



## **RHODE ISLAND**

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

# 2018



## Acknowledgments

Division of Preparedness, Response, Infectious Diseases and Emergency Medical Services; Center for HIV, Hepatitis, STD, and TB Epidemiology

Utpala Bandy, MD, MPH  
Medical/Division Director,  
Rhode Island State Epidemiologist

Christine Goulette, MAT  
Chief Administrative Officer

Thomas Bertrand, MA, MPH  
Chief, Center for HIV, Hepatitis, STD, and TB Epidemiology

Theodore P. Marak, MPH  
Surveillance and Evaluation Manager

Katharine Howe, MPH  
Prevention Manager

Caroline Gummo, MHS  
STD/TB Epidemiologist

Matthew Spence, MPH  
Public Health Epidemiologist

Anna Civitarese, MPH  
HIV Surveillance Epidemiologist

Philip A. Chan, MD  
Consultant Medical Director

## Special thanks to:

Jill Lamantia, RN

Tara Cooper, MPH

Aaron Frechette

Hanna Kim, PhD

Zoanne Parillo

Guillermo Ronquillo

Diann Sullivan

Tricia Washburn

Benjamin Lafazia

Johana Ramos

Kathy Taylor

---

Center for HIV, Hepatitis,  
STD, and TB Epidemiology  
Phone: 401-222-2577  
Fax: 401-222-2488  
[health.ri.gov](http://health.ri.gov)



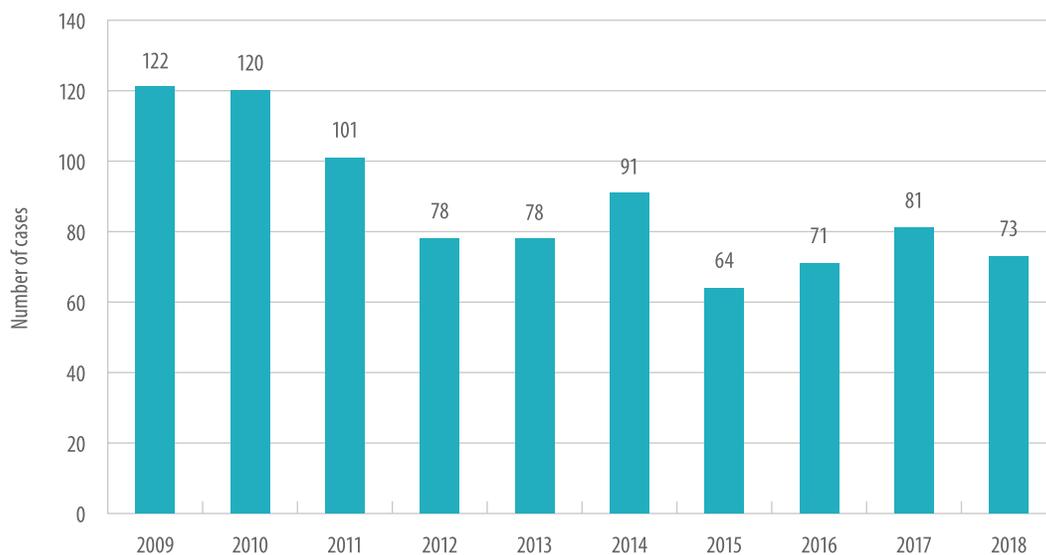
# TABLE OF CONTENTS

01	<b>HIV/AIDS</b>	2
02	<b>Rhode Island HIV Care Continuum</b>	6
03	<b>Infectious Syphilis</b>	7
04	<b>Gonorrhea</b>	9
05	<b>Chlamydia</b>	11
06	<b>Viral Hepatitis</b>	13
07	<b>Tuberculosis</b>	15
08	<b>Racial and Ethnic Groups</b>	19
09	<b>Females</b>	23
10	<b>Gay, Bisexual, and Other Men Who Have Sex with Men</b>	26
11	<b>Youth and Young Adults</b>	29
12	<b>STD Behavioral Risk Factors Among Adults</b>	32
13	<b>Geographic Distribution of HIV and STDs in Rhode Island</b>	34
14	<b>Glossary of Terms and Data Sources</b>	36
15	<b>Data Limitations</b>	38
16	<b>Appendix</b>	39

# 01 | HIV/AIDS

The human immunodeficiency virus (HIV) is a virus 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 potentially result in death.

**FIGURE 1**  
**Number of Newly Diagnosed Cases of HIV, Rhode Island, 2009-2018**

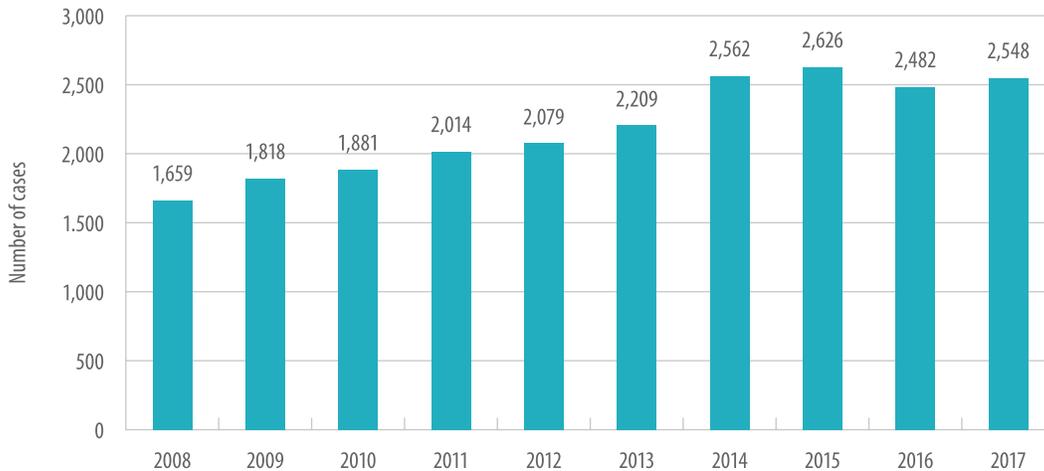


Source: Rhode Island Department of Health

Over the last 10 years, there has been an overall reduction in the number of newly diagnosed cases of HIV in Rhode Island. There has been a slight increase since 2015. While the reason for this increase is unclear, it may be related to higher rates of HIV testing and/or to behavior changes that impact HIV transmission.

**FIGURE 2**

**Estimated Number of Persons Diagnosed and Living with HIV, Rhode Island, 2008-2017**



Source: Rhode Island Department of Health

An estimated 2,500 Rhode Islanders were diagnosed with and living with HIV through the end of 2017. It is also estimated that about 7-8% of individuals who are HIV-infected do not know their status which suggests the numbers above may be an underestimate of all Rhode Islanders living with HIV. Due to advances in HIV treatment, people who are HIV-positive are living longer lives and represent a growing segment of Rhode Island's population. The number of individuals living with HIV in Rhode Island is impacted by patients moving in and out of Rhode Island and the completeness and accuracy of surveillance data. Estimates for 2014-2017 may be the most accurate due to improved data quality. Previous estimates may not have fully accounted for out-of-state migration and updated residence information.

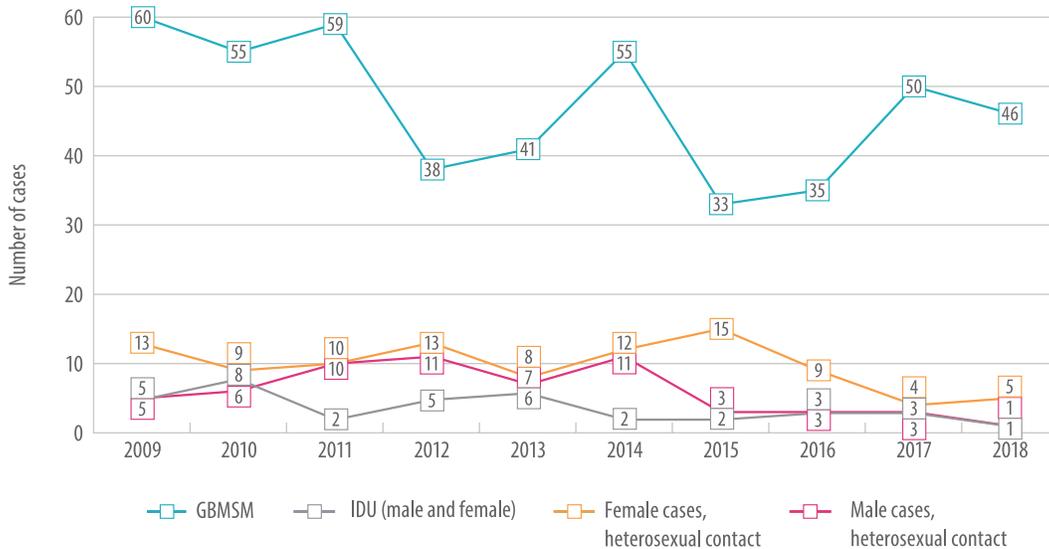
### HIV/AIDS Deaths

Since 1983, a total of 2,069 deaths have occurred among Rhode Island residents diagnosed with HIV/AIDS. However, only 226 (10.9%) of those deaths occurred from 2013-2017, and deaths decreased annually in this five-year period. This reduction in deaths underscores the impact of improved treatment and access to care for people living with HIV.

Source: Rhode Island Department of Health

**FIGURE 3**

**Number of Newly Diagnosed Cases of HIV, by Mode of Exposure, Rhode Island, 2009-2018**



Source: Rhode Island Department of Health  
Cases for which mode of exposure could not be determined are not included in this figure.

In the last 10 years, slightly more than half (53.7%) of newly diagnosed cases were among gay, bisexual, or other men who have sex with men (GBMSM). In the last five years, that percentage has increased to 57.6%. Meanwhile, the number of newly diagnosed cases of HIV among heterosexual males and females, as well as persons who inject drugs, has remained low. In 2018, there were more than 4 times as many cases of HIV among GBMSM when compared to females, male heterosexuals, and people who inject drugs, combined. (Note: Among individuals whose mode of exposure could be determined; individuals without a mode of exposure who reported both MSM and IDU were not included.)

### Intravenous Drug Use

HIV infection associated with intravenous drug use (IDU) has decreased substantially in the last 20 years. In 2018, fewer than five newly-diagnosed cases of HIV were attributed to IDU. In the last five years, fewer than 3% of newly-diagnosed cases were attributed to IDU. A significant factor in the success of reducing IDU 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

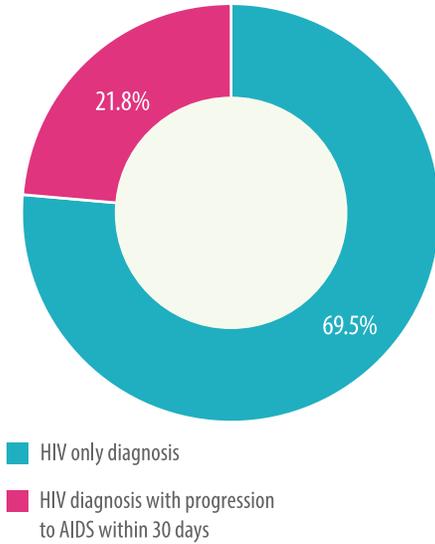
### Mother-to-child HIV Transmission

A Rhode Island public health success has been the virtual elimination of HIV among babies born to mothers who are HIV positive. This success is due in large part to the routine HIV testing of pregnant women and anti-retroviral therapy when indicated as part of prenatal care. From 2014-2018, there were fewer than five reported cases of mother-to-child HIV transmission and zero born in Rhode Island facilities.

Source: Rhode Island Department of Health

**FIGURE 4**

**Percentage of Newly Diagnosed Cases of HIV, by Disease Progression at Diagnosis, Rhode Island, 2014-2018**

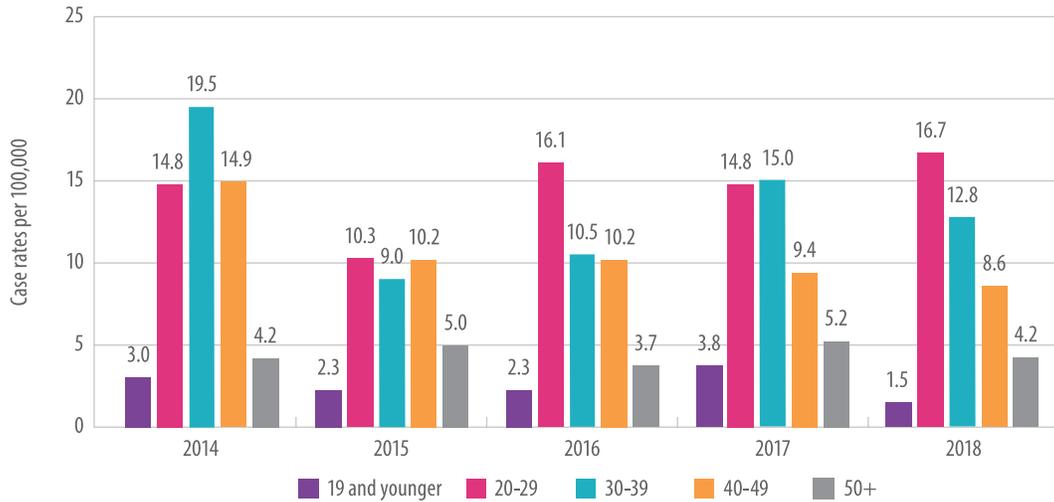


From 2014-2018, about 22% of individuals newly diagnosed with HIV in Rhode Island also had a concurrent HIV stage 3 (AIDS) diagnosis. The average time from untreated HIV infection to development of stage 3 infection is eight years. During this time, undiagnosed HIV-positive individuals could have benefitted from treatment which would have maintained their immune function and prevented transmission to others. Because many people with HIV do not have any symptoms, undiagnosed HIV-positive individuals may unknowingly transmit HIV to others.

Source: Rhode Island Department of Health

**FIGURE 5**

**Rates of Newly Diagnosed Cases of HIV, by Age, Rhode Island, 2014-2018**



Source: Rhode Island Department of Health

In the past five years, the rates of newly diagnosed HIV cases were highest among Rhode Islanders in their 20s, 30s, and 40s. Rates among individuals ages 20-29 and 30-39 have remained consistently high compared to other groups.

## 02 | RHODE ISLAND HIV CARE CONTINUUM

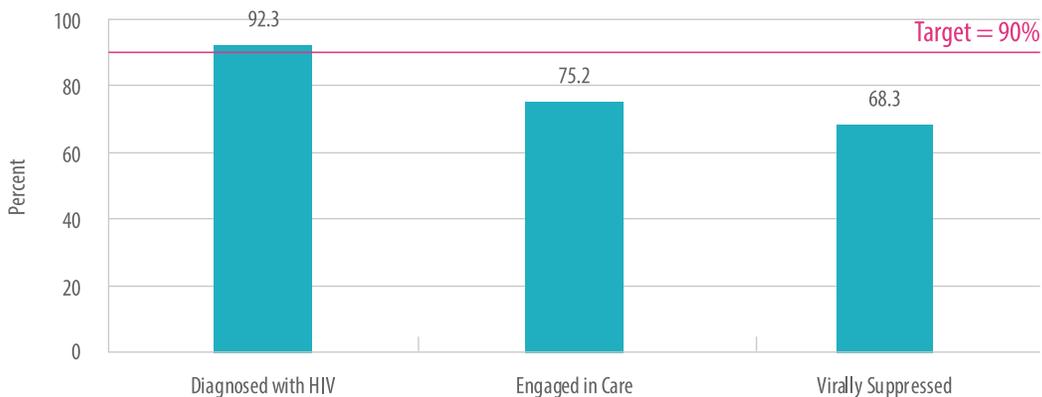
Rhode Island has signed on to the International Association of Providers of AIDS Care (IAPAC) Fast-Track Cities Initiative which is a global partnership with local municipalities, IAPAC, the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Human Settlements Program (UN-Habitat),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

The Rhode Island HIV Care Continuum is a visual representation of the care status of individuals diagnosed with HIV who reside in Rhode Island. As the Care Continuum (Figure 6) indicates, Rhode Island has met the first of its 90-90-90 goals: 92% of Rhode Islanders who are HIV positive now know their status. For the second goal, 75% of Rhode Islanders living with HIV are in care, up from 71% in 2015. For the third goal, 68% of Rhode Islanders living with HIV have achieved viral suppression, up from 61% in 2015.

To help track these efforts and ensure accountability and transparency, RIDOH provides quarterly updates on 90-90-90 progress online at [www.health.ri.gov/909090](http://www.health.ri.gov/909090).

**FIGURE 6**

**Rhode Island HIV Care Continuum, 2018**



Based on individuals diagnosed with HIV infection through 12/31/2017 and living as of 12/31/2018 and residing in Rhode Island (based on most recent residence).

Based on HIV surveillance data reported through 04/01/2019. Data are provisional and subject to change. Estimate of undiagnosed population based on HIV surveillance data through 2016, reported through 12/31/2018.

## 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 lead to stillbirths and infant deaths. Untreated babies may become developmentally delayed, experience seizures, and die. Once diagnosed, syphilis is curable with antibiotics.

**FIGURE 7**  
**Number of Infectious Syphilis Cases, Rhode Island, 2009-2018**

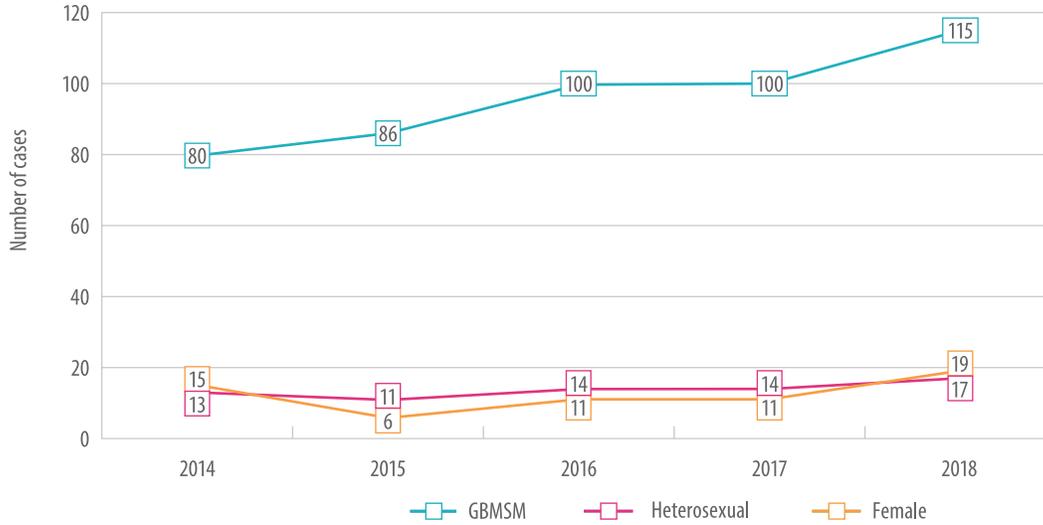


Source: Rhode Island Department of Health

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 2009-2018, there was a 391% increase in infectious syphilis cases, from 34 cases in 2009 to 167 cases in 2018.

**FIGURE 8**

**Number of Infectious Syphilis Cases, by Sex and Sexual Orientation, Rhode Island, 2014-2018**

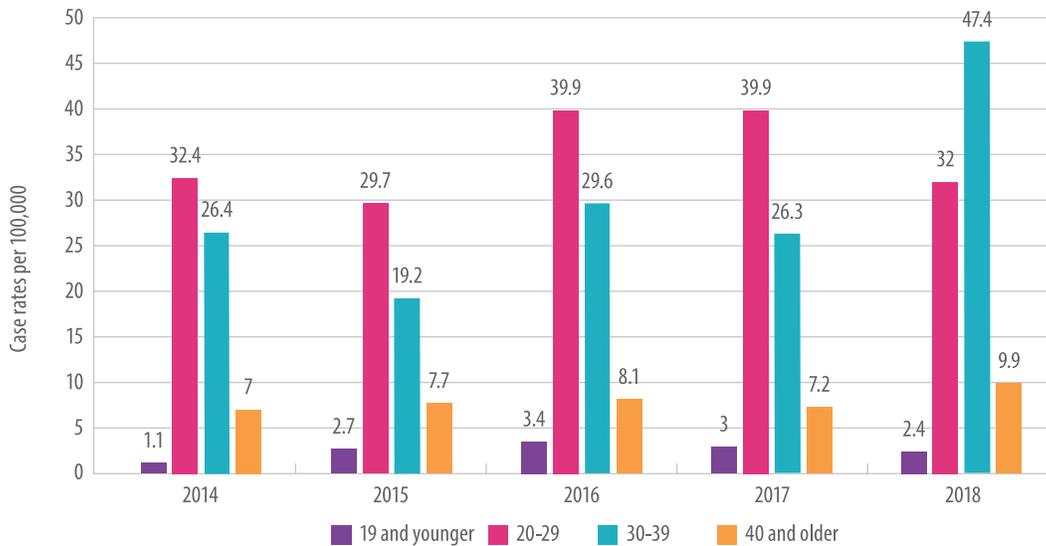


Source: Rhode Island Department of Health

GBMSM are disproportionately affected by infectious syphilis in Rhode Island. This health disparity has increased significantly in the past 10 years. In 2018, there were about 6 times as many cases of infectious syphilis among GBMSM as there were among heterosexual males and females.

**FIGURE 9**

**Rates of Infectious Syphilis Cases, by Age, Rhode Island, 2014-2018**



Source: Rhode Island Department of Health

From 2014-2018, people in their 20s and 30s had the highest infectious syphilis rates in Rhode Island. No babies were born with congenital syphilis in the last five 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 women can transmit gonorrhea to their newborn babies, resulting in health problems for the child.

**FIGURE 10**  
**Number of Gonorrhea Cases, Rhode Island, 2009-2018**

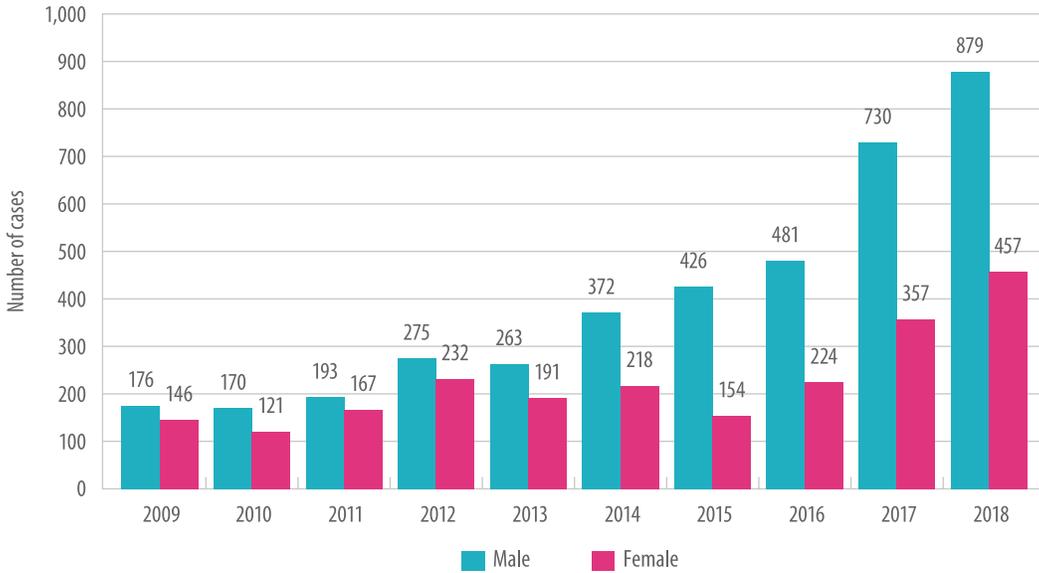


Source: Rhode Island Department of Health

Since 2010, rates of gonorrhea have increased by 359% 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 recent years.

**FIGURE 11**

**Number of Gonorrhea Cases, by Sex, Rhode Island, 2009-2018**

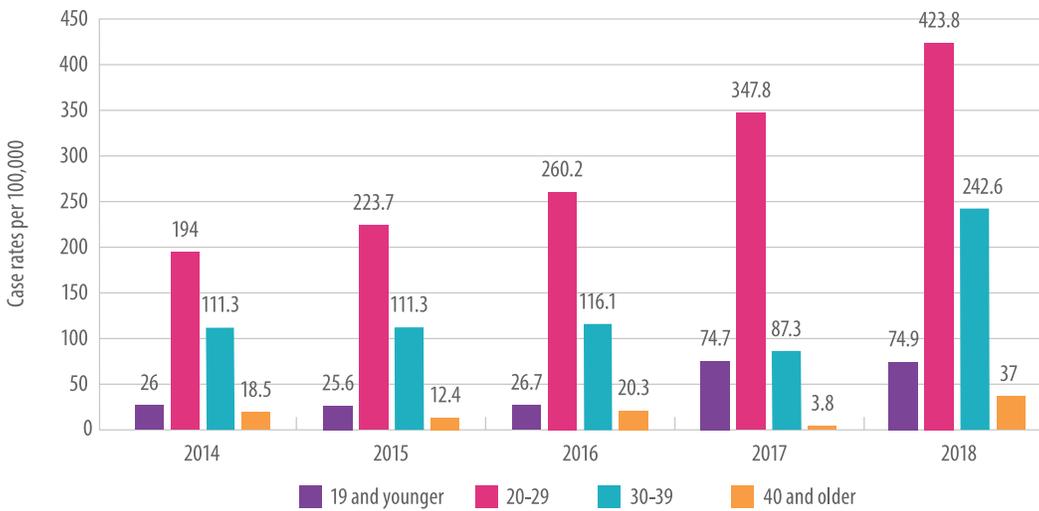


Source: Rhode Island Department of Health

In the last 10 years, more gonorrhea cases have been observed in males than in females. This is likely attributable to a rise in gonorrhea in the GBMSM population.

**FIGURE 12**

**Rates of Gonorrhea Cases, by Age, Rhode Island, 2014-2018**



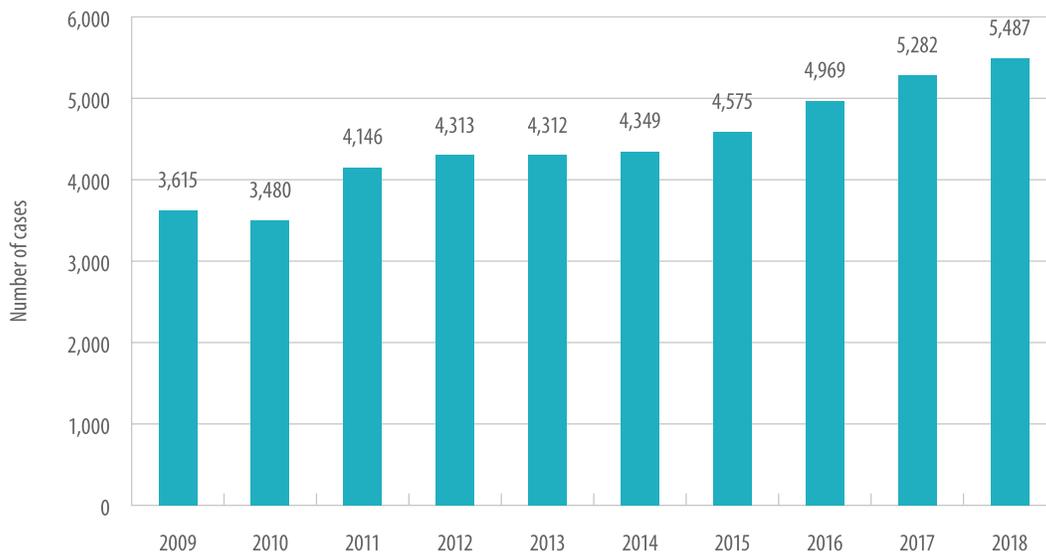
Source: Rhode Island Department of Health

From 2014-2018, case rates for gonorrhea were consistently highest among people in their 20s, followed by people in their 30s.

# 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. Untreated chlamydia can lead to serious health problems, especially among young women, including pelvic inflammatory disease, ectopic pregnancy, and infertility.

**FIGURE 13**  
**Number of Chlamydia Cases, Rhode Island, 2009-2018**

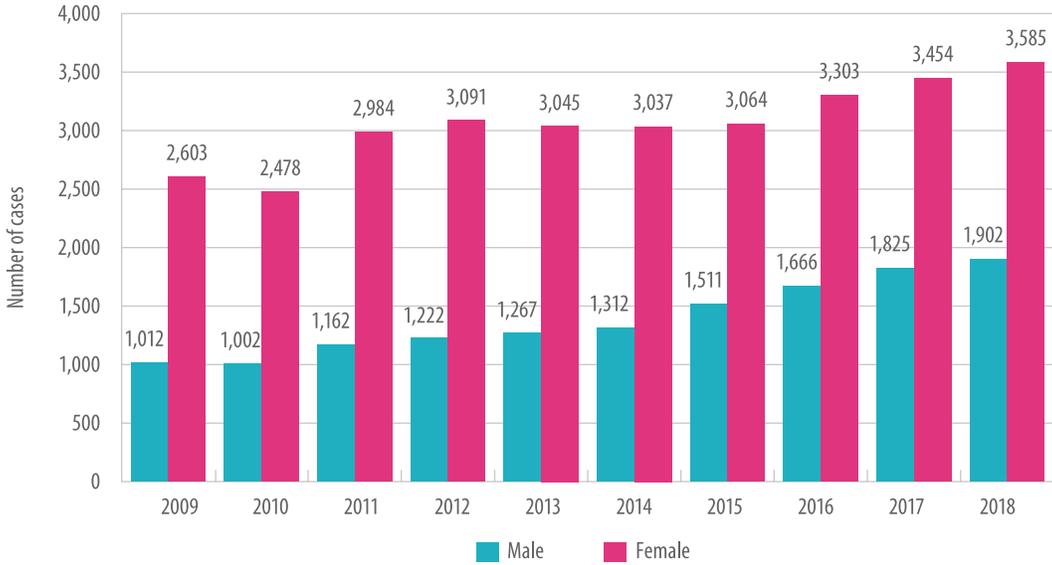


Source: Rhode Island Department of Health

In the last 10 years, the number of chlamydia cases has increased by 52% from 3,615 cases in 2009 to 5,487 cases in 2018.

**FIGURE 14**

**Number of Chlamydia Cases, by Sex, Rhode Island, 2009-2018**

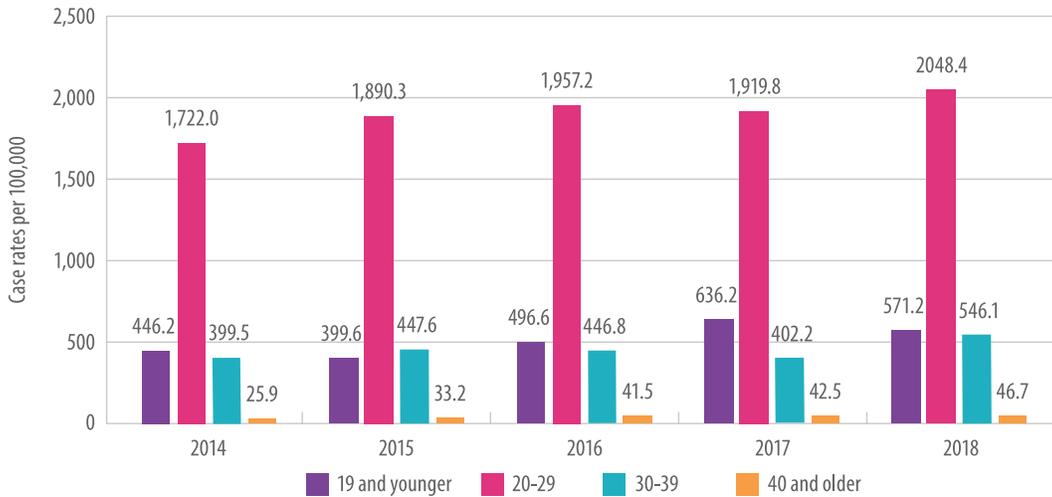


Source: Rhode Island Department of Health

The majority of chlamydia cases in the last 10 years have been diagnosed in females. In 2018, nearly twice as many cases were diagnosed in females than in males. This difference is likely due to two factors. Women generally access routine healthcare more frequently than men do so they are screened for chlamydia more frequently. Also, many men who have chlamydia are not diagnosed and treated because their infections are often asymptomatic.

**FIGURE 15**

**Rates of Chlamydia Cases, by Age, Rhode Island, 2014-2018**



Source: Rhode Island Department of Health

From 2014-2018, the highest rates of chlamydia were in people in their 20s, followed by people age 19 or younger and people in their 30s. Rates in people in their 20s have increased over the last five years.

## 06 | VIRAL HEPATITIS

Hepatitis refers to inflammation of the liver. When the liver is inflamed, or damaged, its function can be affected. Hepatitis can be caused by heavy alcohol use, toxins, some medications, and certain medical conditions. However, hepatitis is also caused by 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. It is estimated that 3.2 million Americans are chronically infected.<sup>1</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.

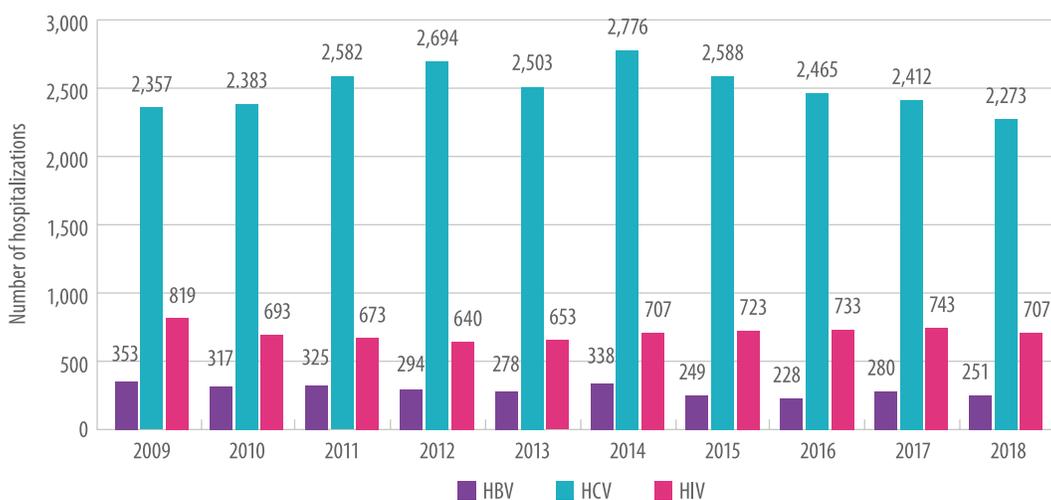
An estimated 16,603 to 22,660 people in Rhode Island (approximately 2% of Rhode Islanders) have ever been infected with HCV.<sup>2</sup> Roughly 20% of those infected with HCV will clear their infection without any treatment. The remaining 80% are at risk of developing chronic disease.

Individuals born between 1945 and 1965, known as baby boomers, bear a disproportionate share of the HCV disease burden across the nation. Baby boomers may have been exposed in the past through medical procedures, needle-sharing, or sexual contact. HCV was not identified and understood during the 1970s when many of these infections occurred. The length of time since infection, combined with an aging baby boomer population, has led to an increase in hospitalizations and an increase in deaths among those infected with HCV.

Figure 16 shows hospitalizations with any discharge diagnosis of HBV, HCV, or 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, 2009-2018



Source: Rhode Island Department of Health

**FIGURE 17**

**Number of Deaths Associated with HBV, HCV, and HIV, Rhode Island, 2009-2018**



Source: Rhode Island Department of Health

In Rhode Island, similar to 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>3</sup> The number of deaths related to HCV has increased 272% in the last 10 years.

Most deaths associated with HCV were among males, and nearly 50% of all deaths were in men age 50-59. More than 75% of HCV decedents were age 45-64 at the time of death.

Over the past few years there have been advances in treatment options and improvements in health-care 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 someone with active TB disease in the lungs or throat coughs, sings, or even speaks, TB bacteria can be released into the air and can stay in the air for hours.

Active TB can be 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 or symptoms, radiographic, or bacteriologic evidence of TB disease. While not everyone with LTBI will develop active TB disease, about 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**

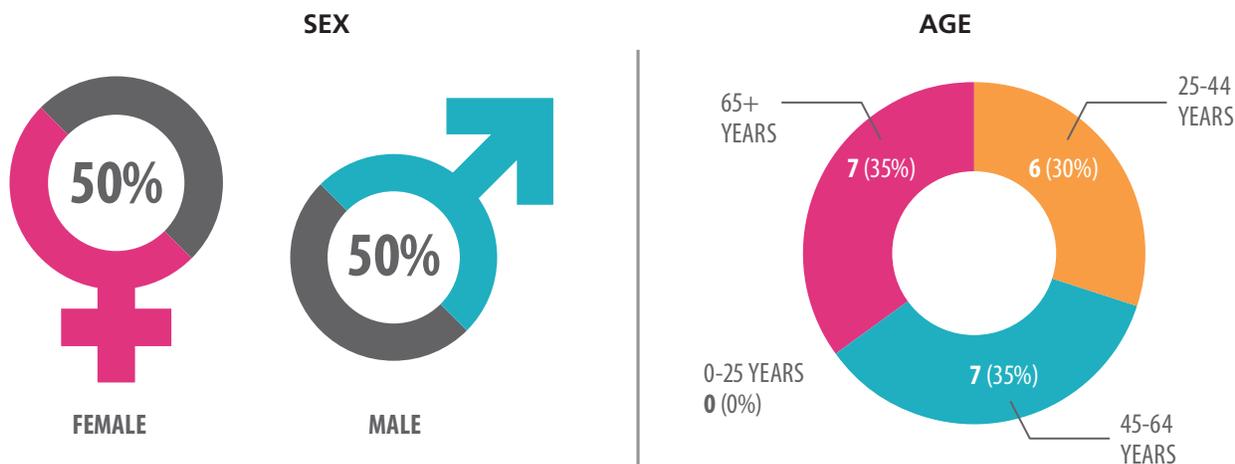
**Number of Diagnosed Cases of Active Tuberculosis, Rhode Island, 2009-2018**



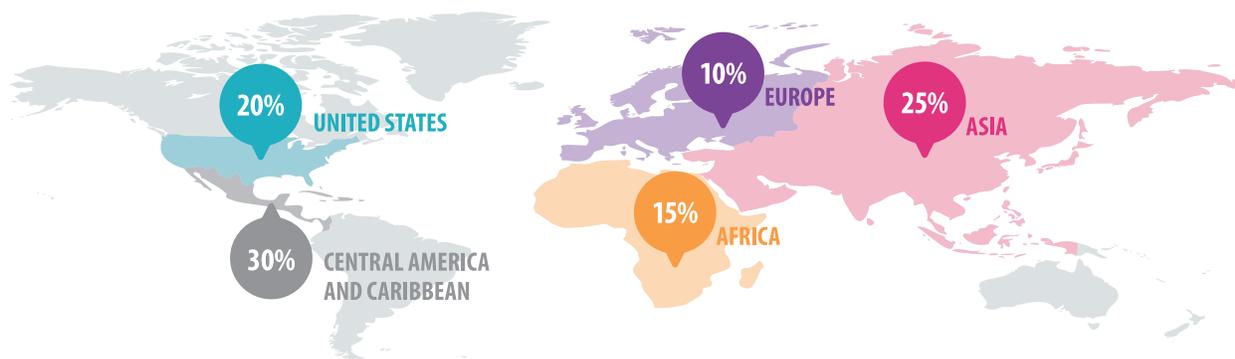
Source: Rhode Island Department of Health

Over the last ten years, the number of reported cases of active tuberculosis has remained relatively low, ranging from 12 to 30 cases. Between 2015 and 2016 the number of active TB cases dropped significantly from 30 to 12 but rose to 20 cases in 2018.

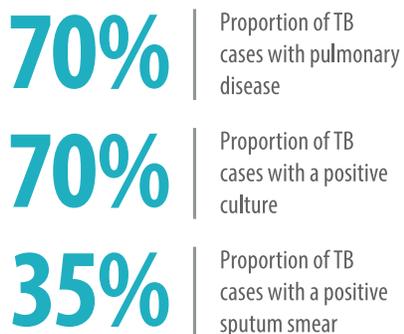
## Demographic Characteristics of Active Tuberculosis Cases (n=20), 2018



## COUNTRY OF BIRTH



### CLINICAL CHARACTERISTICS - 2018



### Tuberculosis Drug Resistance

TB resistance occurs when people are infected with a drug resistant strain, 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. In 2018, 19% of cases were resistant to one drug and 5% of cases were MDR-TB.

**FIGURE 19****Demographic Characteristics of Active Tuberculosis Cases, Rhode Island 2009-2018**

<b>Total Number of Cases</b>	223	
<b>Race/Ethnicity</b>		
Non-Hispanic White	38	17.0%
Non-Hispanic Black	46	20.6%
Hispanic or Latino	71	31.8%
Asian	68	30.5%
Am Indian/AK Native	<5	NA
HI Native/Pacific Islander	<5	NA
<b>Sex</b>		
Female	104	46.6%
Male	119	53.4%
<b>County of Residence</b>		
Bristol	<5	NA
Kent	11	4.9%
Newport	9	4.0%
Providence	191	85.7%
Washington	8	3.6%
<b>Country of Origin</b>		
United States	50	22.4%
Not United States	173	77.6%
<b>Age Group</b>		
0–4	8	3.6%
5–14	5	2.2%
15–24	21	9.4%
25–44	69	30.9%
45–64	53	23.8%
65+	67	30.0%
<b>Site of disease</b>		
Pulmonary	131	58.7%
Extra-pulmonary	75	33.6%
Both	17	7.6%
<b>Sputum Smear (+)</b>	63	28.3%
<b>HIV (+)</b>	<5%	NA
<b>MDR-TB</b>	<5%	NA

Source: Rhode Island Department of Health

### TB Directly Observed Therapy Program

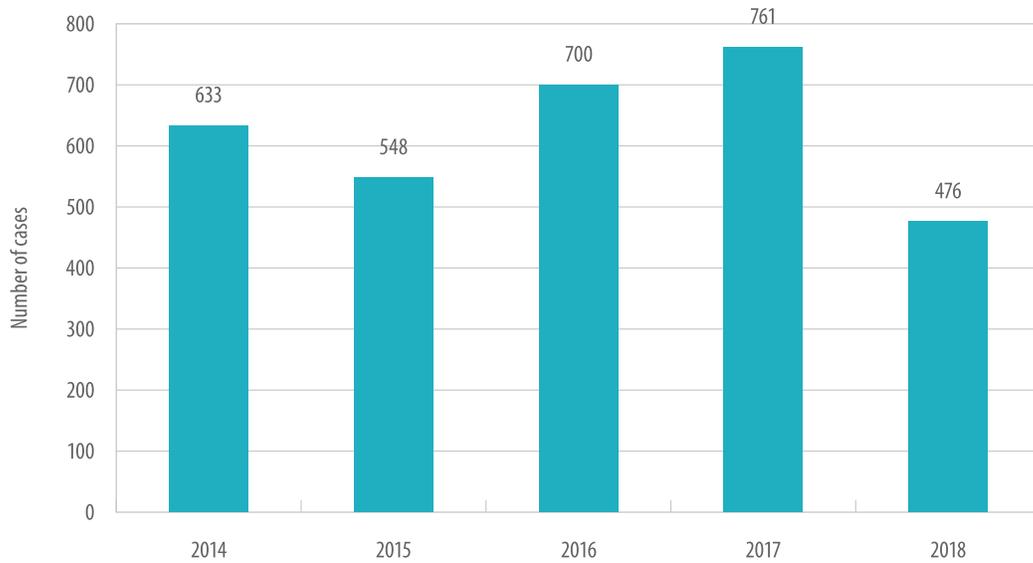
RIDOH has two over-arching priorities in order to prevent TB transmission in Rhode Island.

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. Over the last 10 years, the DOT program has had an average medication administration success rate of 98%.

**FIGURE 20**

**Reported cases of Latent Tuberculosis Infection (LTBI), Rhode Island, 2014-2018**



Source: Rhode Island Department of Health

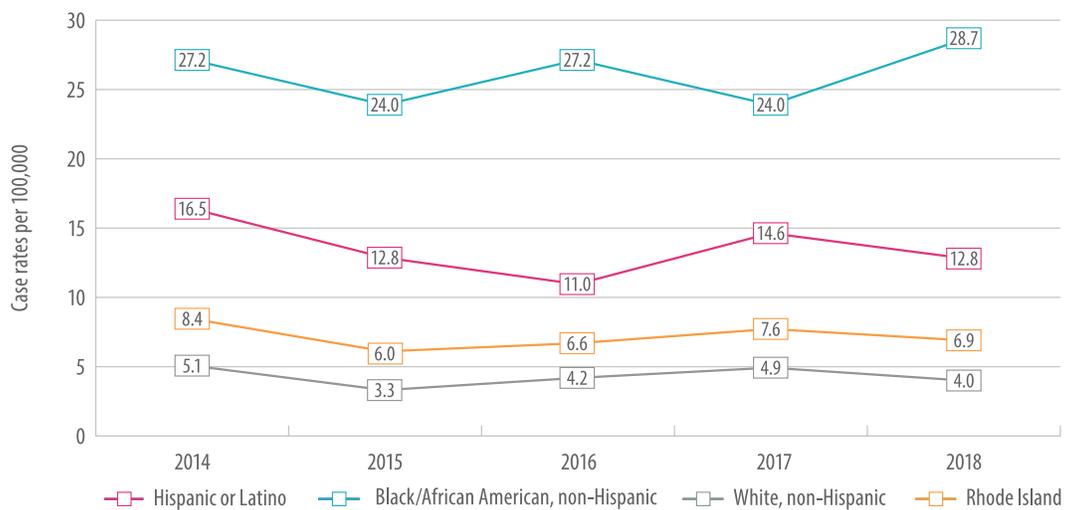
### Latent TB Infection (LTBI)

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.

## 08 | RACIAL AND ETHNIC GROUPS

According to the CDC, acknowledging the inequities in STD 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 STD 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, 2014-2018**

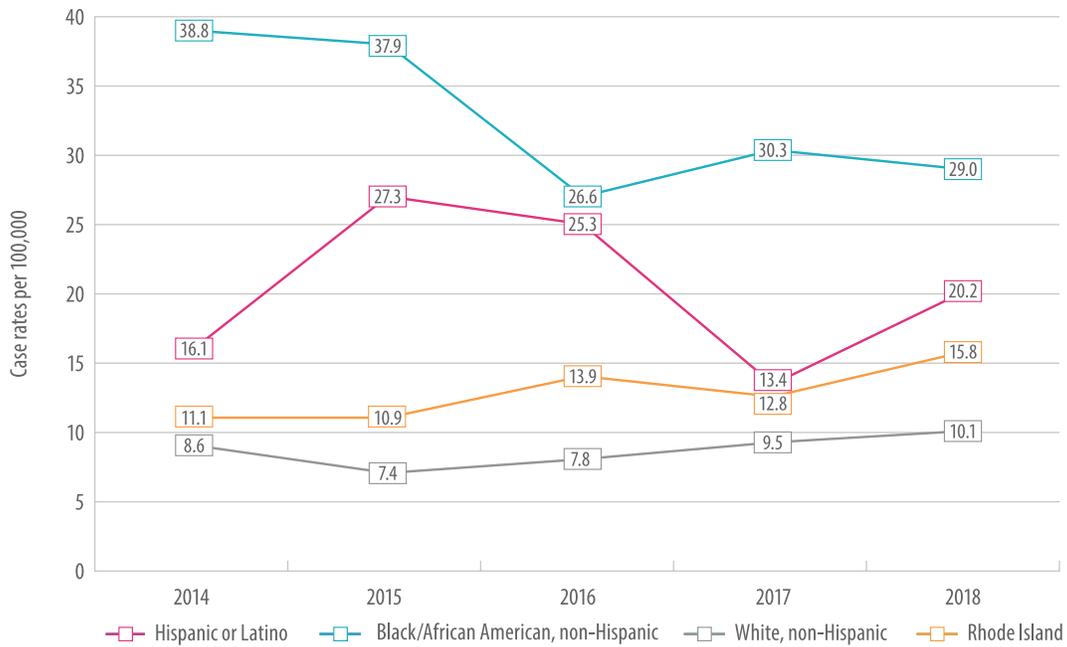


Source: Rhode Island Department of Health

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 whites, in 2018, the rates of HIV were over seven times higher among Blacks/African Americans, and three times as high among Hispanics/Latinos.

**FIGURE 22**

**Rates of Infectious Syphilis, by Racial and Ethnic Group, Rhode Island, 2014-2018**

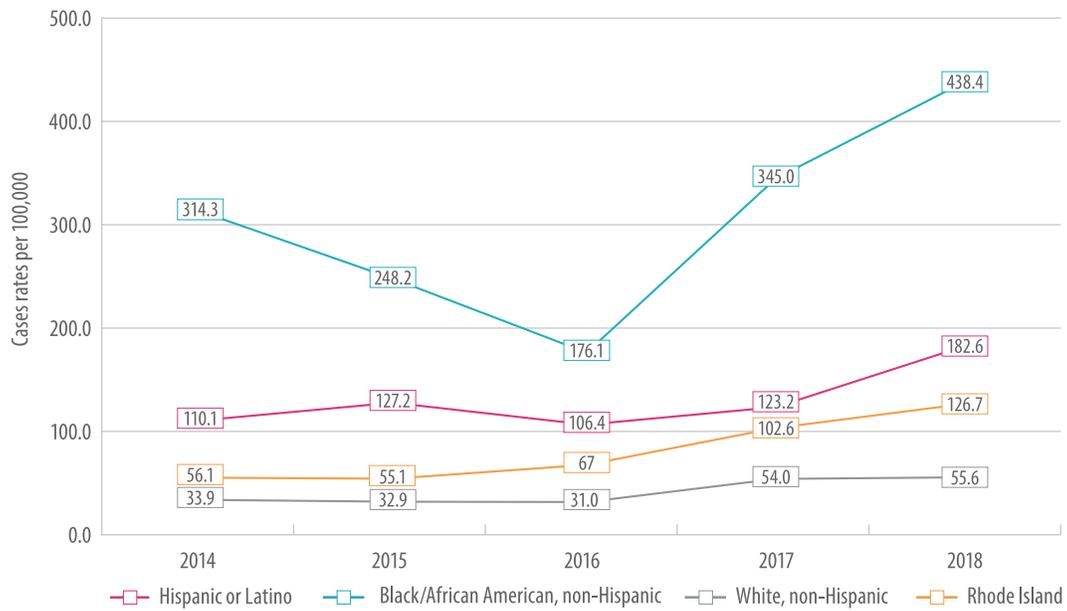


Source: Rhode Island Department of Health

Infectious syphilis diagnoses have increased in the last 10 years and disparities in syphilis rates among racial and ethnic groups in Rhode Island have grown. When compared to whites, in 2018, the rates of infectious syphilis were nearly three times higher among Blacks/African Americans.

**FIGURE 23**

**Rates of Gonorrhea, by Racial and Ethnic Group, Rhode Island, 2014-2018**



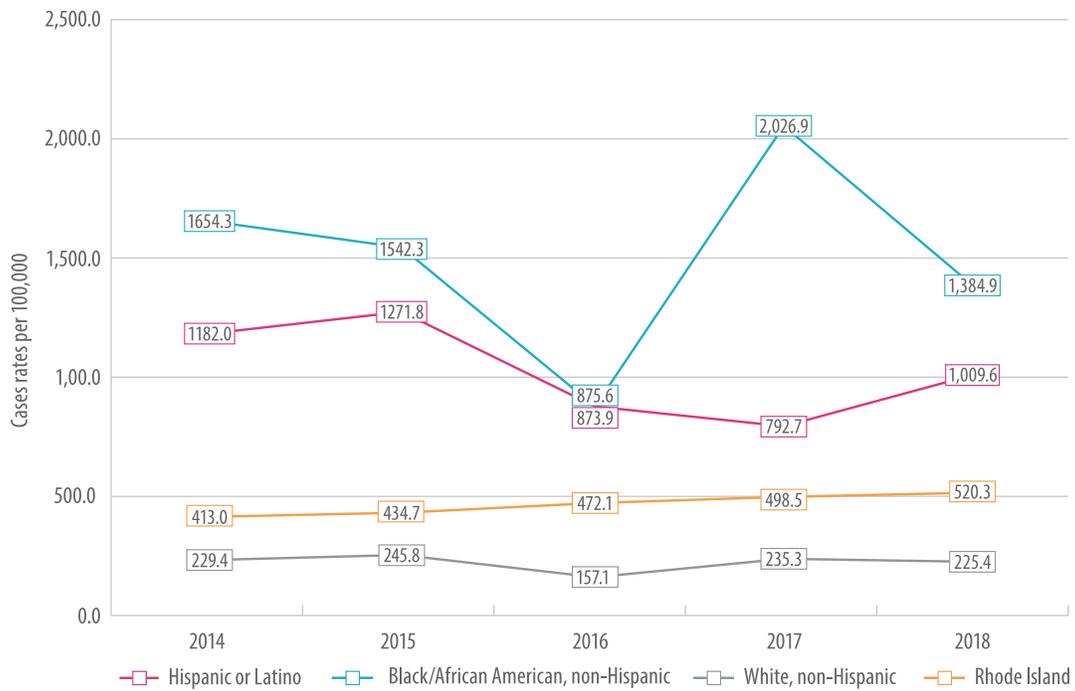
Source: Rhode Island Department of Health

Gonorrhea diagnoses have increased in the last 10 years and disproportionately affect the Black/African American population. In 2018, gonorrhea rates were more than seven times higher among Blacks/African Americans as compared to whites and nearly three times higher than among Hispanics.



**FIGURE 24**

**Rates of Chlamydia, by Racial and Ethnic Group, Rhode Island, 2014-2018**



Source: Rhode Island Department of Health

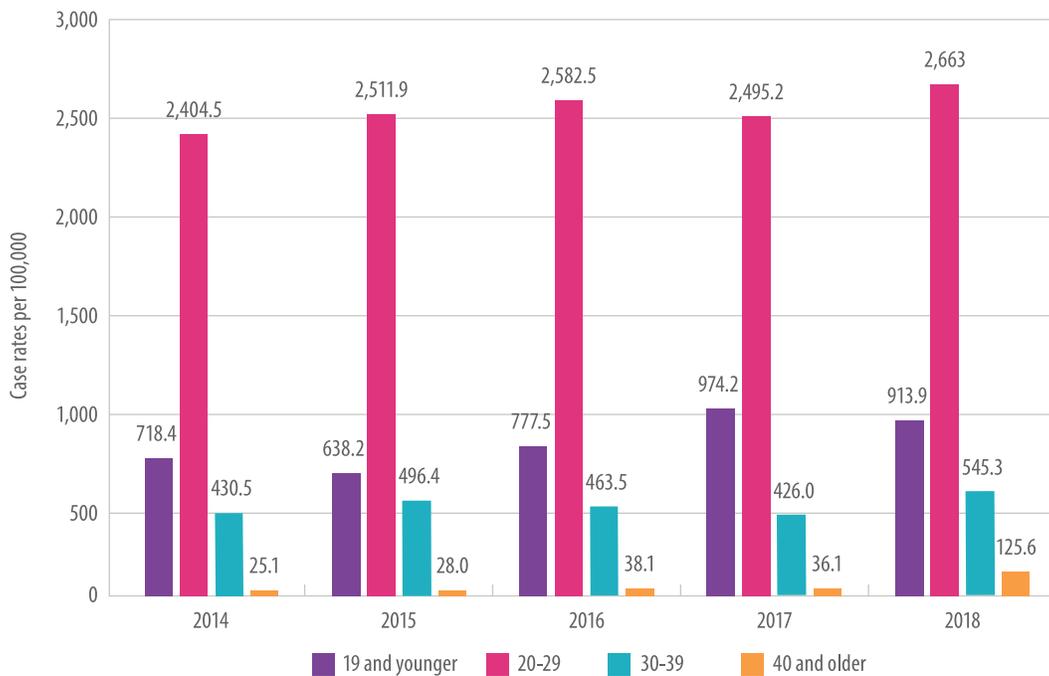
Chlamydia diagnoses have steadily increased in the last 10 years and disproportionately affect the Black/African American population. In 2018, chlamydia rates were more than six times higher among Blacks/African Americans as compared to whites. Of note, the rate of chlamydia doubled among Blacks/African Americans from 2016 to 2017.

## 09 | FEMALES

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 her newborn baby.

**FIGURE 25**

**Rates of Chlamydia in Females, by Age, Rhode Island, 2014-2018**

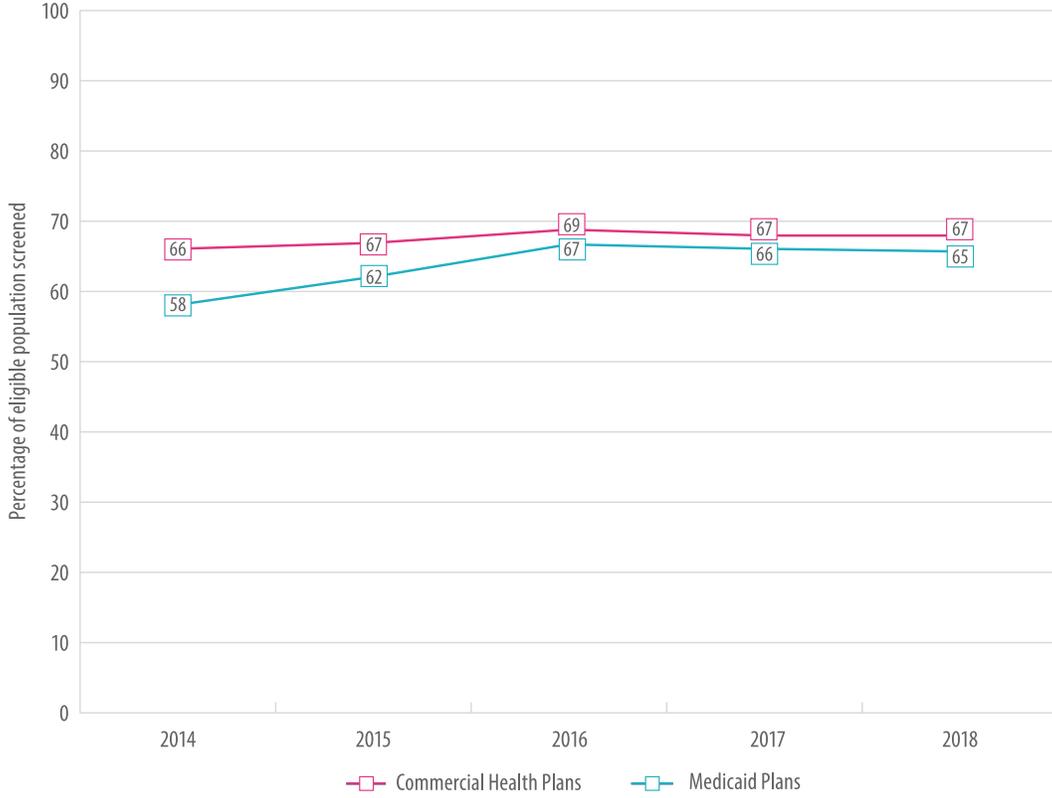


Source: Rhode Island Department of Health

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 2018, the rate of chlamydia among females in their 20s was more than three times higher compared to any other age group.

**FIGURE 26**

**Screening for Chlamydia in Females Age 16-24, by Insurance Plan, Rhode Island, 2014-2018**



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, that are screened for chlamydia. In 2017 in Rhode Island, 67% of women enrolled in Medicaid and 65% of women enrolled in commercial health plans were screened for chlamydia. These figures are well above the national averages. Nationally, in 2017, 54% of women enrolled in Medicaid and 44% enrolled in commercial health plans were screened for chlamydia (National Committee for Quality Assurance).

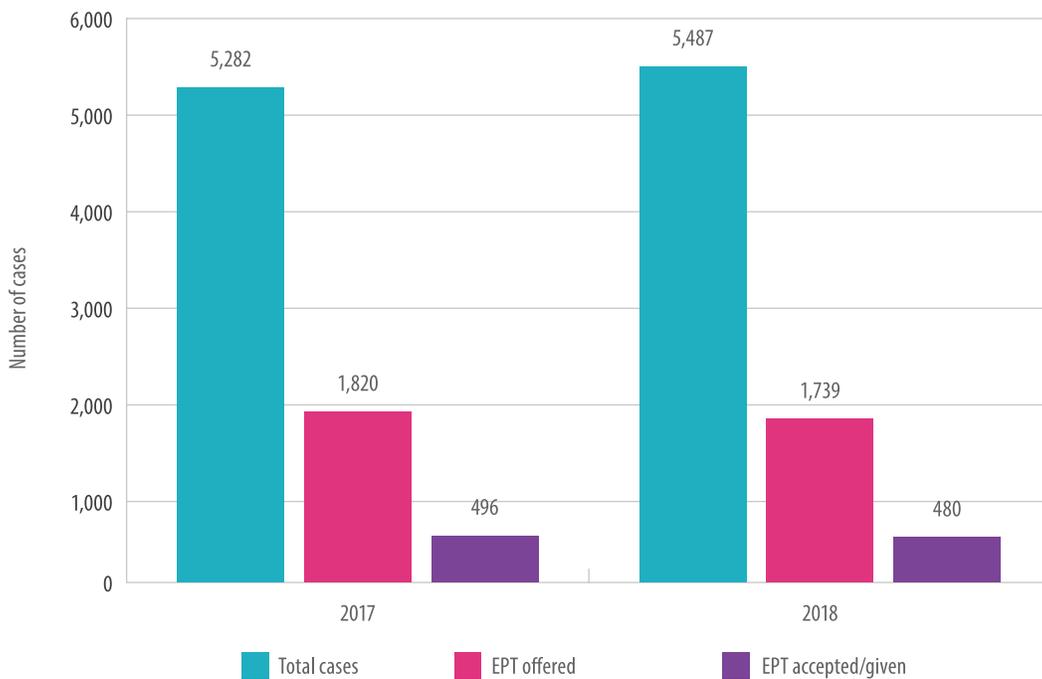
## HIV Risk Factors and Females

Characteristics of the 81 females that were newly diagnosed with HIV in Rhode Island from 2014 to 2018 include:

- Born outside of the United States: 71%
- Sex with someone known to be HIV positive: 22%
- Exchanged sex for money, drugs, goods, or services in their life: 5%
- Sex while high or intoxicated: 15%
- Forced to have sex involuntarily in their life: 12%
- Injected non-prescription drugs in their life: 9%
- History of incarceration: 9%

**FIGURE 27**

### Expedited Partner Therapy Offered/Accepted for Partners of Cases of Chlamydia, Rhode Island, 2017-2018



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

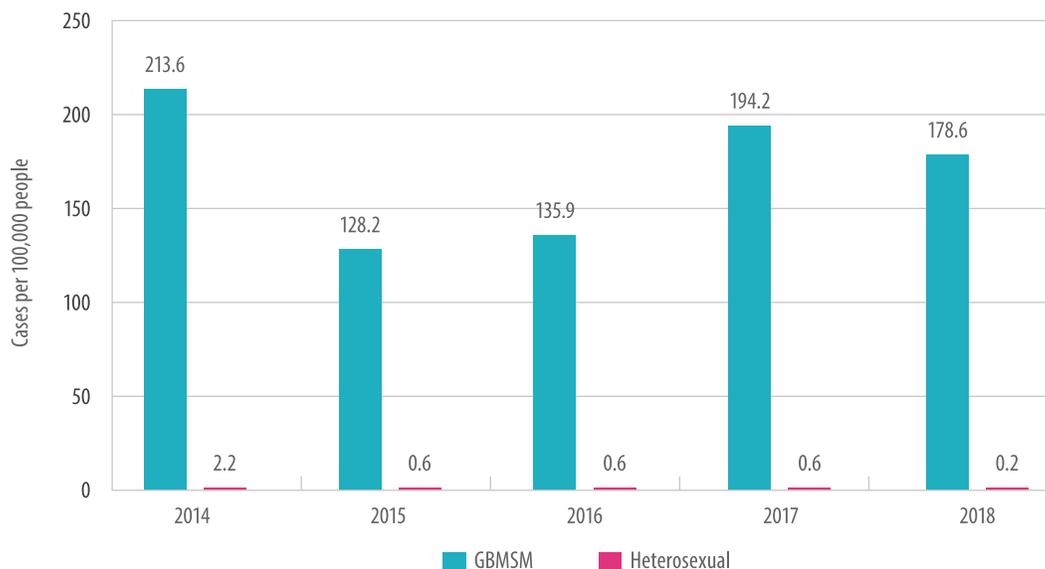
Legislation permitting Expedited Partner Therapy (EPT) was passed in Rhode Island in 2006. This legislation allows physicians to prescribe prescription drugs for a patient's sexual partners without evaluating or testing their patients' partners. The CDC recommends EPT as a useful option to facilitate partner management particularly for treatment of male partners of women with chlamydial infection. The percentage of chlamydia patients offered EPT declined from 34% to 32% between 2017 and 2018. Both years 27% of those offered EPT accepted it.

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

The relatively high incidence of STD infection among GBMSM may be related to multiple factors, including individual behaviors and sexual network characteristics.<sup>4-6</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 STDs.<sup>4</sup> However, GBMSM network characteristics such as high prevalence of STDs, interconnectedness and concurrency of sex partners, and possibly limited access to health care also affect the risk of acquiring an STD.<sup>4,7</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, 2014-2018**

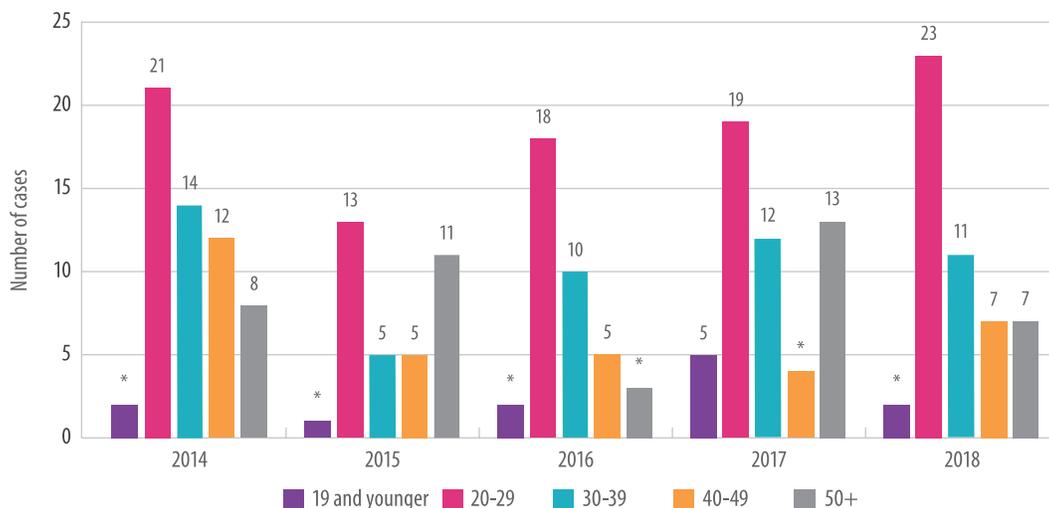


Source: Rhode Island Department of Health

In the last five years, the rates of newly diagnosed cases of HIV among GBMSM have been substantially higher than heterosexual men. Since 2015, rates among GBMSM has increased and, in 2018, the rate among GBMSM was over 850 times higher than heterosexual men.

**FIGURE 29**

**Newly Diagnosed Cases of HIV in GBMSM, by Age, Rhode Island, 2013-2017**



Source: Rhode Island Department of Health

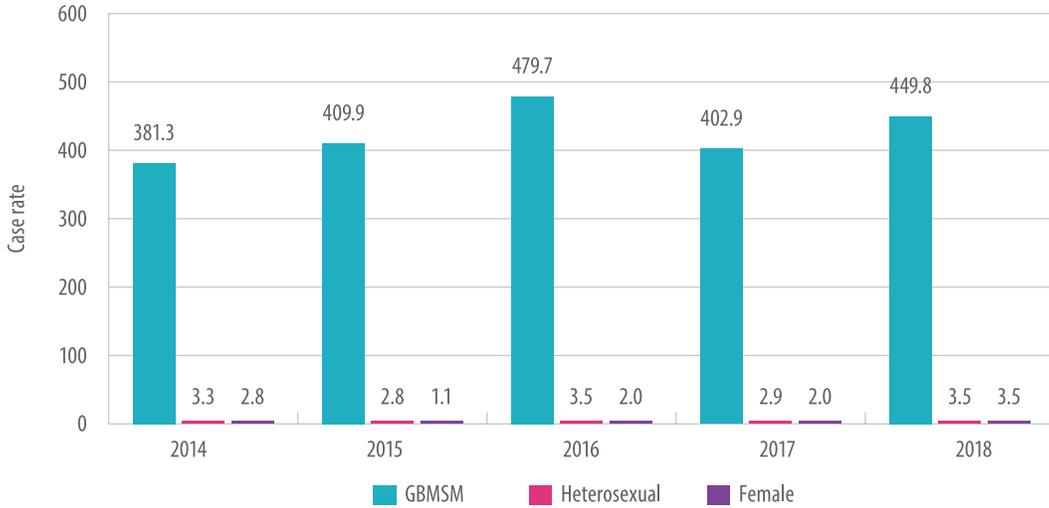
From 2014-2018, more GBMSM in their 20s were reported as newly-diagnosed cases of HIV compared to other age categories in Rhode Island. Like other areas in the United States, young gay/bisexual Black/African American and Hispanic/Latino men in Rhode Island have been increasingly affected by HIV. However, in 2016 and 2018, high numbers of cases among GBMSM over 50 years old were observed.

### Gonorrhea and the GBMSM Population

Information collected through interviews with men in Rhode Island diagnosed with gonorrhea indicates that approximately 52% of the males interviewed identified as GBMSM in 2018, compared to 35% in 2014. Some of the increase may be due to an increase in extragenital testing in GBMSM, which is detecting more gonorrhea cases that would have been missed in previous years.

**FIGURE 30**

**Rates of Infectious Syphilis in Males, by Sexual Orientation, Rhode Island, 2014-2018**



Source: Rhode Island Department of Health

Infectious syphilis was diagnosed in the GBMSM population 6.5 times more than in the heterosexual male population in 2018. Over the last five years this trend has been observed consistently.

**FIGURE 31**

**GBMSM with HIV and Infectious Syphilis, Rhode Island, 2014-2018**

Year	Cases identifying as GBMSM	Self-reported HIV positive	Percent HIV positive in GBMSM
2014	80	26	32.5
2015	86	24	27.9
2016	100	31	31.0
2017	100	24	24.0
2018	115	31	27.0

Source: Rhode Island Department of Health

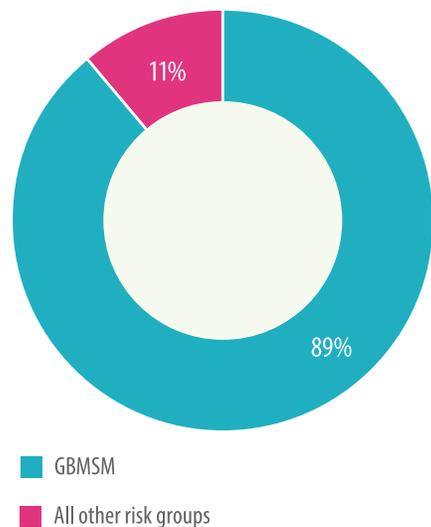
A substantial percentage of GBMSM diagnosed with infectious syphilis in recent years are also living with HIV. Of the 115 GBMSM who had infectious syphilis in 2018, 31 individuals (27%) were HIV-positive. HIV-positive men who are co-infected with infectious syphilis are more likely to spread HIV to their sexual partners than HIV-positive men who do not have infectious syphilis.

# 11 | YOUTH AND YOUNG ADULTS

According to the CDC, prevalence estimates suggest that young people (ages 15–24) account for half of all newly diagnosed STDs and that 25% of sexually-active adolescent females have an acquired STD.<sup>8</sup> Compared with older adults, sexually active young people are at higher risk of acquiring STDs due to a combination of behavioral, biological, and cultural reasons. The higher prevalence of STDs among adolescents also may reflect multiple barriers to accessing quality STD 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, 2014-2018** (Total Cases = 54)



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 over 9:1.

Among the 54 young adult male cases, 89% were GBMSM.

Source: Rhode Island Department of Health

**FIGURE 33****Rates of Chlamydia in Young Adults versus Overall Population, Rhode Island, 2014-2018**

Year	Rate Among Young adults ages 15-24 (cases per 100,000)	Rate Among Rhode Island Population (cases per 100,000)
2014	1,811	413
2015	1,825	434
2016	2,015	472
2017	3,643	499
2018	3,527	499

Source: Rhode Island Department of Health

The incidence of both chlamydia and gonorrhea among people ages 15-24 far exceeded the state rate for the last five years. Between 2016 and 2017, the rate for gonorrhea increased by 54% among this group.

**FIGURE 34****Rates of Gonorrhea in Young Adults versus Overall Population, Rhode Island, 2014-2018**

Year	Rate Among Young adults ages 15-24 (cases per 100,000)	Rate Among Rhode Island Population (cases per 100,000)
2014	152	56
2015	155	55
2016	172	67
2017	476	103
2018	554	53

**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 versus the United States, Percentage of High School Youth Responding Yes**

Question	Rhode Island Percentage	United States Percentage
Ever had sex	36	40
Had sex before age 13	4	3
Had sex with more than four partners	8	10
Was currently sexually active	26	29
Did not use a condom	42	46

Source: CDC Youth Risk Behavior Survey, Rhode Island, 2017

In 2017, Rhode Island high school students reported less sexual risk-taking behavior than high school students nationally based on the five questions included on the survey. The 2017 United States data was reported as part of the YRBS that is administered through the CDC.

**FIGURE 36**

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

Question	Heterosexual Percentage	Gay, Lesbian, Bisexual Percentage
Ever had sex	35	43
Had sex before age 13	3	7
Had sex with more than four partners	7	11
Was currently sexually active	25	30
Did not use a condom	41	38

Source: CDC Youth Risk Behavior Survey, Rhode Island, 2017

The Rhode Island high school students participating in the 2017 YRBS self-identified as follows:

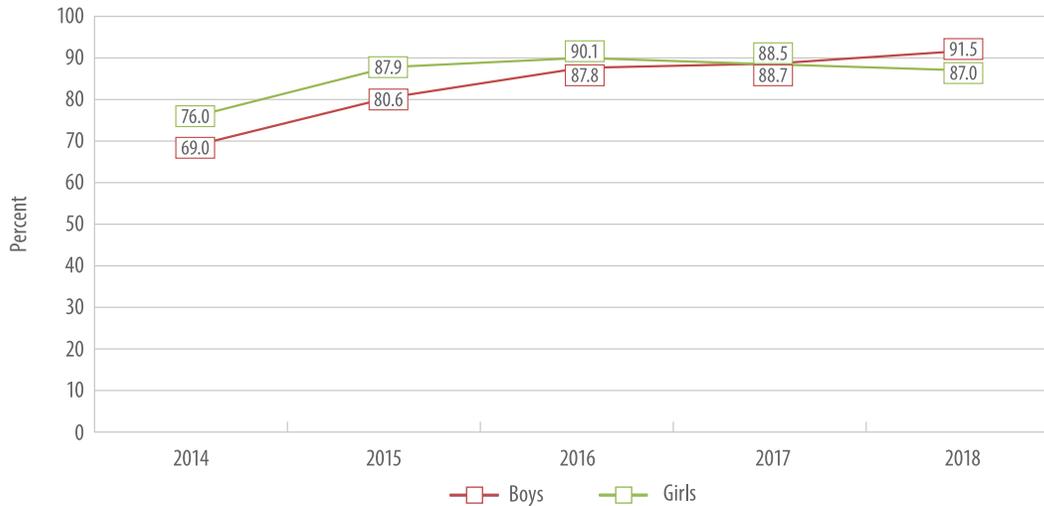
- heterosexual (84%)
- gay or lesbian (3%)
- bisexual (9%)
- not sure (5%)

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

**Human Papilloma Virus (HPV)**

**FIGURE 37**

**HPV Vaccination Percentages, Rhode Island, 2014-2018**



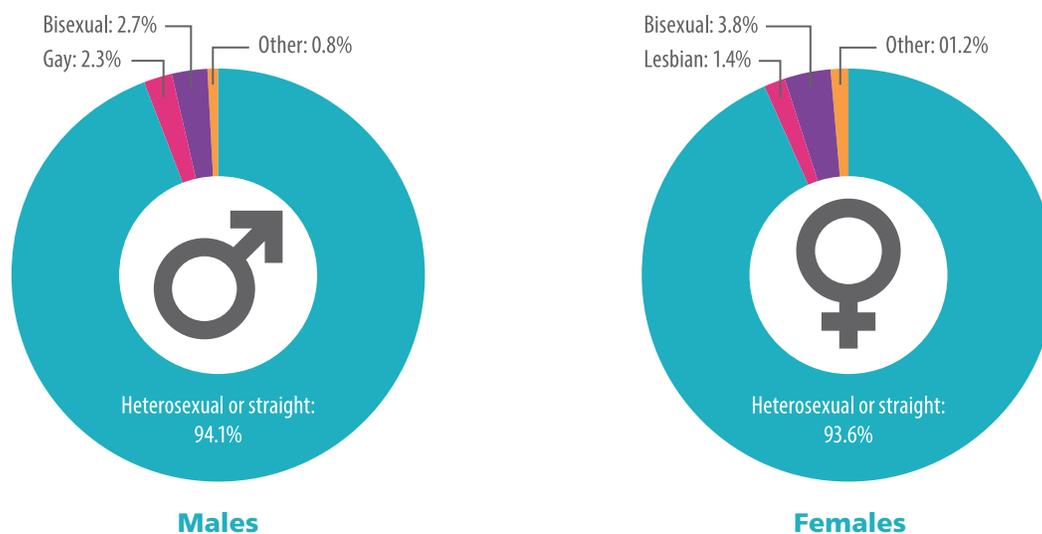
Source: Rhode Island Department of Health

RIDOH began distributing human papilloma virus (HPV) vaccine for girls in 2006 and for boys in 2010. In 2018, Rhode Island had a high coverage rate for at least one dose of HPV vaccine for both boys (91.5%) and girls (87%) ages 13-17. 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.

## 12 | STD BEHAVIORAL RISK FACTORS AMONG ADULTS

There are many behavioral risk factors that place a sexually-active individual at risk for acquiring an STD. These behavioral factors include, but are not limited to, condom use, number of sexual partners, alcohol/substance abuse in combination with sex, and type of sexual practices (oral, vaginal, anal). Trends in STD 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 2018.

**FIGURE 38**  
**Breakdown of Sexual Orientation, Rhode Island, 2018**



Source: Behavioral Risk Factor Surveillance System, 2018

## Sexual Activity of Adults (18-64) in the Past Year, Rhode Island, 2018

Out of 100 Rhode Islanders in the past 12 months:



### Characteristics of Adults (18-64) with Multiple Sex Partners, Rhode Island, 2018

**47%**  used a condom at last sexual intercourse

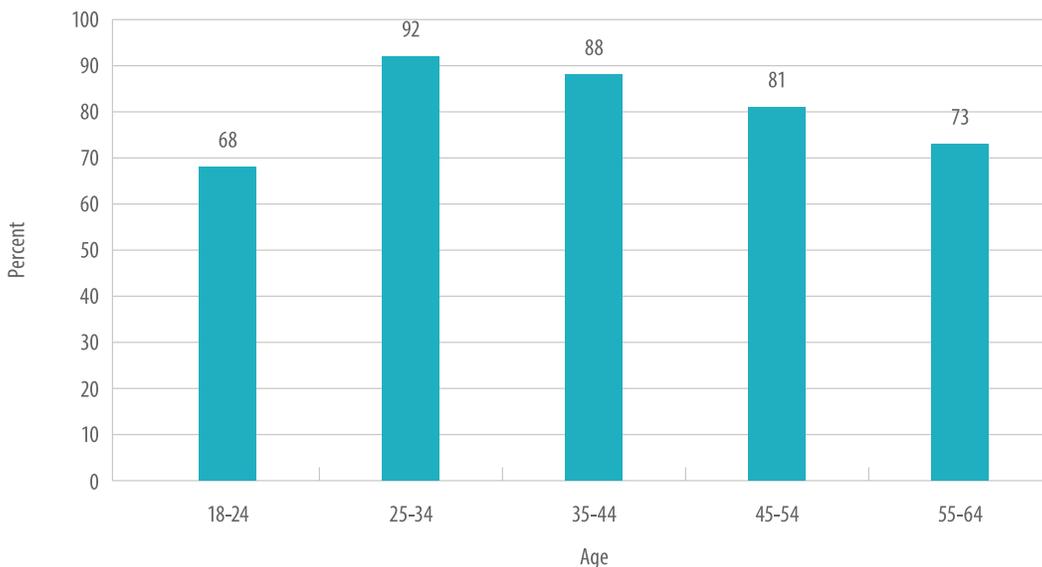
**52%**  received an STD test within the past 12 months\*

**66%**  have ever received an HIV test

\*This question reads "Have you been tested for a Sexually Transmitted Disease 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, 2018



Source: Behavioral Risk Factor Surveillance System, 2018

# 13 | GEOGRAPHIC DISTRIBUTION OF HIV/STDs IN RHODE ISLAND

While cases of HIV and STDs have been reported in every city and town in Rhode Island, higher case counts and concentrations of HIV/STDs 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 STDs.

**FIGURE 40**

**Top Five Ranking Municipalities, by Number of Cases of HIV, Rhode Island, 2014-2018**

Municipality	Number of cases (2014-2018)	Average rate (cases per 100,000)	Municipality population estimate
Providence	109	12.19	178,851
Pawtucket	61	17.09	71,389
Cranston	37	9.15	80,882
North Providence	24	14.85	32,333
Woonsocket	19	9.21	41,272

Source: Rhode Island Department of Health

**FIGURE 41**

**Top Five Ranking Municipalities, by Number of Cases of Syphilis, Rhode Island, 2014-2018**

Municipality	Number of cases (2014-2018)	Average rate (cases per 100,000)	Municipality population estimate
Providence	265	148.2	178,851
Pawtucket	88	123.3	71,389
Cranston	53	65.5	80,882
East Providence	26	55.0	47,260
Warwick	25	30.5	81,881

Source: Rhode Island Department of Health

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**FIGURE 42****Top Five Ranking Municipalities, by Number of Cases of Gonorrhea,  
Rhode Island, 2018**

Municipality	Number of cases	Average rate (cases per 100,000)	Municipality population estimate
Providence	530	296.3	178,851
Pawtucket	154	215.7	71,389
Cranston	102	126.1	80,882
Woonsocket	80	193.8	41,272
Warwick	48	58.6	81,881

Source: Rhode Island Department of Health

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**FIGURE 43****Top Five Ranking Municipalities, by Number of Cases of Chlamydia,  
Rhode Island, 2018**

Municipality	Number of cases	Average rate (cases per 100,000)	Municipality population estimate
Providence	1,923	1,075.2	178,851
Pawtucket	606	848.9	71,389
Cranston	390	482.2	80,882
Woonsocket	266	644.5	41,272
Warwick	214	261.4	81,881

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, STD, and TB Epidemiology at 401-222-2577.

# 14 | 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 STDs 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 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 the majority of health insurance providers in Rhode Island.

**HIV/AIDS and STD surveillance data:** All HIV/AIDS and STD 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 in order 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.

**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.



## 15 | 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.

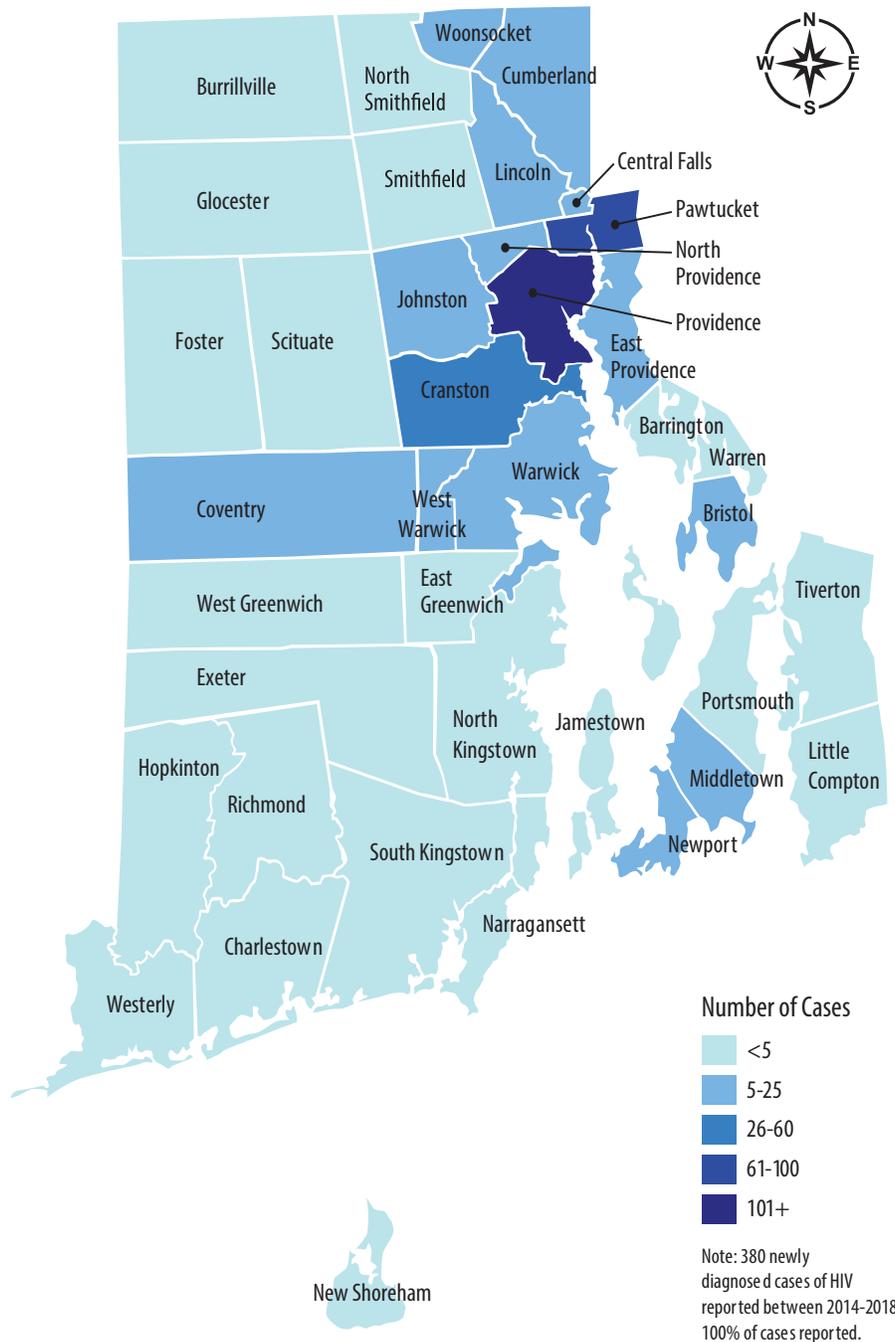
**Deaths attributed to HIV, HBV, and HCV:** Vital status for cases of HIV is obtained by matching information from RIDOH's Center for Vital Records, the National Death Index, and the Social Security Death Master File. Matching against national datasets is subject to availability and typically occurs 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 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 died. 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.

# 16 | APPENDIX

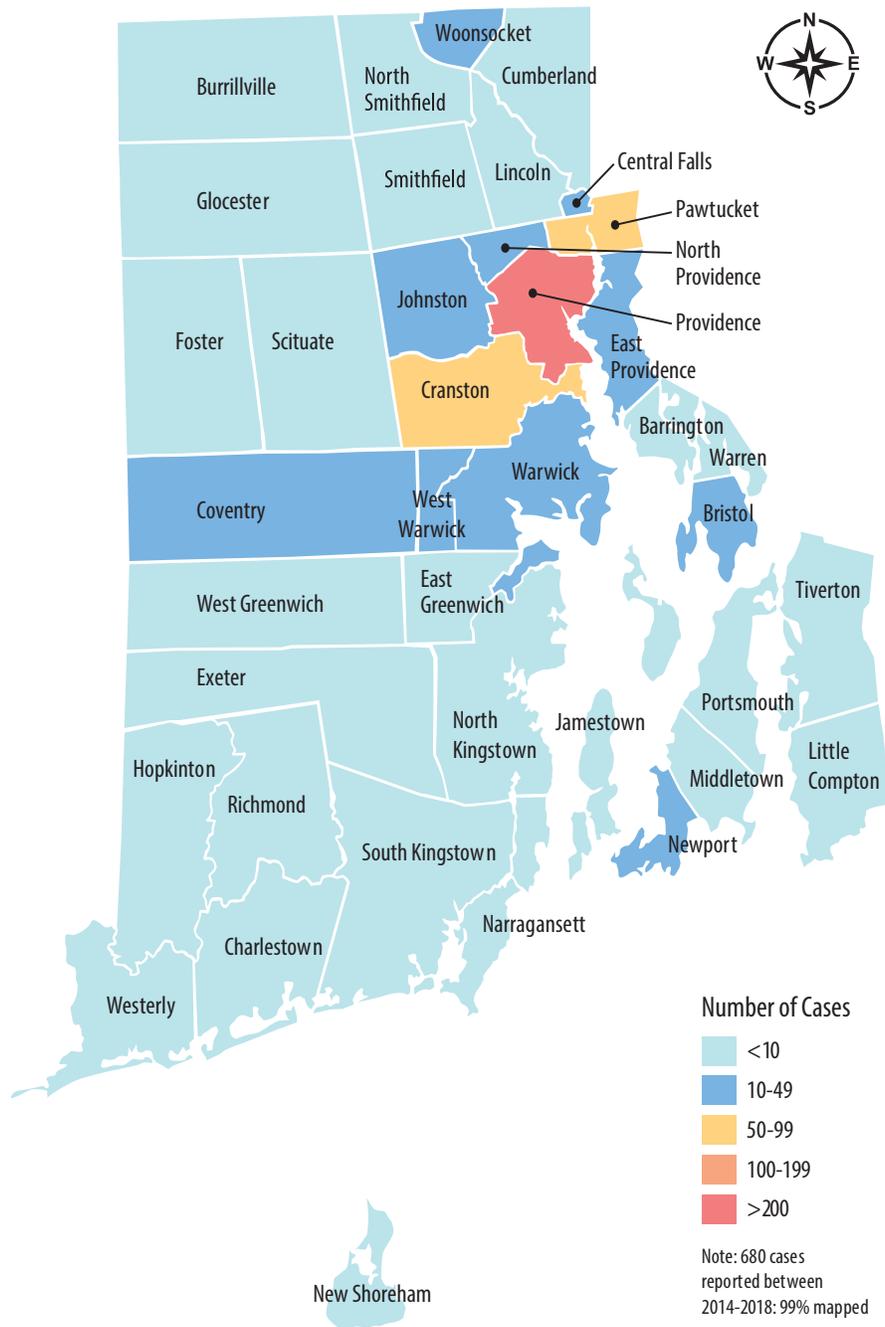
**Newly-Diagnosed Cases of HIV, by Municipality, Rhode Island 2014-2018**



Map shown is not to scale or positional accuracy

Sources: Rhode Island Department of Health; Rhode Island Geographical Information Systems (RIGIS)

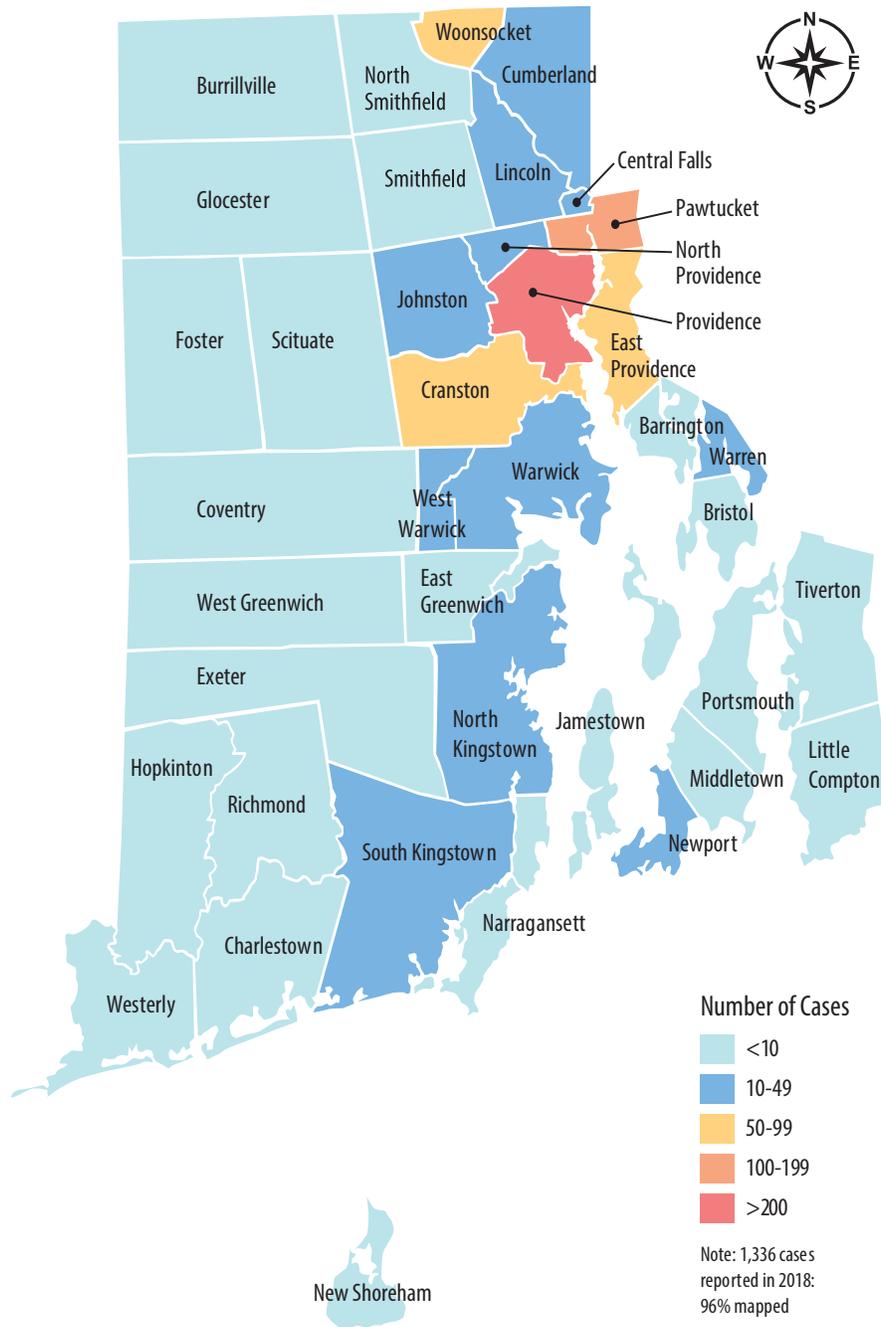
## Reported Cases of Infectious Syphilis, by Municipality, Rhode Island, 2014-2018



Map shown is not to scale or positional accuracy

Sources: Rhode Island Department of Health; Rhode Island Geographical Information Systems (RIGIS)

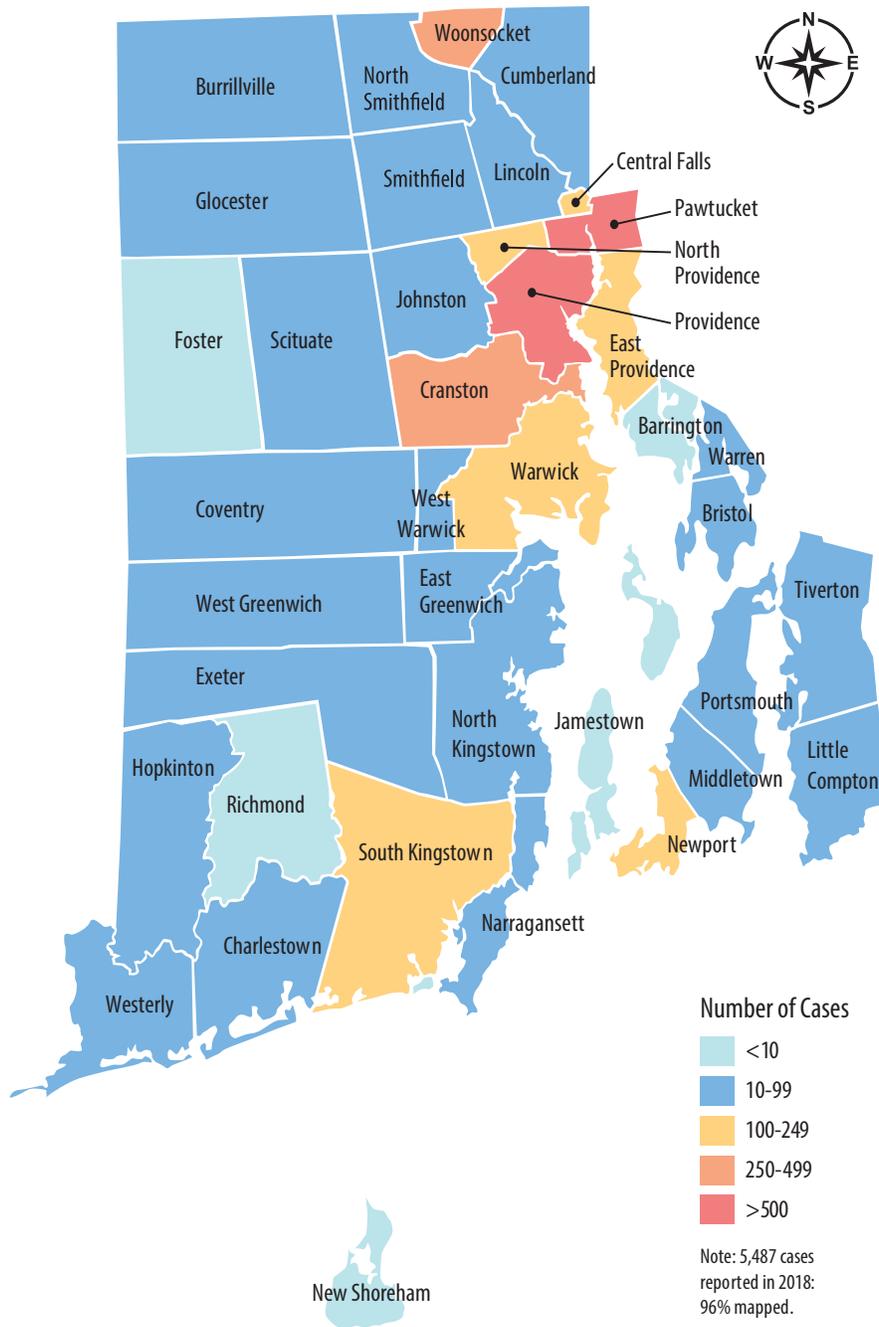
## Reported Cases of Gonorrhea, by Municipality, Rhode Island, 2018



Map shown is not to scale or positional accuracy

Sources: Rhode Island Department of Health; Rhode Island Geographical Information Systems (RIGIS)

## Reported Cases of Chlamydia, by Municipality, Rhode Island, 2018



Map shown is not to scale or positional accuracy

Sources: Rhode Island Department of Health; Rhode Island Geographical Information Systems (RIGIS)

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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.





3 Capitol Hill, Providence, RI 02908  
Health Information Line: 401-222-5960 / RI Relay 711  
[www.health.ri.gov](http://www.health.ri.gov)



**Gina M. Raimondo**  
Governor  
**Nicole Alexander-Scott, MD, MPH**  
Director of Health

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