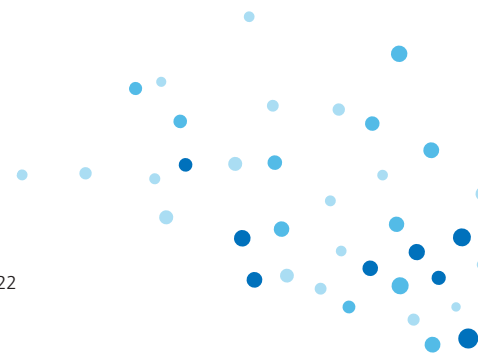
FIGURE 12

Rates of Gonorrhea Cases, by Age, Rhode Island, 2018-2022



Source: Rhode Island Department of Health

In the last five years, case rates for gonorrhea have been consistently highest among the 20-24 and 25-35-year-old populations.

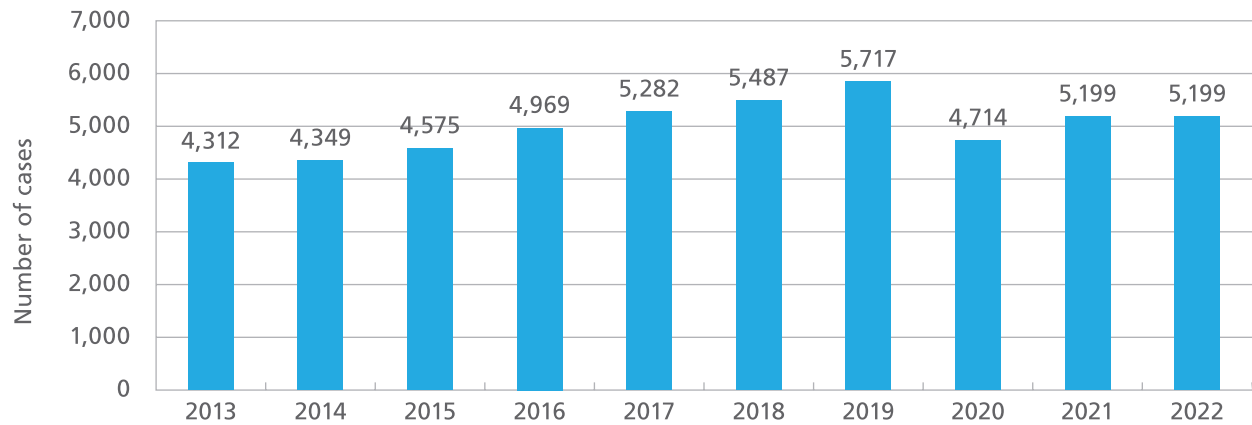


05 | CHLAMYDIA

Chlamydia is an infection caused by bacteria 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, 2013-2022



Source: Rhode Island Department of Health

In the last 10 years, the number of chlamydia cases has increased by 20% from 4,312 cases in 2013 to 5,199 cases in 2022. In 2019, Rhode Island observed a spike in chlamydia incidence, with 5,717 cases reported.

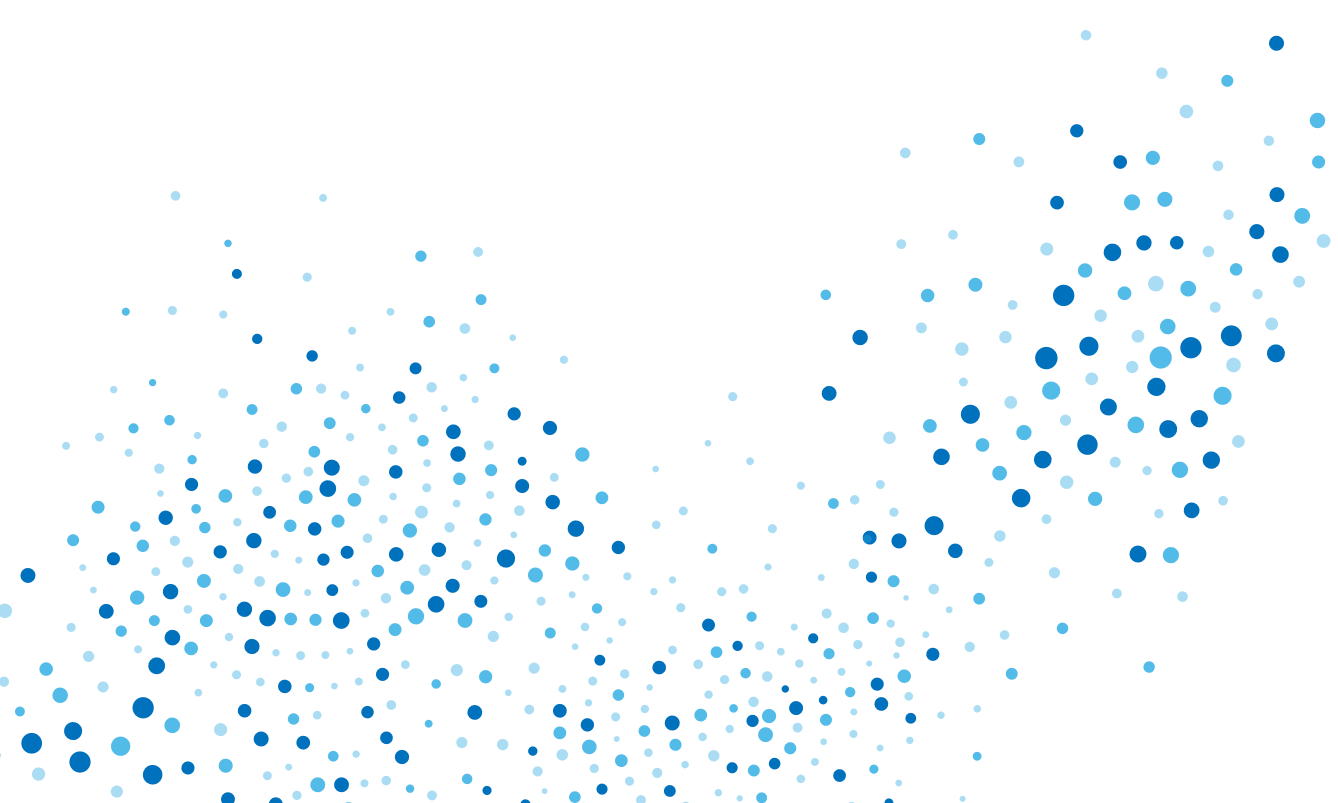
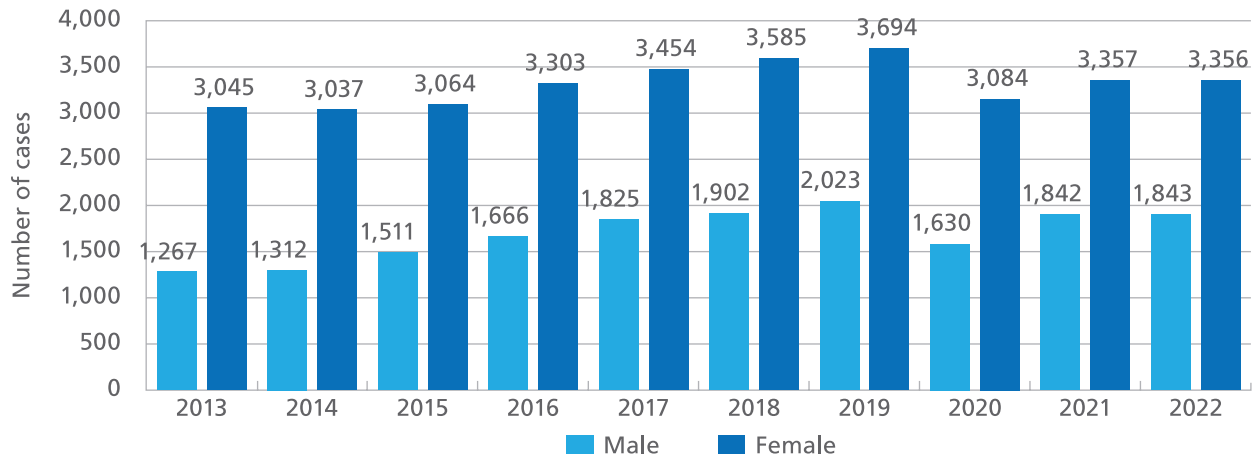


FIGURE 14

Number of Chlamydia Cases, by Sex, Rhode Island, 2013-2022

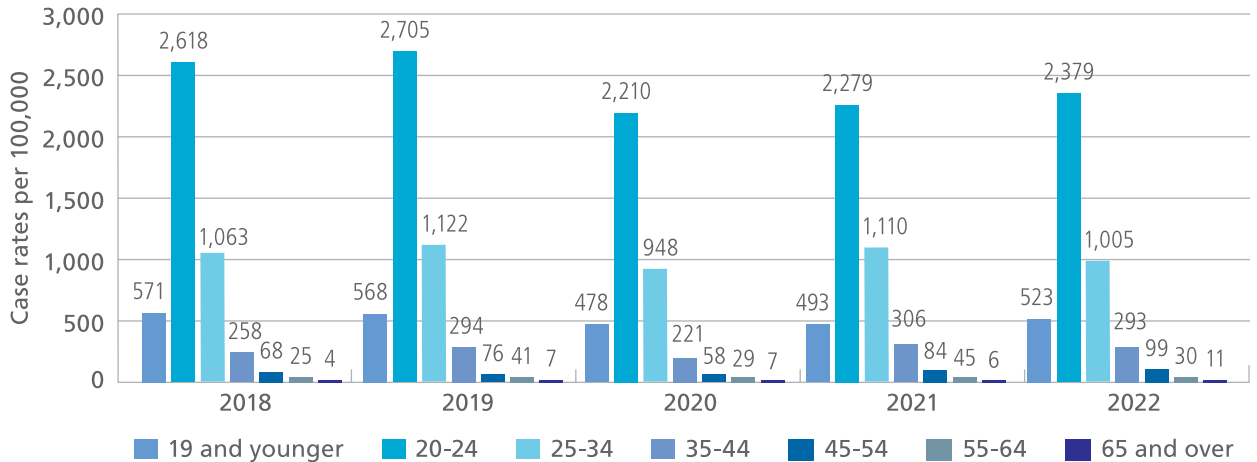


Source: Rhode Island Department of Health

Most chlamydia cases in the last 10 years have been diagnosed in females. In 2022, 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 are often asymptomatic.

FIGURE 15

Rates of Chlamydia Cases, by Age, Rhode Island, 2018-2022



Source: Rhode Island Department of Health

Between 2018-2022, the highest rates of chlamydia were observed in the 20-24-year-old age group, followed by 25-34 year olds.

06 | VIRAL HEPATITIS

The term “hepatitis” refers to inflammation of the liver. When the liver is inflamed or damaged, its functions 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).

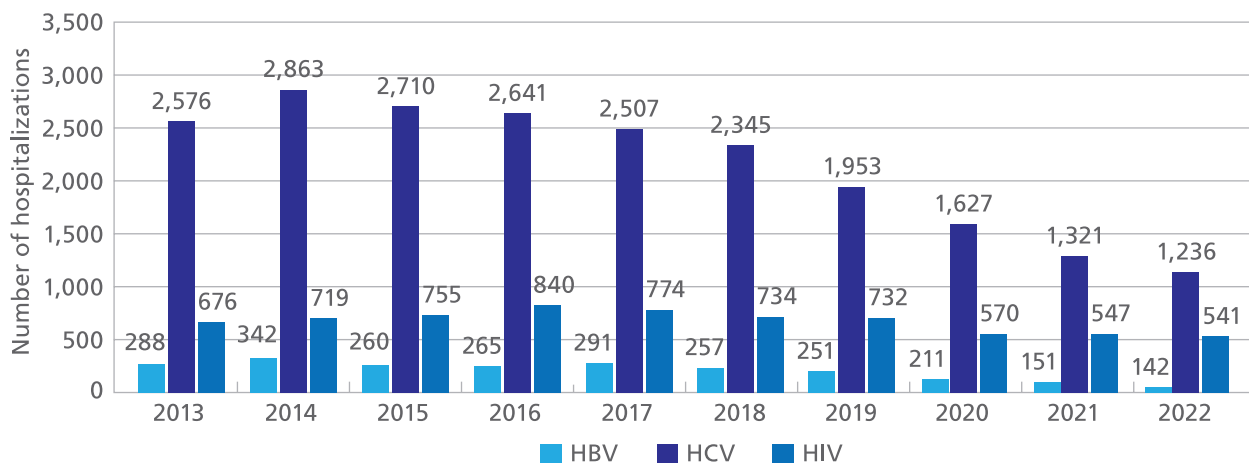
The most common types of viral hepatitis in the United States are hepatitis A, hepatitis B, and hepatitis C. Importantly, Hepatitis C Virus (HCV) is the most common blood-borne infection in the United States. Based on a CDC report released in 2020, it is estimated that 2.4 million persons in the United States are living with HCV.³ 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.⁴ 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 in 2020 which include recommendations for all adults aged 18 and older to be screened at least once in their lifetime, and for all pregnant people to be screened during pregnancy.¹³ 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 hospitalizations in Rhode Island with any discharge diagnosis of Hepatitis B Virus (HBV), HCV, and HIV. A discharge diagnosis of HCV remained consistently higher than HIV and HBV hospitalizations during the past decade.

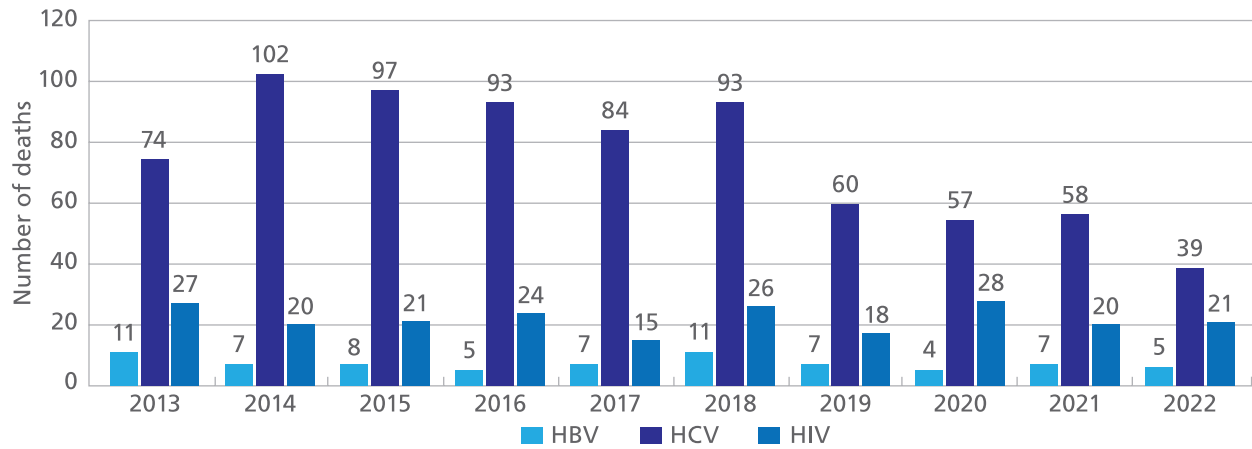
FIGURE 16
Number of Inpatient Hospitalizations with Any Discharge Diagnosis of HBV, HCV, or HIV, Rhode Island, 2013-2022



Source: Rhode Island Department of Health

FIGURE 17

Number of Deaths Associated with HBV, HCV, and HIV, Rhode Island, 2013-2022



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.⁵

Over the past few 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, will improve cure rates for people living with HCV and reduce the morbidity and mortality associated with HCV.

07 | TUBERCULOSIS

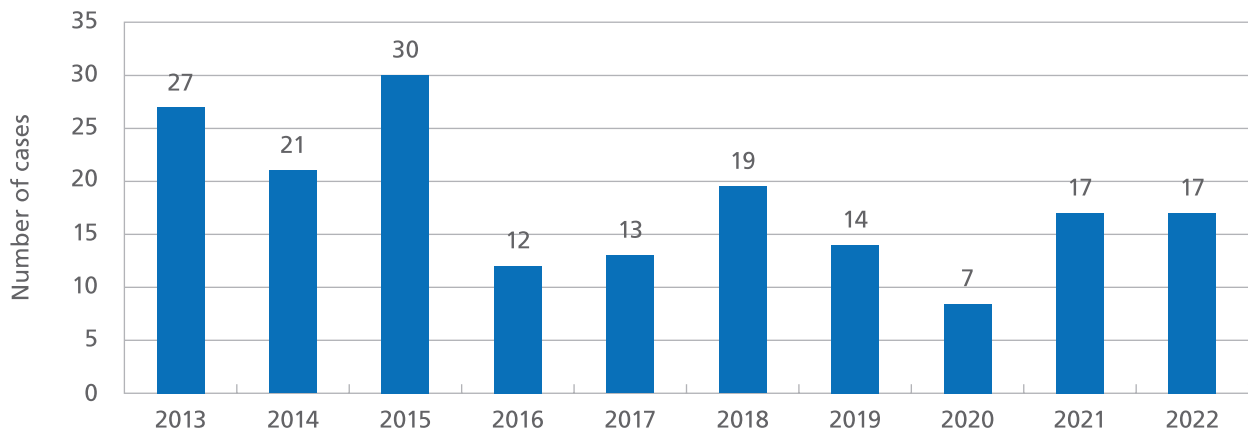
Tuberculosis (TB) is a disease caused by a bacterium called *Mycobacterium tuberculosis*. TB can be spread from one person to another through the air when speaking or coughing.

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

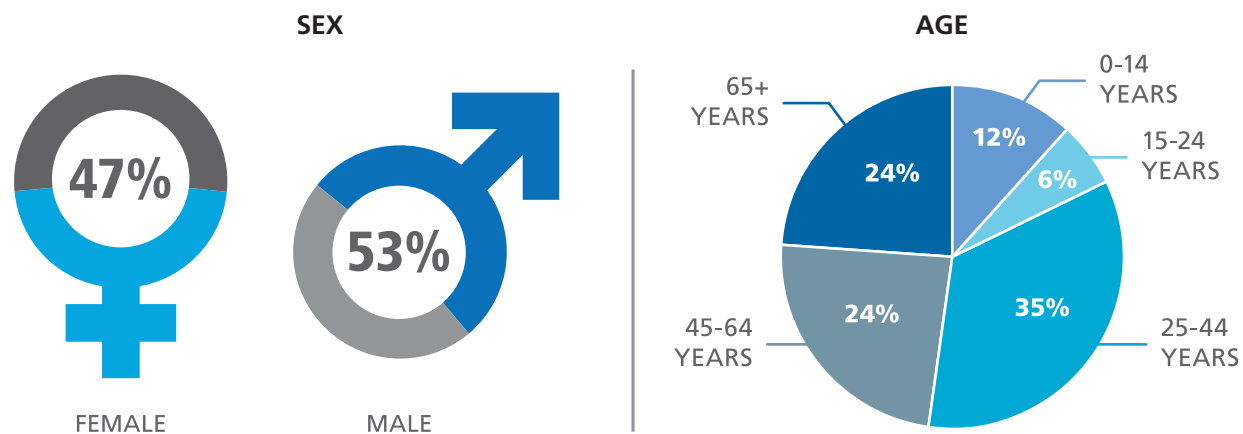
Number of Diagnosed Cases of Active Tuberculosis, Rhode Island, 2013-2022



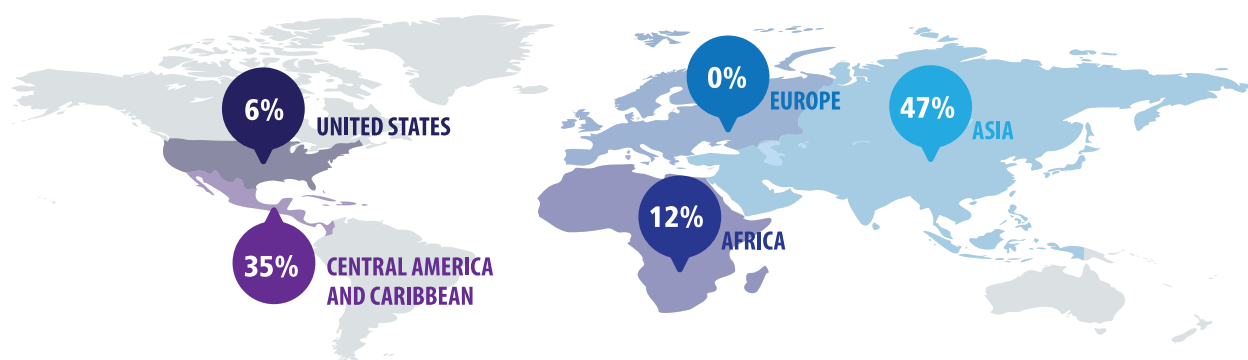
Source: Rhode Island Department of Health

Rhode Island is a low-incidence state for active tuberculosis diagnoses. Over the last 10 years the number of reported active TB cases has remained relatively low, peaking at 30 cases in 2015. Since 2016, the rate of active TB in Rhode Island has remained under 2.0 cases per 100,000 population.

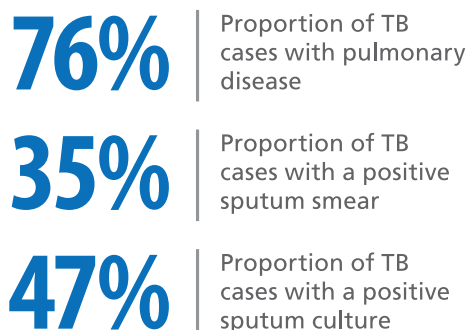
Demographic Characteristics of Active Tuberculosis Cases (n=17), 2022



Country of Birth



CLINICAL CHARACTERISTICS - 2022



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) is a rare and more severe kinds of TB that are also 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 2022.

FIGURE 19

Demographic Characteristics of Active Tuberculosis Cases, Rhode Island 2013-2022

Total Number of Cases	177	
Race/Ethnicity		
Non-Hispanic White	25	14.1%
Non-Hispanic Black	35	19.8%
Hispanic or Latino	62	35.0%
Asian	51	28.8%
Am Indian/AK Native	0	0.0%
HI Native/Pacific Islander	0	0.0%
Sex		
Female	79	44.6%
Male	98	55.4%
County of Residence		
Bristol	<5	2.3%
Kent	9	5.1%
Newport	7	4.0%
Providence	151	85.3%
Washington	6	3.4%

Country of Origin		
United States	26	14.7%
Not United States	151	85.3%
Age Group		
0-4	<5	1.1%
5-14	<5	2.3%
15-24	17	9.6%
25-44	53	29.9%
45-64	48	27.1%
65+	53	29.9%
Site of disease		
Pulmonary	110	62.1%
Extra-pulmonary	51	28.8%
Both	16	9.0%
Clinical Characteristics		
Sputum Smear (+)	60	33.9%
HIV (+)	9	5.1%
MDR-TB	<5	1.7%

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 interviews is to elicit contacts in the community 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, rideshare/Uber, etc.), or others deemed potentially at-risk.

Latent TB Infection (LTBI)

In Rhode Island, it is estimated that about 18,000-20,000 individuals are living with latent TB infection (LTBI).¹⁴ 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.

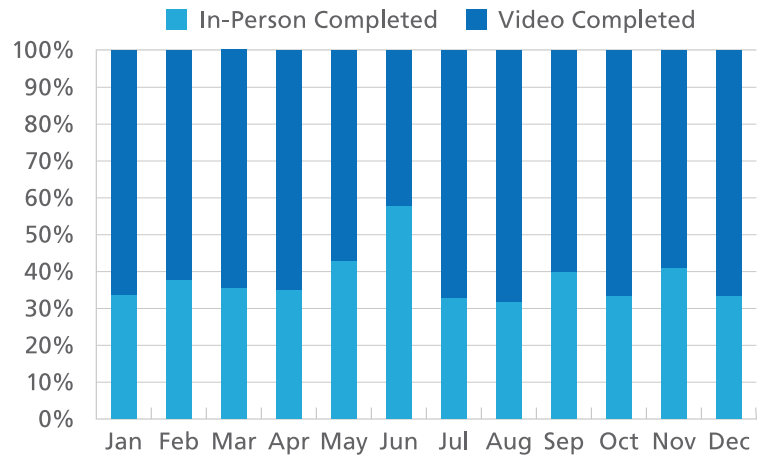
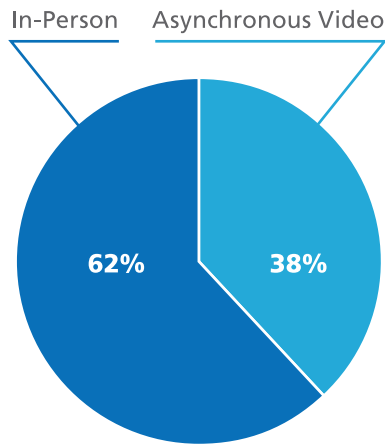
TB Directly Observed Therapy (DOT) Program

RIDOH has two over-arching goals 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 policy of universal directly-observed-therapy (DOT) through RIDOH staff visits to patients' homes or internet-based video submission for the duration of treatment. In 2022, the DOT program had an average medication administration success rate of 93%.

Method of DOT Administration, 2022

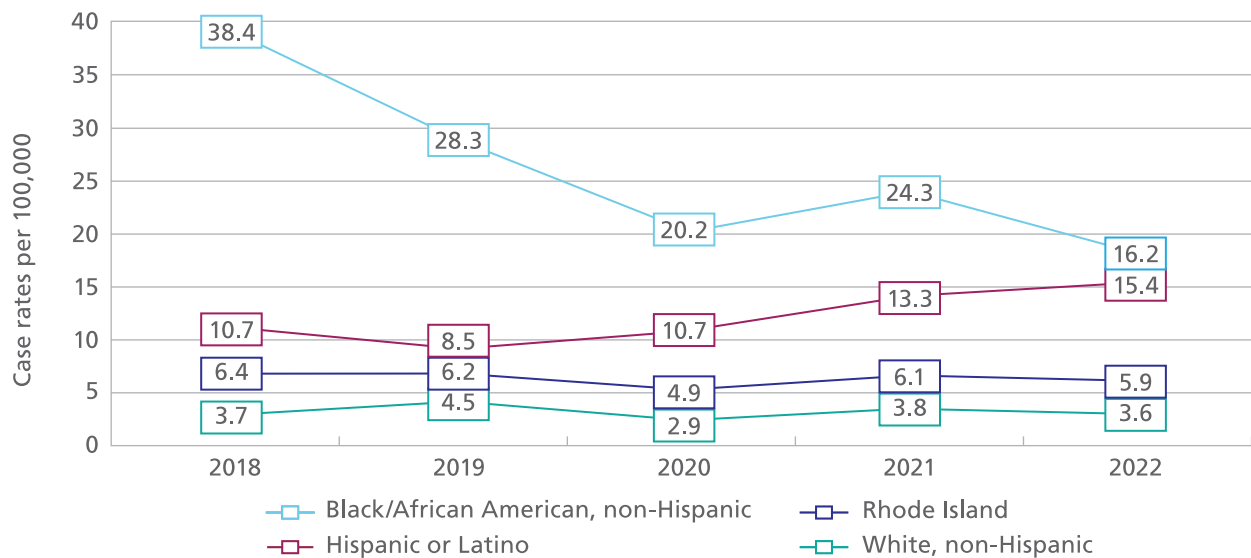


08 | RACIAL AND ETHNIC GROUPS

According to the CDC, acknowledging the inequities in STI and HIV rates by race and ethnicity is one of the first steps in addressing 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 settings.

FIGURE 21

Rates of Newly Diagnosed Cases of HIV, by Racial and Ethnic Group, Rhode Island, 2018-2022

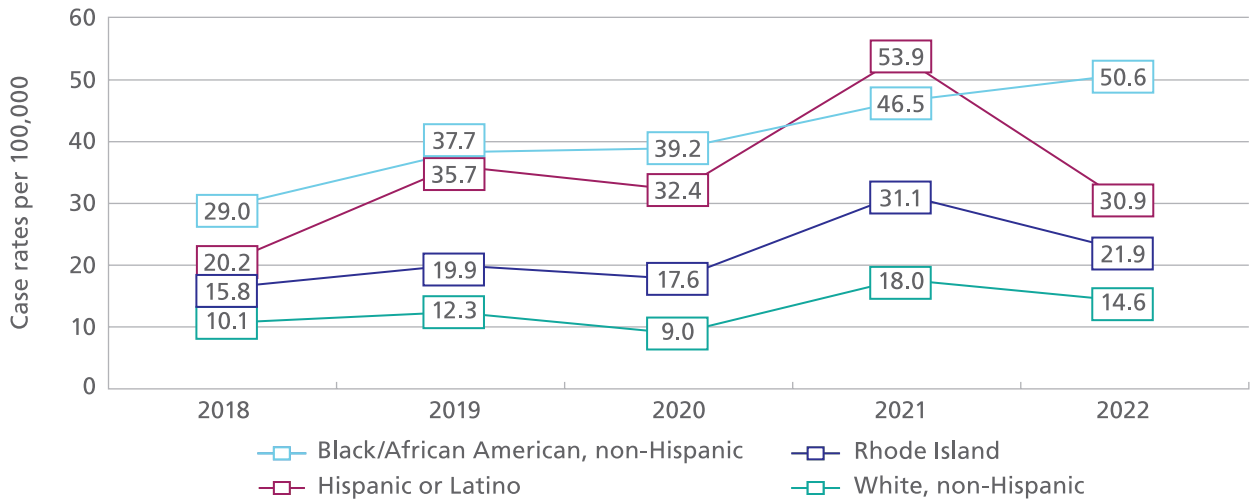


Source: Rhode Island Department of Health

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 2022, the rates of HIV were about four times higher among both the Hispanic/Latino population and the Black/African-American population. Since 2018 the rate of newly diagnosed HIV among the Black/African-American population has dropped by 57% and increased among the Hispanic/Latino population by 44%.

FIGURE 22

Rates of Infectious Syphilis, by Racial and Ethnic Group, Rhode Island, 2018-2022

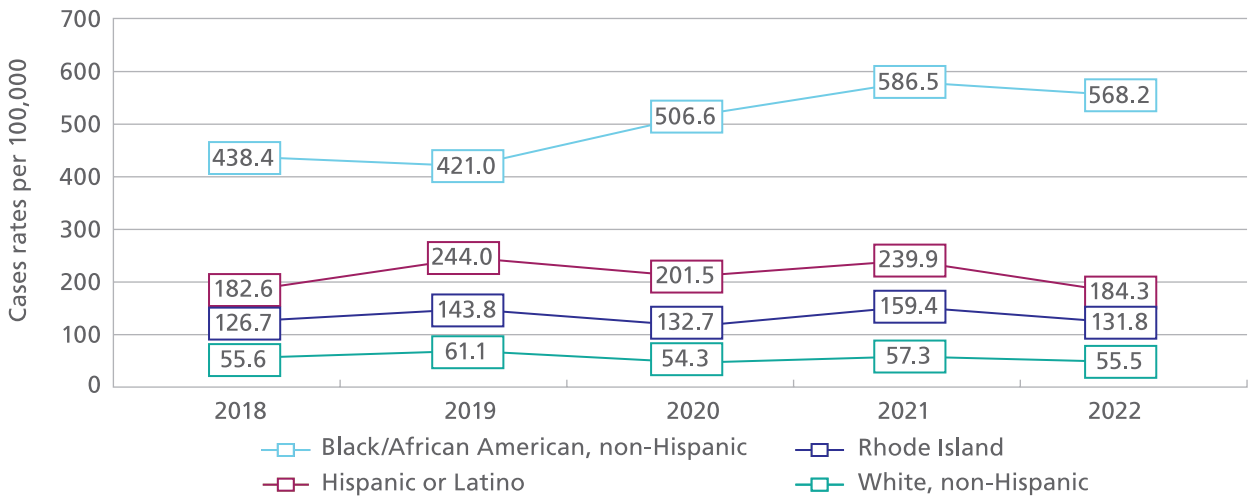


Source: Rhode Island Department of Health

Infectious syphilis diagnoses have increased in the last 10 years and disparities in rates among some racial and ethnic groups in Rhode Island have grown. In 2022, the rates of infectious syphilis were highest among the Black/African-American population.

FIGURE 23

Rates of Gonorrhea, by Racial and Ethnic Group, Rhode Island, 2018-2022

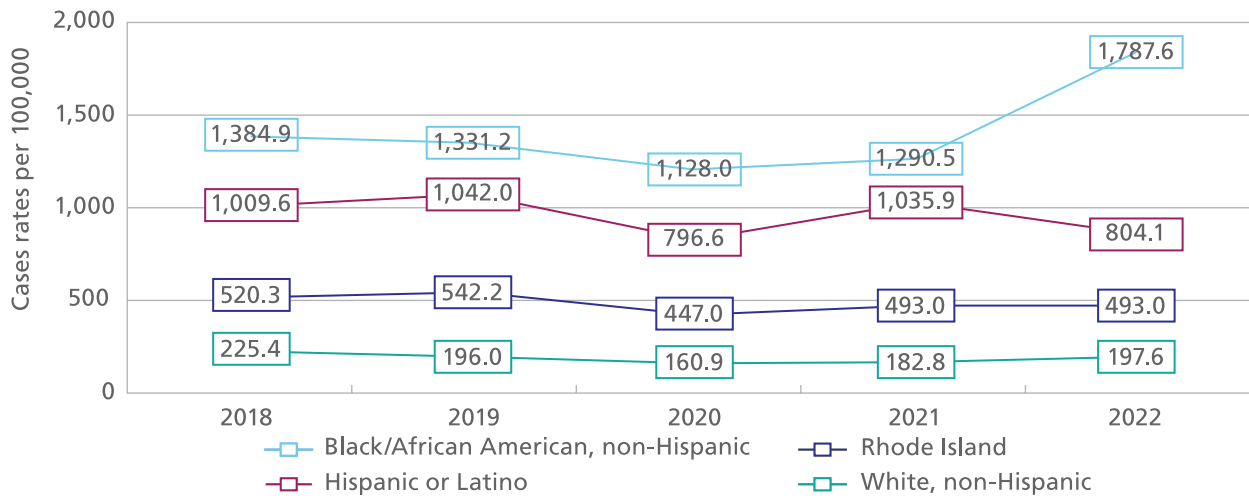


Source: Rhode Island Department of Health

Gonorrhea diagnoses have increased in the last 10 years and disproportionately affect communities of color. In 2022, gonorrhea rates among the Black/African-American population were more than 10 times higher than among the non-Hispanic White population, and three times higher than among the Hispanic/Latino population.

FIGURE 24

Rates of Chlamydia, by Racial and Ethnic Group, Rhode Island, 2018-2022



Source: Rhode Island Department of Health

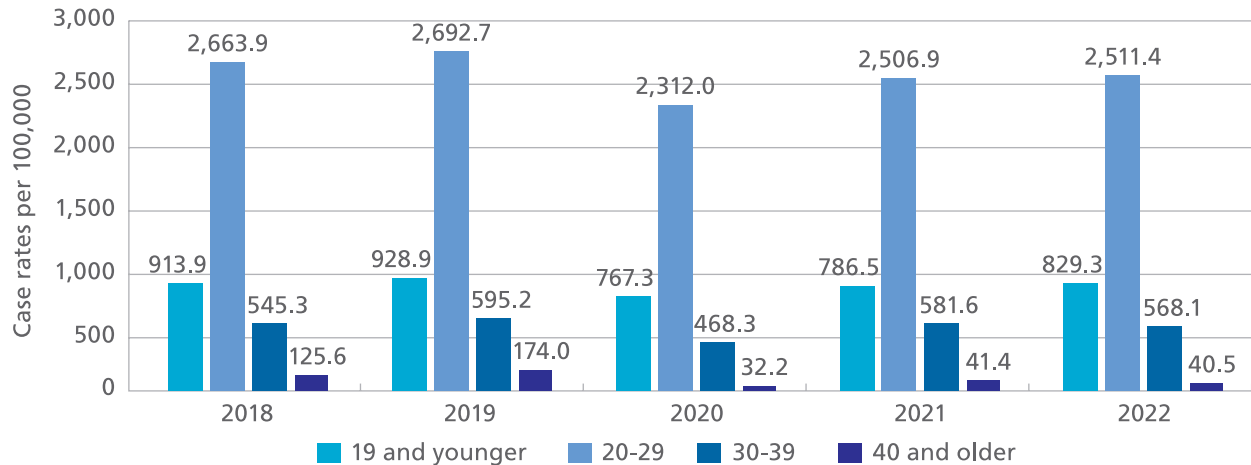
Chlamydia diagnoses have steadily increased in the last 10 years and disproportionately affect communities of color. In 2022, chlamydia rates were nine times higher among the Black/African-American population as compared to the non-Hispanic white population, and 2.3 times higher than among the Hispanic/Latino population.

09 | FEMALES

According to the CDC, in addition to the biological factors that put females at a higher risk of STIs, 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 her newborn baby.

FIGURE 25

Rates of Chlamydia in Females, by Age, Rhode Island, 2018-2022

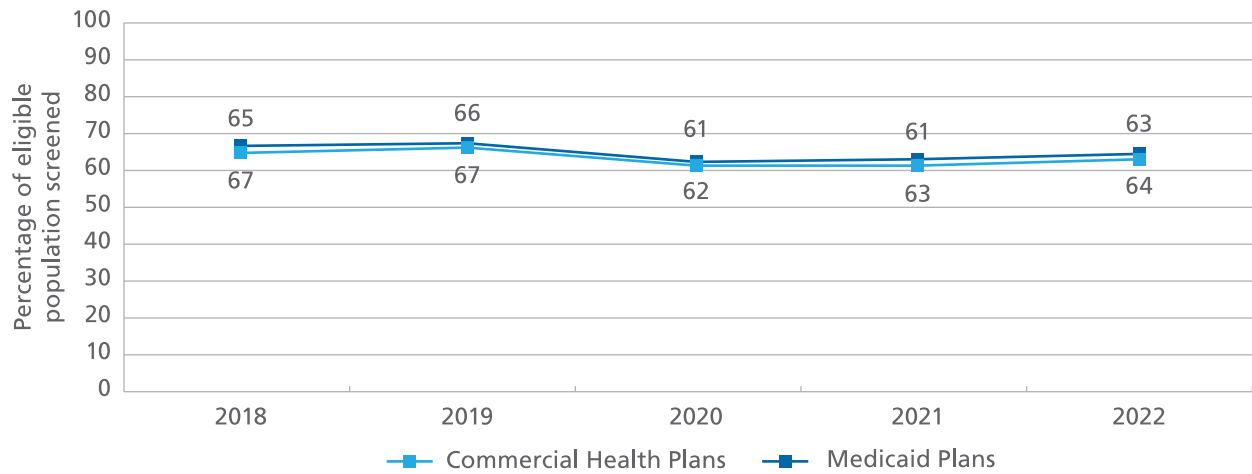


Source: Rhode Island Department of Health

Over the last 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 2022, 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, 2018-2022



Source: Rhode Island Department of Health

Through the Healthcare Effectiveness and Data Information Set (HEDIS), insurance claims data are used to calculate annual estimates of the percentage of sexually active females, aged 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, Neighborhood Health Plan, and Tufts Health. The data for Medicaid plans was collected from United Health Care, Neighborhood Health Plan, and Tufts Health.

HIV Risk Factors and Females

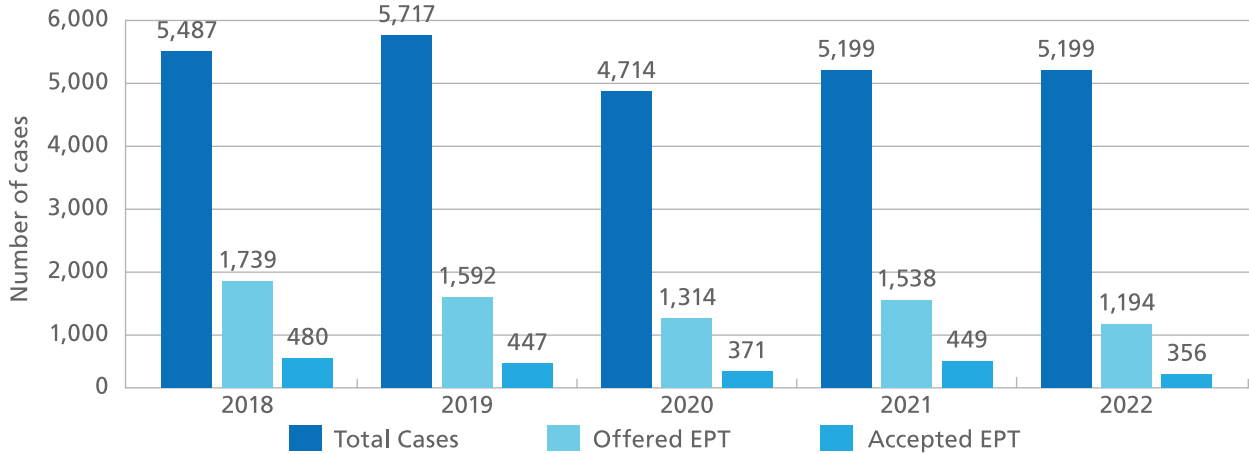
Characteristics of the 59 females that were newly diagnosed with HIV in Rhode Island from 2017 to 2021 include:

- Born outside of the United States: 58%
- Injected 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%

Data available only through 2021.

FIGURE 27

Expedited Partner Therapy Offered/Accepted for Partners of Cases of Chlamydia, Rhode Island, 2018-2022



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

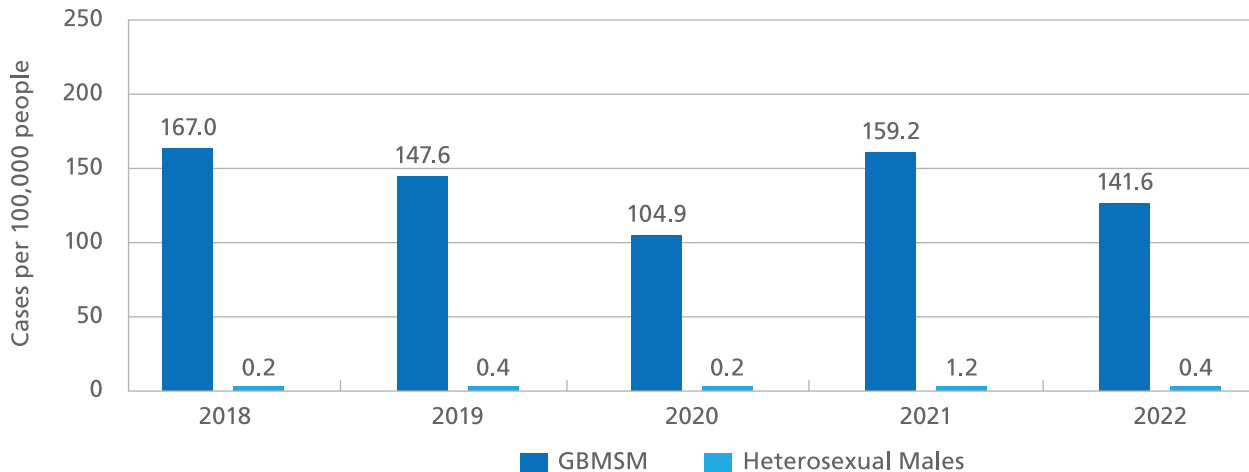
Legislation permitting Expedited Partner Therapy (EPT) was approved in Rhode Island in 2006. This legislation allows healthcare professionals to prescribe prescription drugs for a patient’s sexual partner(s) without evaluating or testing the patients’ partners. CDC recommends EPT as a useful option to facilitate partner management, particularly for treatment of male partners of women with chlamydial infection. Between 2018-2022 an average 28% of total chlamydia cases were offered EPT for their partners, and among those offered, an average 29% 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 STI infection among GBMSM may be related to multiple factors, including individual behaviors and sexual network characteristics.^{6,9} 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.⁷ 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.^{8,9} 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, 2018-2022

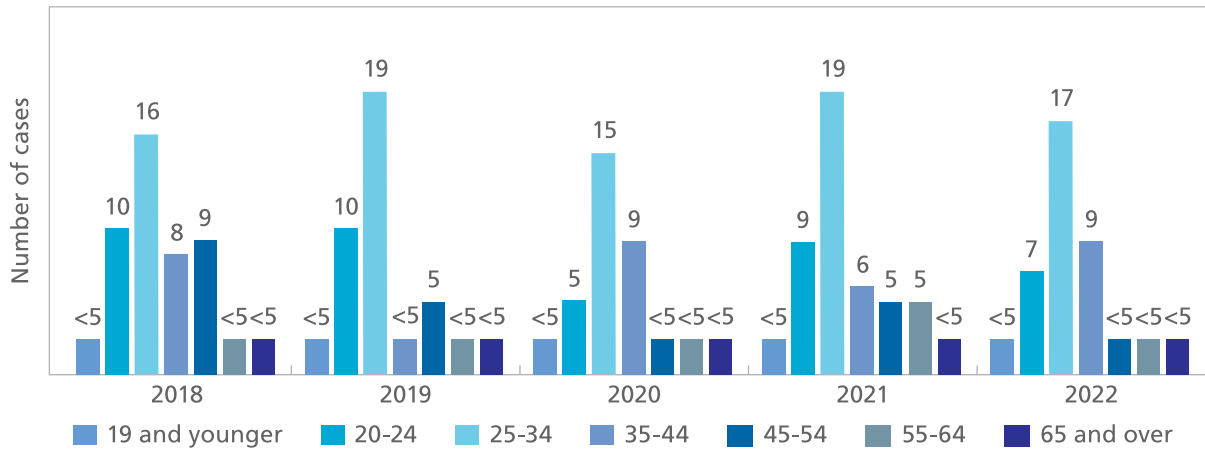


Source: Rhode Island Department of Health

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 2022 was 354 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, 2018-2022



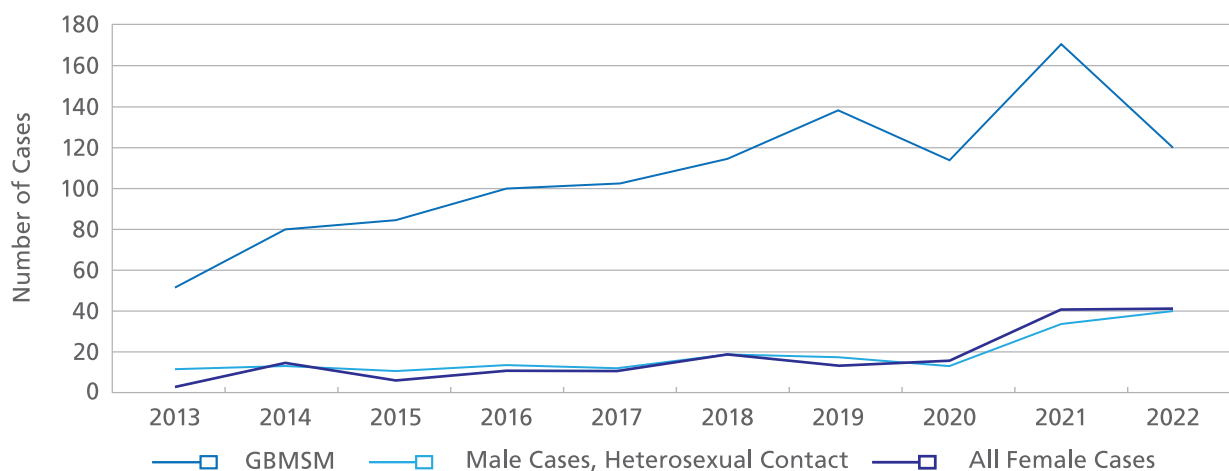
* refers to <5 cases

Source: Rhode Island Department of Health

From 2018-2022, 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.

Gonorrhea

Data collected from case report forms indicates that in 2022, 29% of male gonorrhea cases reported having male partners; 15% reported having female partners only; 56% of reports among males did not include gender of sexual partners.

FIGURE 30**Cases of Infectious Syphilis in Males, by Sexual Orientation, Rhode Island, 2013-2022**

Source: Rhode Island Department of Health

In 2022, the number of infectious syphilis cases in the GBMSM population was three times higher than the heterosexual male and female populations. Over the last 10 years this trend has been observed consistently.

FIGURE 31**GBMSM with HIV and Infectious Syphilis, Rhode Island, 2018-2022**

Year	Cases identifying as GBMSM	Cases HIV Positive in GBMSM	Percent HIV positive in GBMSM
2018	115	31	27%
2019	139	50	36%
2020	114	62	54%
2021	171	45	26%
2022	122	38	31%

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 122 GBMSM (identified by case report or patient interview) who had infectious syphilis in 2022, 38 individuals (31%) had a 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 | 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 infections. 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 healthcare professionals.¹⁰ In addition, transgender 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 professionals. These case report forms include discrete variables for sex at birth and current sex which are subsequently entered into a 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 to capture gender diverse populations include Gender Identity/Transgender Information (with options to select ever transgender/additional gender identity/cisgender/FTM/MTF/other).

Reported Cases of Selected Diseases Among Transgender People Rhode Island, 2021-2022

HIV	<5
Infectious Syphilis	9
Latent or Unknown Duration Syphilis	5
Gonorrhea	10
Chlamydia	19

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% of transgender women and 41% of transgender men who received an HIV diagnosis in the U.S. were Black or African American.¹⁵

Gender identity is independent of sexual orientation

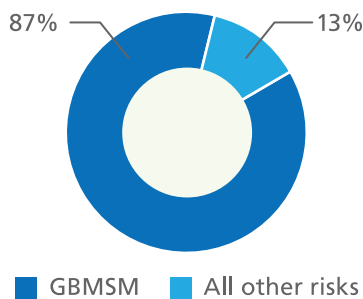
Sexual orientation and identities among transgender people are diverse. People who are transgender or gender diverse might have sex with cisgender men, cisgender women, or other transgender and gender diverse people.

12 | 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.¹¹ 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, 2018-2022



Between 2018-2022, among young adults with newly diagnosed HIV, there were nine female cases and 55 male cases. Among the 55 young adult male cases, 87% were GBMSM (N=48).

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, 2018-2022

Year	Rate Among Young adults ages 15-24 (cases per 100,000)	Rate Among Rhode Island Population (cases per 100,000)
2018	2,258.6	520.3
2019	2,295.8	542.2
2020	1,901.3	447.0
2021	1,963.4	493.0
2022	2,031.6	474.5

Source: Rhode Island Department of Health

FIGURE 34

Rates of Gonorrhea in Young Adults versus Overall Population, Rhode Island, 2018-2022

Year	Rate Among Young adults ages 15-24 (cases per 100,000)	Rate Among Rhode Island Population (cases per 100,000)
2018	354.8	126.7
2019	348.4	143.8
2020	338.1	132.7
2021	385.5	159.4
2022	343.9	131.1

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 at last intercourse	57%	54%	50%

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

"used a condom at last intercourse" is a question only asked of participants who reported being currently sexually active (defined as having intercourse in the past 90 days)

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, while a similar percentage reported they used a condom during their last sexual intercourse.

FIGURE 36

Sexual Risk Behavior, by Sexual Orientation, Percentage of High School Youth Responding "Yes"

Question	Heterosexual	Gay, Lesbian, Bisexual
Ever had sex	28%	34%
Were currently sexually active	21%	23%
Used a condom at last intercourse	61%	42%

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

"used a condom at last intercourse" is a question only asked of participants who reported being currently sexually active (defined as having intercourse in the past 90 days)

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

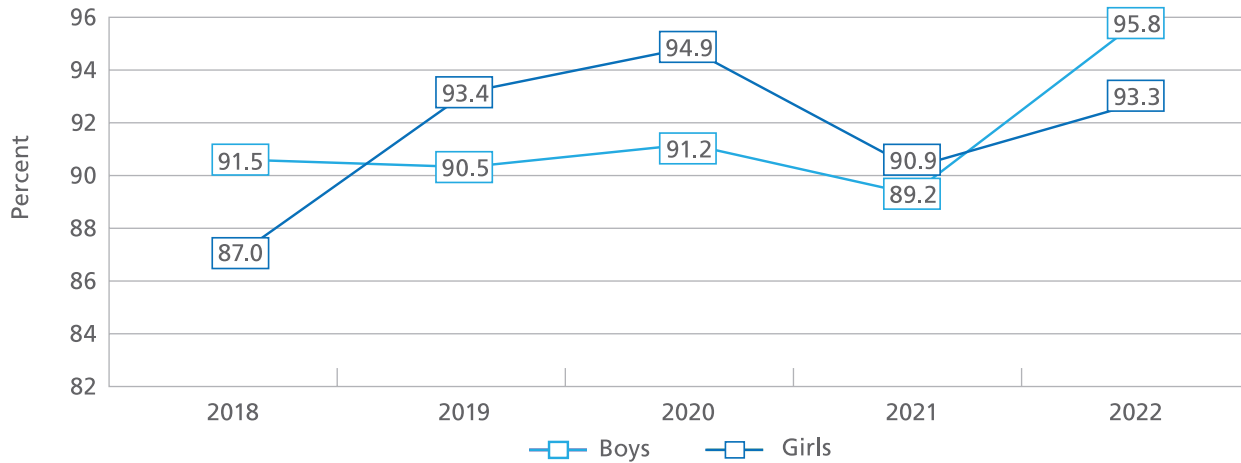
- heterosexual (72%)
- gay or lesbian (4%)
- bisexual (12%)
- not sure (5%)
- other identity (4%)

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, 2018-2022



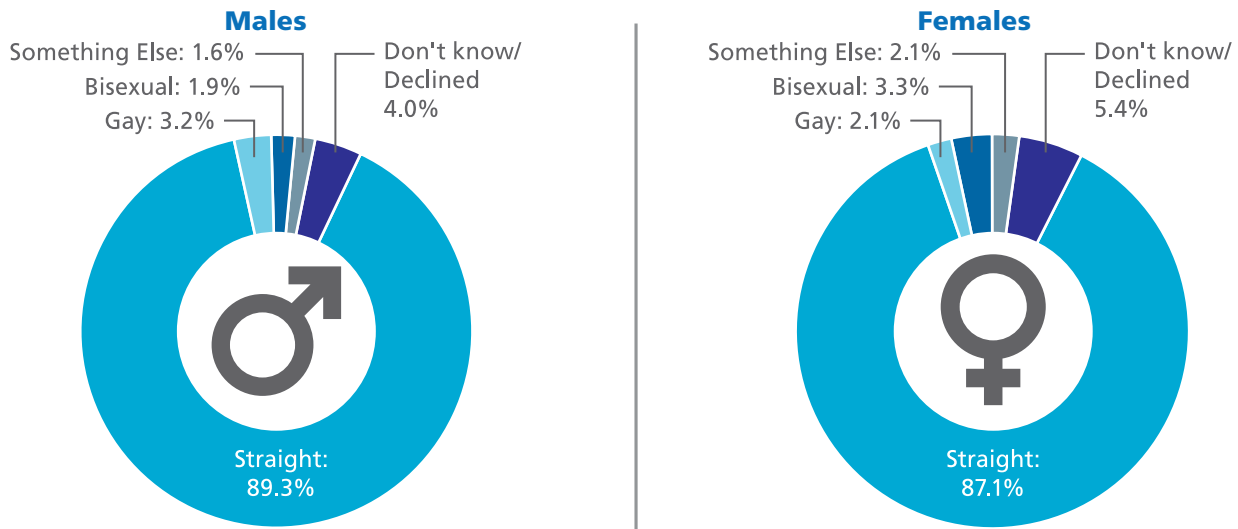
Source: Rhode Island Department of Health

RIDOH began distributing human papilloma virus (HPV) vaccine for girls in 2006 and for boys in 2010. In 2022, the vaccination coverage rate among boys was 95.8% and among girls 93.3%, both increased from the previous year. 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 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.

13 | STI 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, 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 2022.

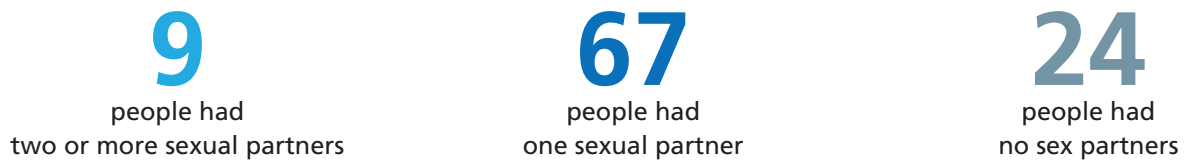
FIGURE 38
Breakdown of Adult (18-64) Sexual Orientation, Rhode Island, 2022



Source: Behavioral Risk Factor Surveillance System, 2022

Sexual Activity of Adults (18-64) in the Past Year, Rhode Island, 2022

Out of 100 Rhode Islanders in the past 12 months:



Characteristics of Adults (18-64) with Multiple Sex Partners, Rhode Island, 2022

53% 

used a condom at last sexual intercourse

52% 

received an STI test within the past 12 months*

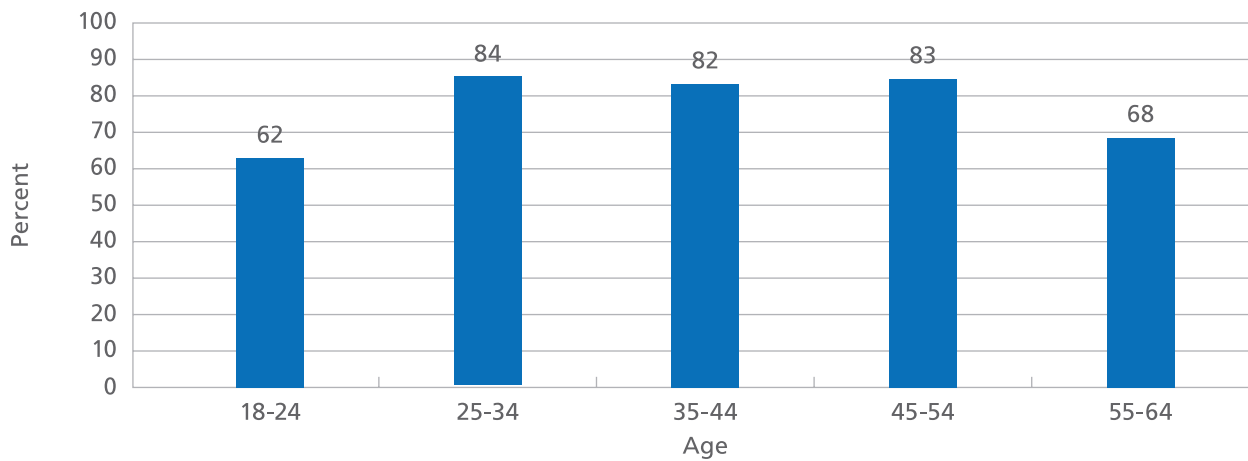
60%

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, 2022



Source: Behavioral Risk Factor Surveillance System, 2022

14 | 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

From 2010-2019, there were no cases of mother-to-child transmission of HIV. Between 2020-2022, there were two cases of mother-to-child transmission of HIV.

Congenital Syphilis

In 2022, among the 10,709 births in Rhode Island, there were five infants diagnosed with congenital syphilis based on maternal, infant, stillbirth, or a combination of criteria as defined by the CDC. Since 2020 less than 10 total cases have been reported; prior to 2020 no cases of congenital syphilis were reported since 2009. 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.¹² 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 2022, there were 76 newborns born to HCV-antibody positive mothers in Rhode Island.

15 | PREVENTION PROGRAM HIGHLIGHTS

RIDOH Prevention Program “by the Numbers”

- **Condoms by Mail:** Rhode Island residents can request a package of approximately 15 condoms to be mailed to them on a monthly basis. In 2022, the Condoms by Mail program fulfilled 615 requests. Requests were fulfilled across the state, in 36 out of 39 cities and towns.



- **HIV Testing:** RIDOH supports community-based agencies to conduct rapid HIV testing. These agencies provide risk reduction counseling to individuals who test negative. For individuals who test preliminary positive, these agencies provide intensive case management and help the individual get into confirmatory testing and care. In 2022, RIDOH-funded agencies conducted 1,457 rapid HIV tests among 1,288 unique clients. Of those, 79% of individuals tested were considered to be at high risk of contracting HIV.

- **HIV Self-Test Kits:** HIV self-test kits were first made available in 2020 in response to the COVID-19 pandemic and they remain an option for individuals who prefer to test themselves in the privacy of their home. Of the 1,457 HIV tests conducted by community-based agencies in 2022, 283 were self-tests.

- **Hepatitis C Testing:** RIDOH supports community-based agencies to conduct rapid Hepatitis C testing. These agencies provide intensive case management for individuals who have a preliminary positive result and help the individual get into confirmatory testing and care. In 2022, RIDOH-funded agencies conducted 779 rapid Hepatitis C tests among 728 unique clients. Of those, 57% of individuals tested were considered to be at high risk of contracting Hepatitis C.

- **TESTING 1-2-3:** TESTING 1-2-3 is a program created by RIDOH and The Miriam Hospital STI Clinic to help Rhode Islanders get tested for HIV, hepatitis C, chlamydia, gonorrhea, and syphilis without a physical trip to the doctor’s office. The goal is to make the process as easy as possible. People fill out an online survey to be emailed a lab slip they can bring to the lab of their choice. In 2022, 110 individuals received STI testing through TESTING 1-2-3.



- **Harm Reduction:** Harm reduction organizations served 5,668 unique clients across 16,538 encounters in 2022. Clients received various supplies, services, and referrals, including 34,584 condoms, 443,784 sterile needles, and 11,180 kits of naloxone.



- **Harm Reduction Vending Machines:** Harm reduction vending machines are an innovative way to provide individuals with life-saving supplies. In 2022, there were 8,137 transactions at harm reduction vending machines. Of the machines that require clients to use their personal code to access supplies, 299 unique clients were served. Clients accessed various supplies at no cost, including 7,660 condoms, 48,220 sterile needles, and 544 kits of naloxone.

- **Visits to sexual health web pages:** 26,515

In response to the mpox outbreak in 2022, RIDOH worked with local partners to distribute the two-dose mpox vaccine to eligible Rhode Islanders. Rhode Island had one of the highest vaccination coverage percentages in the country for both first and second doses.¹⁶

FIGURE 44

Mpox Vaccinations, Rhode Island, 2022

Setting	Total Vaccinations 6,809	Percent
Community Setting	3,394	50%
LGBTQ+ Health Clinic	1,073	16%
STI/HIV Specialty Clinic	936	14%
Out of State	682	10%
Community Health Center	588	9%
Other	136	2%

16 | 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, 2018-2022

Municipality	Number of cases	Average rate (cases per 100,000)	Municipality population estimate*
Providence	102	10.68	190,934
Cranston	44	10.61	82,934
Pawtucket	41	10.85	75,604
Woonsocket	21	9.71	43,240
North Providence	18	8.33	34,114

* municipality population estimates based on 2020 US Census

Source: Rhode Island Department of Health

FIGURE 41

Top Five Ranking Municipalities, by Number of Cases of Syphilis, Rhode Island, 2018-2022

Municipality	Number of cases (2017-2021)	Average rate (cases per 100,000)	Municipality population estimate*
Providence	415	217.4	190,934
Pawtucket	136	179.9	75,604
Cranston	94	113.3	82,934
Woonsocket	65	150.3	43,240
North Providence	53	140.7	34,114

* municipality population estimates based on 2020 US Census

Source: Rhode Island Department of Health

FIGURE 42**Top Five Ranking Municipalities, by Number of Cases of Gonorrhea, Rhode Island, 2022**

Municipality	Number of cases	Average rate (cases per 100,000)	Municipality population estimate*
Providence	602	315.3	190,934
Pawtucket	179	236.8	75,604
Cranston	122	147.1	82,934
Woonsocket	87	201.2	43,240
Central Falls	55	243.5	22,583

* municipality population estimates based on 2020 US Census

Source: Rhode Island Department of Health

FIGURE 43**Top Five Ranking Municipalities, by Number of Cases of Chlamydia, Rhode Island, 2022**

Municipality	Number of cases	Average rate (cases per 100,000)	Municipality population estimate*
Providence	1,921	1,006.1	190,934
Pawtucket	602	796.3	75,604
Cranston	400	482.3	82,934
Woonsocket	312	721.6	43,240
Central Falls	247	1,093.7	22,583

* municipality population estimates based on 2020 US Census

Source: Rhode Island Department of Health

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

17 | DATA SOURCES AND GLOSSARY OF TERMS

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.

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

Data Strengths: Completeness of race/ethnicity data for HIV is high. The majority of clinical laboratories in Rhode Island report positive results electronically, resulting in more complete and timely reporting of HIV and STIs.

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 2021. HBV- and HCV-associated deaths in Rhode Island may include non-Rhode Island residents.

Extragenital testing: Traditional methods of testing for gonorrhea and chlamydia include urine-based, cervical, or vaginal tests. STIs 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.

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 STDs and not how individuals self-identify in terms of their sexuality.

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 STDs, 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.

Hepatitis incidence data: based on positive test results received for Rhode Island residents which meet the CDC-defined case definitions.

HIV/AIDS and STI 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].

HIV prevalence data: include all individuals who were reported as residing in Rhode Island regardless of where they were first diagnosed. Prevalence estimates 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. 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.

HPV vaccination data source: CDC, National Immunization Survey – Teen (NIS-Teen), 2018-2022.

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

New HIV diagnoses: include only individuals who were first diagnosed in Rhode Island.

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.⁹ Rates of disease for the GBMSM population were calculated using this estimate and data from the US Census.

Population-based rate calculations: Rates are expressed as cases per 100,000 population. All rates for 2022 are based on the 2021 American Community Survey with previous year rates based on the US Census, except rates by municipality which are based on the 2020 US Census.

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, STD, and TB Epidemiology for more information on these populations.

STI incidence data: based on positive test results of *C. Trachomatis*, *N. gonorrhoea*, and *T. pallidum* which meet CDC-defined case definitions for Rhode Island residents.

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).

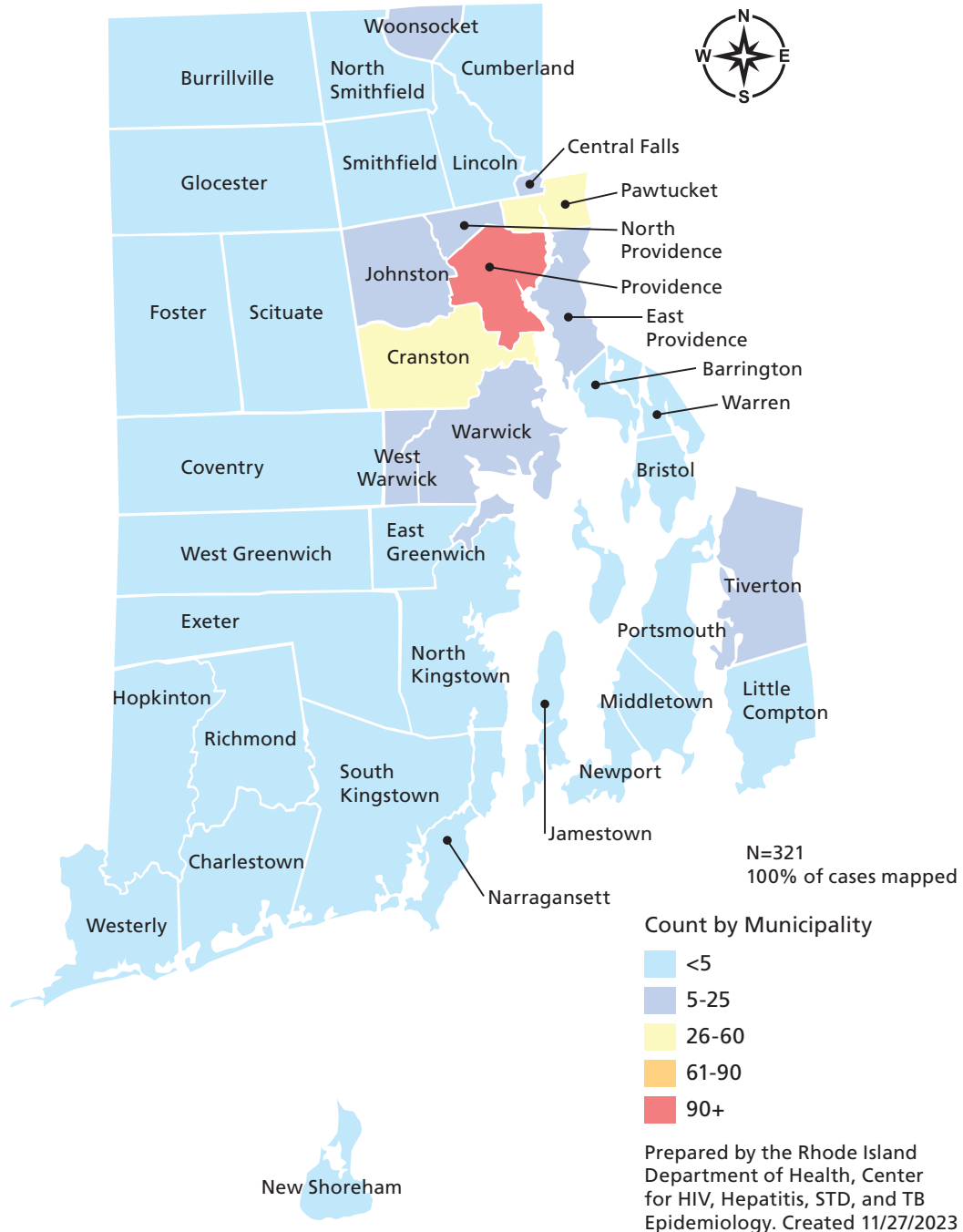
Transgender men: (also known as trans men, transmasculine persons, or men of transgender experience) are men who were assigned female sex at birth (born with female anatomy).

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.



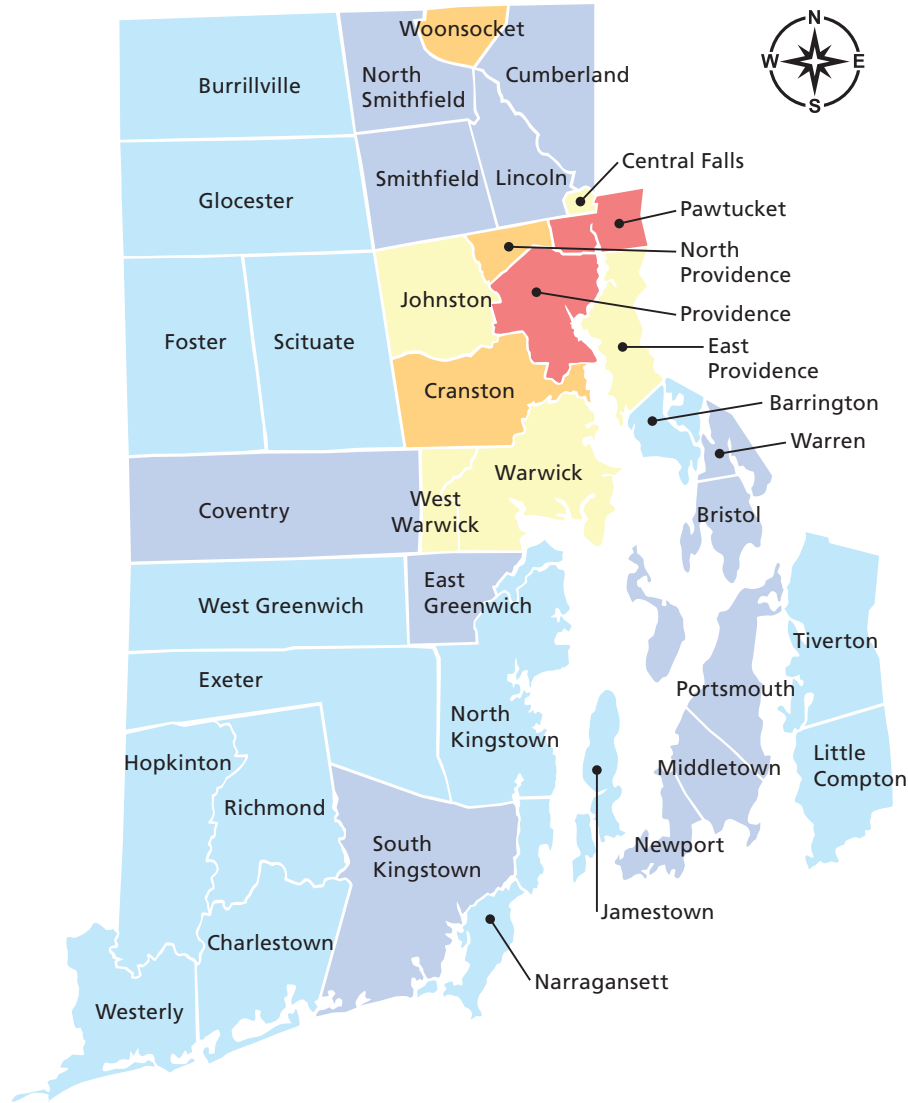
18 | APPENDIX

Newly-Diagnosed Cases of HIV, by Municipality, Rhode Island 2018-2022



Map shown is not to scale or positional accuracy

Reported Cases of Infectious Syphilis, by Municipality, Rhode Island, 2018-2022



Count by Municipality

- 0 - 9
- 10 - 24
- 25 - 49
- 50 - 99
- 100+

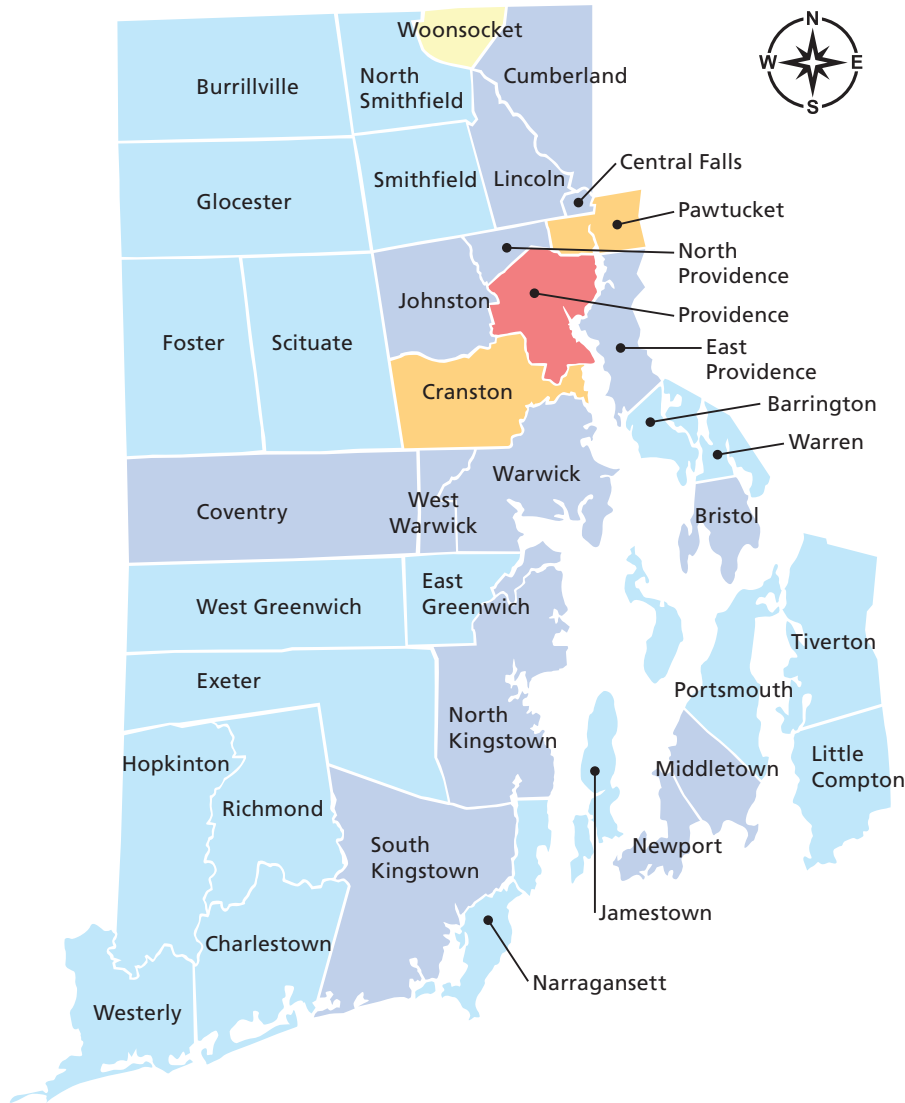
N = 1,128

100% of cases mapped.

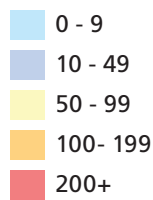
Prepared by the Rhode Island Department of Health, Center for HIV, Hepatitis, STD, and TB Epidemiology. Created 11/27/2023.

Map shown is not to scale or positional accuracy

Reported Cases of Gonorrhea, by Municipality, Rhode Island, 2022



Count by Municipality



N = 1,444

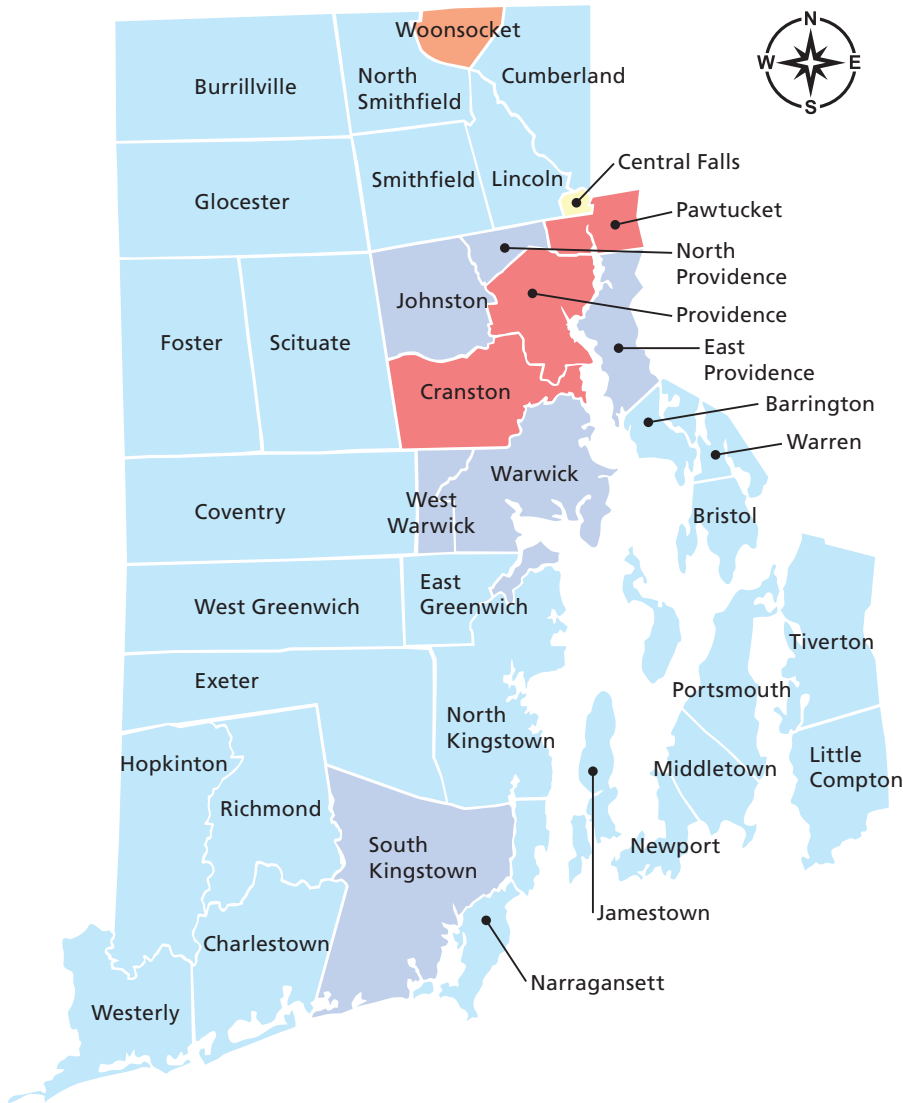
100% of cases mapped.

Prepared by the Rhode Island Department of Health, Center for HIV, Hepatitis, STD, and TB Epidemiology. Created 11/27/2023.



Map shown is not to scale or positional accuracy

Reported Cases of Chlamydia, by Municipality, Rhode Island, 2022



Count by Municipality

- 0 - 99
- 100 - 199
- 200 - 299
- 300 - 399
- 400+


N = 5,199
100% of cases mapped.

Prepared by the Rhode Island Department of Health, Center for HIV, Hepatitis, STD, and TB Epidemiology. Created 11/27/2023

Map shown is not to scale or positional accuracy

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