RHODE ISLAND
HIV, Sexually Transmitted Diseases, and Viral Hepatitis Surveillance Report

2017
Acknowledgments

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MESSAGE FROM THE DIRECTOR

Dear Fellow Rhode Islanders:

As Rhode Island continues to make strides toward our goal of health equity, the prevention of human immunodeficiency virus (HIV) infection, acquired immune deficiency syndrome (AIDS), other sexually-transmitted diseases (STDs), and viral hepatitis are key challenges and priorities. As this report indicates, we have seen a surge in STDs in recent years, particularly among young people, as well as among our more vulnerable populations. Everyone in Rhode Island has the right to be as healthy as possible, regardless of where they live, sexual orientation, gender identity, race, ethnicity, level of income, level of education, or insurance status.

In addition to our outreach efforts to get prevention messaging and resources out to Rhode Islanders, the Rhode Island Department of Health (RIDOH) continues to work toward the goals of the International 90-90-90 Campaign. This initiative aims, by 2020, to have 90% of Rhode Islanders living with HIV know their status, ensure that 90% of Rhode Islanders living with HIV access regular medical care, and ensure that 90% of Rhode Islanders living with HIV take their medications and achieve viral suppression.

On December 1, 2017 – World AIDS Day – I announced that we met the first of our 90-90-90 goals: 93% of Rhode Islanders who are HIV-positive now know their status, up from 88% in 2015. If someone is living with HIV, getting diagnosed is the first crucial step toward treatment and care that can help that person live a life that is long, full, and completely healthy. Meeting the first target is a testament to the tremendous collaborative efforts to screen for HIV that are happening throughout the state.

However, more work needs to be done to get people with HIV engaged in care and have their viral loads suppressed. For our second goal, 76% of Rhode Islanders living with HIV are in care, up from 71% in 2016. Importantly, for our third goal, 69% of Rhode Islanders living with HIV have achieved viral suppression, up from 65% in 2016. To continue to improve these numbers, we need to address the underlying factors that create additional challenges for some people living with HIV such as unstable housing, mental health conditions, substance use disorder, and food insecurity, as well as pervasive stigma and discrimination. To help track these efforts and ensure accountability and transparency, RIDOH will offer quarterly updates on our 90-90-90 progress online at www.health.ri.gov/909090.
RIDOH and our partner organizations promote health equity and the right to health at every stage of the HIV care continuum, which includes testing for HIV and other STDs; pre-exposure prophylaxis (PrEP), a daily pill that can prevent HIV infection; partner notification services; and wrap-around services to promote linkages to, and retention in, HIV care. In 2018, we were also proud to unveil the RightTime mobile app, which offers Rhode Islanders information, resources, and videos right at your fingertips 24/7 on sexual health topics such as:

- Dating and healthy relationships
- Prevention, testing, and treatment of HIV/STDs
- Family planning services and locations
- Where to find free condoms
- PrEP and PEP (Post Exposure Prophylaxis)
- Information on birth control options

I encourage you to learn more about this innovative sexual health app – visit the app’s landing page to learn more and find links to download it on the Google Play and the App Store [http://righttimeapp.com](http://righttimeapp.com) – and help us spread the word about this great new resource!

I look forward to continuing to work creatively and passionately with you to eliminate HIV/AIDS in Rhode Island! Please take a deep dive into this report to understand where we are, and to help us work toward where we need to go in achieving our 90-90-90 goals. For a full understanding of the data in this report, I encourage you to first review the Glossary of Terms and Data Sources and Data Limitation sections on pages 34-36.

By preventing HIV, STDs, and viral hepatitis, and by supporting our fellow Rhode Islanders who have HIV, Hepatitis C, or other chronic conditions live the healthiest lives they have the right to live, each of us can do our part to make the difference.

Thank you for your support.

Sincerely,

Nicole Alexander-Scott, MD, MPH
Director, Rhode Island Department of Health
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, 2008-2017

In 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 in the last two years. 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.
An estimated 2,400 Rhode Islanders were diagnosed with, and living with HIV through the end of 2016. It is also estimated that about 7% of individuals who are HIV-infected do not know their status and so 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 2014-2016 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.

**FIGURE 2**
Estimated Number of Persons Diagnosed and Living with HIV, Rhode Island, 2007-2016

Source: Rhode Island Department of Health

**HIV/AIDS Deaths**

Since 1983, a total of 1,817 deaths have occurred among Rhode Island residents diagnosed with HIV/AIDS. However, only 171 (9%) of those deaths occurred from 2012-2016, 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
In the last 10 years, approximately two-thirds (66%) 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 more than 70%. 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 2017, there were more than 14 times as many cases of HIV among GBMSM when compared to females, male heterosexuals, and people who inject drugs.

**Intravenous Drug Use**

HIV infection associated with intravenous drug use (IDU) has decreased substantially in the last 20 years. In 2017, fewer than five newly-diagnosed cases of HIV were attributed to IDU. In the last five years, fewer than 5% of newly-diagnosed cases were attributed to IDU. A significant factor in the success of reducing IDU transmission is the Education, Needle Exchange, Counseling, Outreach and Referral (ENCORE) Program that has been operating in Rhode Island since 1995.

**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 2013-2017, there were fewer than five reported cases of mother-to-child HIV transmission.

Source: Rhode Island Department of Health

Cases for which mode of exposure could not be determined are not included in this figure.
FIGURE 4
Percentage of Newly Diagnosed Cases of HIV, by Disease Progression at Diagnosis, Rhode Island, 2013-2017

From 2013-2017, about 25% of individuals newly diagnosed with HIV in Rhode Island also had a concurrent 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. 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
Cases of unknown mode of transmission are not included in this figure.

FIGURE 5
Rates of Newly Diagnosed Cases of HIV, by Age, Rhode Island, 2013-2017

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 age 20-29 and 30-39 have remained consistently high compared to other groups.

Source: Rhode Island Department of Health
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 by 2020: 90% of all people living with HIV in Rhode Island 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: 93% of Rhode Islanders who are HIV positive now know their status. For the second goal, 76% of Rhode Islanders living with HIV are in care, up from 71% in 2016. For the third goal, 69% of Rhode Islanders living with HIV have achieved viral suppression, up from 61% in 2016.

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, 2017

Based on individuals diagnosed with HIV infection through December 31, 2016, and living as of December 31, 2017, and residing in Rhode Island (based on most recent residence).

Based on HIV surveillance data reported through November 7, 2018. Data are provisional and subject to change. Estimate of undiagnosed population based on HIV surveillance data through 2015, reported through June 26, 2018.
Syphilis is an infection caused by bacteria that are 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 easily curable with antibiotics.

**FIGURE 7**

*Number of Infectious Syphilis Cases, Rhode Island, 2008-2017*

Infectious syphilis is defined as infection within the past year (primary, secondary, or early-latent stages) when people are most likely to transmit the disease to others. From 2008-2017, there was a 468% increase in infectious syphilis cases, from 25 cases in 2008 to 142 cases in 2017.

*Source: Rhode Island Department of Health*
From 2013-2017, people in their 20s and 30s had the highest rates of infectious syphilis in Rhode Island. No babies were born with congenital syphilis in the last five years.
Gonorrhea is an infection caused by bacteria that are 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 and men. Pregnant women can transmit gonorrhea to their unborn babies, resulting in health problems for the child.

**FIGURE 10**

**Number of Gonorrhea Cases, Rhode Island, 2008-2017**

Since 2010, rates of gonorrhea have increased by 274% in Rhode Island. This increase may be partially attributed to increases in extra-genital testing (testing of the throat and rectum) for gonorrhea. Rhode Island providers began performing more extragenital testing in 2014, which may have contributed to an increase in identifying cases, but this alone does not explain the dramatic increase.

Source: Rhode Island Department of Health
From 2013-2017, rates for gonorrhea were consistently highest among people in their 20s. Case rates increased in the last three years for people in their teens and 20s, and remained stable or declined for older individuals.
Chlamydia is an infection caused by bacteria that are 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, 2008-2017**

In the last 10 years, the number of chlamydia cases has increased by 59%, from 3,317 cases in 2008 to 5,282 cases in 2017.

Source: Rhode Island Department of Health
From 2013-2017, the highest rates of chlamydia were in people in their 20s, followed by people age 19 or younger, and people in their 30s. Rates for people in their 20s have increased in the last five years.
Hepatitis is 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 often caused by a virus, and is known as 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.\textsuperscript{1,2,3} 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.\textsuperscript{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.

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 cohort, has led to an increase in hospitalizations and an increase in deaths among those infected with HCV.

Patients in the United States with chronic HCV are estimated to have a hospitalization rate three times that of persons without HCV infection. From 2005 to 2014 (the most recent data available), the number of hospitalizations at Rhode Island acute-care hospitals ranged from 112,715 to 132,455 per year.

HCV diagnoses increased in the past 10 years, from 20 in 2005 to 122 in 2014, while HIV diagnoses decreased and Hepatitis B (HBV) diagnoses remained stable.

**FIGURE 16**

Number of Inpatient Hospitalizations with Any Discharge Diagnosis of HBV, HCV, or HIV, Rhode Island, 2005-2014

Source: Rhode Island Department of Health
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.
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, lack of 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.

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 2017, the rates of HIV were more than four times higher among Blacks/African Americans and three times higher among Hispanics/Latinos.
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 2017, the rates of infectious syphilis were three times higher among Blacks/African Americans.

Source: Rhode Island Department of Health
Gonorrhea diagnoses have increased in the last 10 years and disproportionately affect the Black/African American population. In 2017, gonorrhea rates were more than six times higher among Blacks/African Americans as compared to Whites and nearly three times higher among Hispanics than Whites.
Chlamydia diagnoses have steadily increased in the last 10 years and disproportionately affect the Black/African American population. In 2017, chlamydia rates were more than eight times higher among Blacks/African Americans as compared to Whites, and more than two times higher among Hispanics than among Whites. Of note, the rate of chlamydia doubled among Black/African Americans from 2016 to 2017.
According to the CDC, females and infants may have significant long-term consequences of STDs. In addition to biological and social factors, such as poverty and access to quality STD services, females may be less likely to negotiate safer sexual practices, such as condom use, than males, which can significantly affect a woman’s sexual health and subsequently the health of her unborn baby.

**FIGURE 23**

Rates of Chlamydia in Females, by Age, Rhode Island, 2013-2017

In 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 2017, the rate of chlamydia among females in their 20s was more than 2.5 times higher than any other age group.

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, 68% of women enrolled in Medicaid and 66% of women enrolled in commercial health plans were screened for chlamydia. These figures are much higher than the national averages. Nationally, in 2015, 52% of women enrolled in Medicaid and 40% enrolled in commercial health plans were screened for chlamydia (National Committee for Quality Assurance).
HIV Risk Factors and Females
Characteristics of the 83 Rhode Island females that were newly diagnosed with HIV infection from 2013 to 2017 include:

- Born outside of the United States: 58%
- Sex with someone known to be HIV positive: 28%
- Exchanged sex for money, drugs, goods, or services in their life: 6%
- Sex while high or intoxicated: 17%
- Forced to have sex involuntarily in their life: 16%
- Injected non-prescription drugs in their life: 13%
- History of incarceration: 13%

FIGURE 25
Expedited Partner Therapy Offered/Accepted for Partners of Cases of Chlamydia, Rhode Island, 2017

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 the 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.

Source: Rhode Island Department of Health
Offer and acceptance of EPT based on provider report on the RIDOH STD Case Report Form
The relatively high incidence of STD infection among GBMSM may be related to multiple factors, including individual behaviors and sexual network characteristics. 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. However, GBMSM network characteristics such as high prevalence of STDs, interconnectedness and concurrency of sex partners, and possibly limited access to healthcare, also affect the risk of acquiring an STD. Furthermore, experiences of stigma – verbal harassment, discrimination, or physical assault based on attraction to men – are associated with increased sexual risk behavior among GBMSM.

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 have increased and, in 2017, the rate among GBMSM was 330 times higher than heterosexual men.
From 2013-2017, more GBMSM in their 20s were reported as newly-diagnosed cases of HIV compared to other age groups 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 2015 and 2017, high numbers of newly-diagnosed cases in GBMSM older than 50 – a five-year high of 14 cases in 2017 – emphasizes that testing strategies should focus on all GBMSM, regardless of age.

Gonorrhea and the GBMSM Population

Information collected through interviews with men in Rhode Island diagnosed with gonorrhea indicates that approximately 50% of the males interviewed identified as GBMSM in 2016 and 2017, 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.
A substantial percentage of GBMSM diagnosed with infectious syphilis in recent years also self-identified as living with HIV. Of the 100 GBMSM who had infectious syphilis in 2017, 24 individuals (24%) self-identified as 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.
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. 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 30
Percentage of Young Adult (18-24) Male Newly Diagnosed Cases of HIV, by Risk, Rhode Island, 2013-2017 (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 more than 5:1.

Among the 54 young adult male cases, 81% were GBMSM.

Source: Rhode Island Department of Health
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.
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)

RIDOH began distributing human papilloma virus (HPV) vaccine for girls in 2006 and for boys in 2010. In 2017, Rhode Island had a high coverage rate for at least one dose of HPV vaccine for both boys (88.7%) and girls (88.5%) age 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.
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 2017.
Sexual Activity of Adults (18-64) in the Past Year, Rhode Island, 2017

Out of 100 Rhode Islanders in the past 12 months:

11 people had two or more sexual partners
71 people had one sexual partner
18 people had no sex partners

Characteristics of Adults (18-64) with Multiple Sex Partners,
Rhode Island, 2017

56% used a condom at last sexual intercourse
53% received an STD test within the past 12 months*
57% 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?"

Source: Behavioral Risk Factor Surveillance System, 2017
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 38**
Top Five Ranking Municipalities, by Number of Cases of HIV, Rhode Island, 2013-2017

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Number of cases (2013-2017)</th>
<th>Average rate (cases per 100,000)</th>
<th>Municipality population estimate</th>
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<tr>
<td>Providence</td>
<td>125</td>
<td>13.98</td>
<td>178,851</td>
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<tr>
<td>Pawtucket</td>
<td>55</td>
<td>15.41</td>
<td>71,389</td>
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<tr>
<td>Cranston</td>
<td>36</td>
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<td>80,882</td>
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<td>North Providence</td>
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<td>Central Falls</td>
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Source: Rhode Island Department of Health

**FIGURE 39**
Top Five Ranking Municipalities, by Number of Cases of Syphilis, Rhode Island, 2013-2017

<table>
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<tr>
<th>Municipality</th>
<th>Number of cases (2013-2017)</th>
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<td>Pawtucket</td>
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<td>East Providence</td>
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<td>81,881</td>
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Source: Rhode Island Department of Health
FIGURE 40
Top Five Ranking Municipalities, by Number of Cases of Gonorrhea, Rhode Island, 2017

<table>
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<tr>
<th>Municipality</th>
<th>Number of cases</th>
<th>Average rate (cases per 100,000)</th>
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<tr>
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<td>66</td>
<td>81.6</td>
<td>80,882</td>
</tr>
<tr>
<td>Woonsocket</td>
<td>40</td>
<td>96.9</td>
<td>41,272</td>
</tr>
<tr>
<td>Warwick</td>
<td>52</td>
<td>63.5</td>
<td>81,881</td>
</tr>
</tbody>
</table>

Source: Rhode Island Department of Health

FIGURE 41
Top Five Ranking Municipalities, by Number of Cases of Chlamydia, Rhode Island, 2017

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Number of cases</th>
<th>Average rate (cases per 100,000)</th>
<th>Municipality population estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providence</td>
<td>1,940</td>
<td>1,084.7</td>
<td>178,851</td>
</tr>
<tr>
<td>Pawtucket</td>
<td>545</td>
<td>763.4</td>
<td>71,389</td>
</tr>
<tr>
<td>Cranston</td>
<td>351</td>
<td>434.0</td>
<td>80,882</td>
</tr>
<tr>
<td>Woonsocket</td>
<td>279</td>
<td>676.0</td>
<td>41,272</td>
</tr>
<tr>
<td>Warwick</td>
<td>193</td>
<td>235.7</td>
<td>81,881</td>
</tr>
</tbody>
</table>

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, STDs, and TB Epidemiology at 401-222-2577.
13 | 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.
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. 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 death data available for this report is from 2015. 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.
Newly-Diagnosed Cases of HIV, by Municipality, Rhode Island 2013-2017

Map shown is not to scale or positional accuracy

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

*Infectious syphilis includes primary, secondary and early non-primary, non-secondary cases

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, 2017

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, 2017

Map shown is not to scale or positional accuracy

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


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