



# **2018 Rhode Island HIV Epidemiologic Profile with Surrogate Data**

*December 2019*

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## Introduction

The Rhode Island Department of Health (RIDOH) has maintained records on the HIV epidemic since 1982. Through 2018, 4,266 Rhode Islanders have been diagnosed with HIV/AIDS. Additionally, 2,078 deaths were reported among people diagnosed with HIV. Major advances in prevention and treatment have altered the pace and reach of the epidemic, and after a plateau, the epidemic is in a phase of decline.

The most recent estimates from RIDOH indicate that roughly 2,820 individuals are living with HIV in Rhode Island, including nearly 210 that have not been diagnosed. Continued work is needed to ensure at-risk individuals are tested and all those diagnosed with HIV are connected to care and attain a suppressed viral load.

This epidemiologic profile provides detailed surveillance data about the current status of the HIV epidemic and presents data trends from the previous five years (2014-2018). This epidemiologic profile focuses on data related to persons diagnosed with HIV, persons with HIV who have progressed to AIDS, deaths among HIV-diagnosed individuals, and those populations that are experiencing a disproportionate burden of illness from HIV. Following the overview of five-year trends is a section devoted to describing the state of all persons living with HIV/AIDS (PLWHA) in Rhode Island. This section provides the demographic overview of all individuals estimated to be living in Rhode Island through 2018. This section also displays the HIV Care Continuum, which describes the progression of Rhode Island in diagnosing HIV-infected individuals, ensuring adequate care, and leading to positive health outcomes.

Following the HIV surveillance section are overviews of the epidemiology of tuberculosis (TB), sexually transmitted diseases (STDs), and hepatitis C virus (HCV) infection. The epidemiology of HIV is best understood within the context of TB, STDs, and HCV due to the overlap among populations impacted by these diseases as well as HIV. The final sections include Behavioral Risk Factor Surveillance System (BRFSS) data, Youth Risk Behavior Survey (YRBS) data, descriptive data related to the needle exchange/harm reduction program (ENCORE), data from the counseling, testing, and referral (CTR) programs, and a review of the socio-demographic profile of the population of Rhode Island.

## Surveillance Methods

### Surveillance authority

Reporting is mandated in accordance with Rhode Island General Laws, Chapter 23, "Prevention and Suppression of Contagious Diseases – HIV/AIDS," which can be accessed at <http://webserver.rilin.state.ri.us/Statutes/TITLE23/23-6.3/INDEX.HTM> and *Reporting and Testing of Infectious, Environmental, and Occupational Diseases (216-RICR-30-05-1)* which can be accessed at <https://rules.sos.ri.gov/regulations/part/216-30-05-1>.

Through this authority, Rhode Island has been practicing HIV/AIDS surveillance since 1983 in collaboration with the Centers for Disease Control and Prevention (CDC). AIDS cases have been reported by patient name since 1983. Name-based reporting of HIV cases has been required since July 2006.

### Case definitions

In its collection, assessment, and aggregation of HIV and AIDS reports, the Rhode Island HIV Surveillance Program conforms to surveillance case definitions of HIV and AIDS published by the CDC. Case definitions have been nationally published in 1986, 1987, 1992, 1993, 1999, 2008, and most recently in 2014.

- CDC. Revised Surveillance Case Definitions for HIV Infection – United States, 2014. MMWR 2014; 63(RR 03); 1-10.  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6303a1.htm>

It is important to note that revisions in the CDC surveillance definitions of HIV and AIDS may cause discontinuities in trend data. For example, between 1992 and 1993, the number of reported AIDS cases in Rhode Island and in the United States increased dramatically because of CDC's expanded surveillance case definition for AIDS.

### **Data Repositories**

Case surveillance of AIDS was initiated in Rhode Island in 1983, and HIV surveillance began in 2000. These surveillance systems provide information on risk factors, patient demographics, laboratory tests, and the clinical manifestations of disease over time. The present epidemiologic profile relies primarily on these case surveillance data. However, the program utilizes an array of data sources to establish the most complete and accurate picture of HIV and AIDS in Rhode Island and the populations at highest risk for infection. Sources of information include:

- HIV/AIDS Reporting System (HARS): Implemented in 1983, this was a repository of all AIDS cases, by name (from 1983) and, in addition, name-reported HIV cases were added to this system in 2000. HARS data was synthesized into a composite database called eHARS in 2008.
- HIV Unique-Identifier Reporting System: Implemented in 2000, providers were required to report all cases of HIV infection with a unique patient identifier and *without* names until June 2006. These records were stored in the Unique-Identifier Reporting System database. This provides an unduplicated count of cases from January 2000 to June 2006. Starting in July 2006, HIV cases have been reported *with* names and are stored in the HARS/eHARS database.
- eHARS (enhanced HIV/AIDS Reporting System): Implemented in 2008 as an upgrade of HARS. eHARS is a repository of all AIDS cases reported since 1983 and all HIV cases reported, by name, since 2006. This system has the capacity to store multiple case reports and laboratory reports for each person. Records stored in the Unique-Identifier Reporting System database that were subsequently reported by name have been moved from the Unique-Identifier Reporting System database to eHARS.
- Cerner (State Health Laboratory Information Management System): Includes all positive and negative HIV test results submitted to the RIDOH State Health Laboratories.
- EvaluationWeb: CDC-sponsored database which contains data on all HIV rapid-tests and services provided at RIDOH-funded counseling, testing, and referral (CTR) sites.
- BRFSS (Behavioral Risk Factor Surveillance System): A randomized telephone survey which is conducted annually focusing upon Rhode Islanders selected for the sample.
- YRBS (Youth Risk Behavior Survey): Focusing on adolescent youth, this survey is administered at schools for grades 9-12.
- STD\*MIS Database: A repository of STD reports of chlamydia, gonorrhea, and syphilis reports, from RIDOH's STD Program.
- NEDSS (National Electronic Disease Surveillance System): Reportable disease database used to conduct surveillance for all infectious diseases other than HIV.
- Cancer Registry: This reportable disease database is used for identifying individuals with AIDS-defining malignancies.
- Hospital Medical Records: Patient medical records are utilized in AIDS validation

studies and in the follow-up of previously reported cases.

- National HIV/AIDS Surveillance System (NHSS): National surveillance system which compiles reports of HIV/AIDS from all US jurisdictions to inform national trends. Of note, names are not reportable to CDC. Instead, unique codes and Soundex codes are used as identifiers.
- Rhode Island Office of Vital Records Database: This database maintains a record of all deaths that occur in Rhode Island. It is used to update vital status for individuals living with HIV.
- National Death Index (NDI): Established by the National Center for Health Statistics, the NDI is a national database made up of data from state vital statistics offices. This database is used to update vital status for individuals in eHARS who may have died in a state other than Rhode Island.
- Social Security Death Index: A database containing all deaths reported to the Social Security Administration. This database is used to update vital status for individuals in eHARS who may have died in a state other than Rhode Island.

### **Data Limitations**

The ideal HIV surveillance system should detect and accurately detail all new HIV infections, to provide information to HIV prevention programs to accurately reflect the current risk factors. Since 1983, RIDOH has required the reporting of all AIDS cases by name, and since 1989, has required all HIV-positive test results to be reported. Initially, HIV-positive test results were collected without names or other identifying information to protect the anonymity of patients. However, this "no names/no identifiers" system fostered duplication and incomplete information. As a result, a new HIV reporting system was implemented in 2000 which used a unique-identifier code to maintain patient anonymity and essentially eliminated case duplication which allowed for more complete, accurate, and timely reporting and analysis. This new HIV reporting system greatly improved the ability to conduct HIV surveillance. In 2006, name-based HIV reporting became a federal requirement. Rhode Island, therefore, adopted name-based reporting and as a result, the completeness and accuracy of the data have been enhanced and reflected since 2006.

It is important to note that a newly-reported case of HIV does not necessarily signify a recent infection with HIV. Many individuals are unaware or are unwilling to be tested for HIV, and may be tested and diagnosed long after the initial infection occurred. Moreover, an individual infected with HIV may not progress to AIDS for many years, thereby making AIDS data potentially unreliable for the purpose of detailing current transmission patterns. Providers may see many cases in a period of time which can create the perception of rapidly increasing case numbers. However, that does not necessarily translate into a surveillance measure of increasing incident cases, as many of the cases are importations from prior care in other states or countries, or are returning to care after a period of absence, and are already known in the surveillance system.

Third parties, most frequently healthcare providers, report much of the data needed by the HIV Surveillance Program. As a result, these reports rely on the patients and providers to accurately and completely disclose relevant information pertaining to risk factors, demographic characteristics, and clinical history. Considerable effort is put into de-duplicating cases already in the system. Patient names are not shared with CDC, and potential duplicates are identified using the National Archives and Records Administration Soundex (Soundex) methodology. Soundex is a phonetic algorithm for indexing names by sound and allows for de-identified reporting of cases while maintaining the ability to identify potential duplicates. RIDOH staff investigate these potential duplicates through record searches between RIDOH and other jurisdictions semi-annually. The RIDOH HIV Surveillance

Program also matches data with RIDOH's Center for Vital Records, the National Death Index, and the Social Security Death Master File to ensure complete and accurate vital statistics data for HIV/AIDS cases.

### **Defining cases of HIV/AIDS in Rhode Island**

This profile reports the number of newly diagnosed cases of HIV/AIDS during the last five years. These numbers include Rhode Island residents with a documented positive HIV test or diagnosis of AIDS for the first time (based on case definitions). Individuals with a prior, documented HIV diagnosis are not included in these figures. This includes Rhode Island residents diagnosed in prior years, individuals migrating to Rhode Island from another US jurisdiction with a documented prior diagnosis, or individuals migrating to the US from another country with documentation of prior HIV diagnosis. Information on prior diagnosis is found through initial investigation and through routine interstate duplicate review processes conducted by all reporting jurisdictions across the United States and outlying territories.

### **Key definitions**

**Mode of Exposure (also referred to as risk or transmission category):** Classification used to summarize the behavior or event most likely responsible for disease transmission. Each case is only included in a single transmission route. When necessary, multiple categories have been combined to produce a combined total. Combining categories may be necessary to protect against possible identification due to small numbers.

- Men Who Have Sex With Men (MSM or GBMSM): Men who report having sexual contact with other men. Individuals may identify as gay or bisexual.
- Injection Drug Use (IDU): Individuals who report injecting nonprescription drugs.
- MSM & IDU: Men who report having sex with other men and also inject non-prescription drugs
- Heterosexual Contact: A person reporting specific heterosexual contact with a person known to have, or to be at high risk for HIV infection, e.g., a person who injects drugs, a bisexual male (females only), or a person with hemophilia/coagulation disorder.
- Presumed Heterosexual Contact: Different than heterosexual contact, described above, and applies only to persons whose birth sex is female. Category includes a female who does not fit in the heterosexual contact category above, with no reported injection drug use, but reported sexual contact with a male with no additional information about the male's HIV status or behaviors.
- Hemophilia: Individuals receiving clotting factor for hemophilia/coagulation disorder.
- Perinatal: Individuals infected with vertically (mother to child) during pregnancy, labor, delivery or breastfeeding.
- Blood transfusion/organ transplant: Individuals who received blood transfusions or organ transplants.
- Undetermined/No Identified Risk (NIR): Individuals reporting no exposure history to HIV through any of the modes listed in the transmission hierarchy above.

# HIV/AIDS Surveillance Report: 2018 Highlights

In 2018, 73 Rhode Island residents were newly diagnosed with HIV and reported to RIDOH.

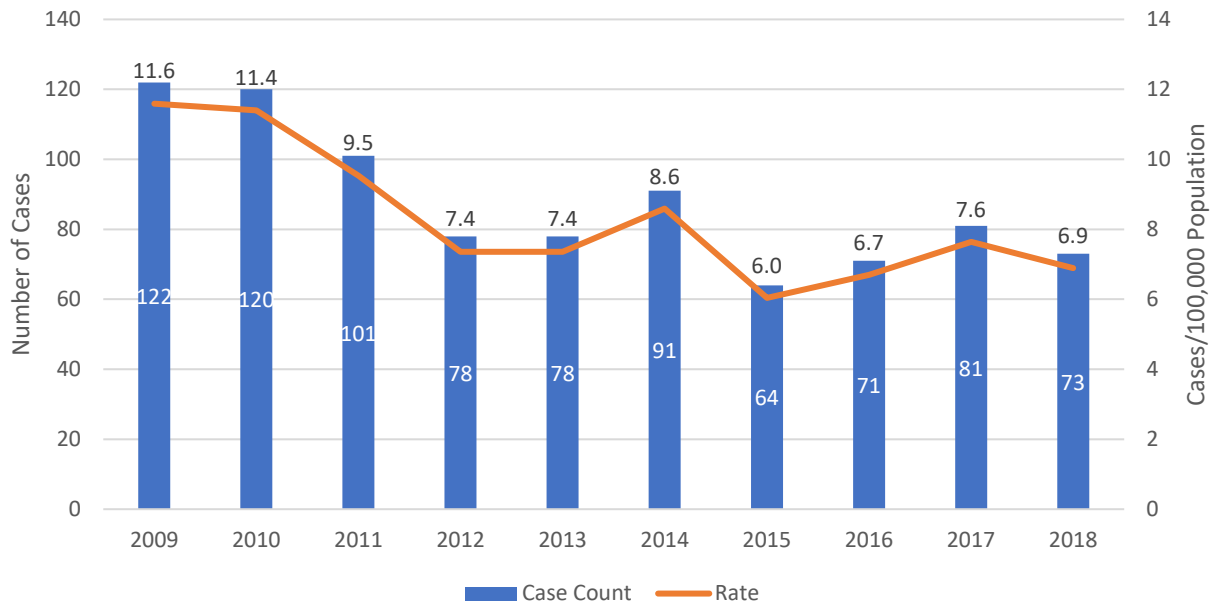
- By Sex:
  - Males accounted for 82% of cases (n=60, 11.7 cases per 100,000).
  - Females accounted for 18% of cases (n=13, 2.4 cases per 100,000).
- By Age:
  - Individuals under 30 years of age accounted for 37% of cases (n=27, 6.8 cases per 100,000).
  - Nearly two-thirds of male cases were above 30 years of age (n =34, 57%).
  - Female cases were split nearly even between below 40 years of age (n = 7, 54%) and above 40 years of age (n = 6, 46%).
- By Race/Ethnicity:
  - Among males
    - White, non-Hispanic males accounted for the majority of cases (51%, n=31, 8.4 cases per 100,000) followed by Hispanic males (25%, n=15, 18.2 cases per 100,000) and Black, non-Hispanic males (20%, n=12, 38.6 cases per 100,000).
  - Among females
    - Black, non-Hispanic females (46%, n=6, 19.0 cases per 100,000) and Hispanic females (46%, n=6, 7.3 cases per 100,000).
- By HIV exposure mode:
  - Among all cases, male-to-male sex was the leading reported exposure mode (63%, n=46) followed by presumed heterosexual (11%, n=8), unknown risk (11%, n=8), and high-risk heterosexual (8%, n=6).
  - Among males, male-to-male sex was reported by 83% of cases (n=50).
  - Among females, presumed heterosexual contact was documented for 62% of cases (n=8).
  - There were fewer than 5 reported cases of IDU and fewer than 5 reported cases reporting male-to-male sex and IDU (MSM & IDU).
- By county of residence:
  - The majority of cases (82%, n=60) resided in Providence County at diagnosis.

*Note: Rates are based on the 2016 US Census population estimates. Race/ethnicity based on the US Census combined race/ethnicity calculated variable.*

# HIV in Rhode Island

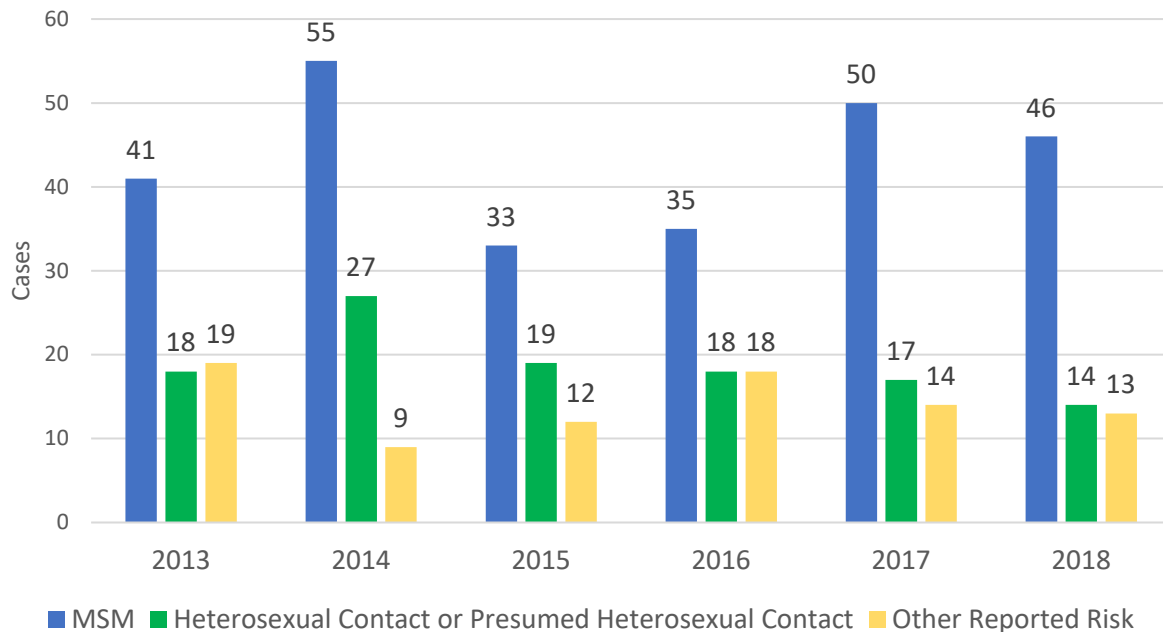
In 2018, the number of newly diagnosed cases of HIV decreased from 2017. Figure 1 shows the 10-year trend in annual new diagnoses and case rate per 100,000.

**Figure 1. Newly Identified Cases of HIV, Rhode Island, 2009-2018**



Rates for 2009–2010 are based on the 2010 US Census population estimates, and rates for 2011–2018 are based on the 2016 US Census population estimates.

**Figure 2. Newly Identified Cases of HIV, By Mode of Exposure, Rhode Island, 2014-2018**



For mode of exposure definitions and hierarchy explanation please review the key definitions section on pages 6-7.



**Table 1. Demographic and Risk Factor Characteristics of Newly Diagnosed HIV Cases, Rhode Island, 2014-2018**

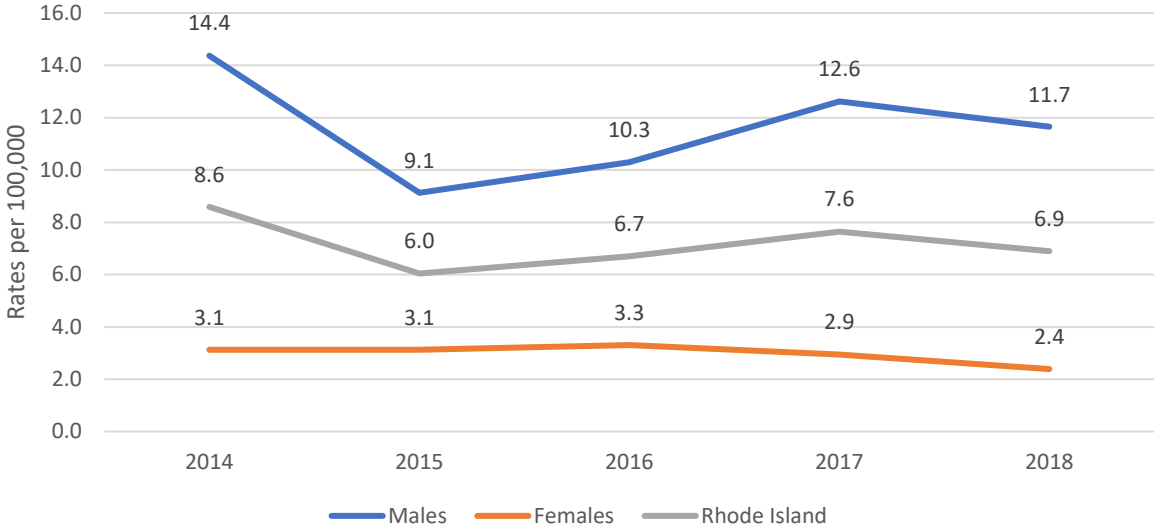
Year	2014		2015		2016		2017		2018	
	#	%	#	%	#	%	#	%	#	%
<b>Sex</b>										
Male	74	81%	47	73%	53	75%	65	80%	60	82%
Female	17	19%	17	27%	18	25%	16	20%	13	18%
Total	91	100%	64	100%	71	100%	81	100%	73	100%
<b>Age Group</b>										
< 29	17	19%	8	13%	17	24%	21	26%	27	37%
30-39	24	26%	18	28%	23	32%	24	30%	16	22%
40-49	20	22%	15	23%	11	15%	11	14%	12	16%
50+	30	33%	23	36%	25	28%	25	31%	18	25%
Total	91	100%	64	100%	71	100%	81	100%	73	100%
<b>Race/Ethnicity</b>										
Black/African American, non-Hispanic	17	19%	15	23%	17	24%	15	19%	18	25%
Hispanic, All Races	27	30%	21	33%	18	25%	24	30%	21	29%
Other race, non-Hispanic or unknown	7	8%	3	5%	3	4%	4	5%	3	4%
White, non-Hispanic	40	44%	25	39%	33	46%	38	47%	31	42%
Total	91	100%	64	100%	71	100%	81	100%	73	100%
<b>Mode of Exposure</b>										
MSM	55	60%	33	52%	35	49%	50	62%	46	63%
IDU (Male and Female)	2	2%	2	3%	3	4%	3	4%	1	1%
Female cases, heterosexual contact or presumed heterosexual	12	13%	15	23%	9	13%	4	5%	5	7%
Male cases, heterosexual contact	11	12%	3	5%	3	4%	3	4%	1	1%
Other	11	12%	11	17%	21	30%	21	26%	20	27%
Total	91	100%	64	100%	71	100%	81	100%	73	100%
<b>County of Residence</b>										
Providence	75	82%	53	83%	54	76%	63	78%	60	82%
All other counties	16	18%	11	17%	17	24%	18	22%	13	18%
Total	91	100%	64	100%	71	100%	81	100%	73	100%

\*Other races include American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, multi-race, and unknown. Other reported risk includes IDU, MSM and IDU, mother to child transmission, and transfusion/blood recipient. Categories of race, risk, and county of residence were combined to account for small numbers and ensure privacy protections. Presumed heterosexual contact includes female cases only reported "sex with male" for which the male risk factor (MSM, known HIV infection, IDU, etc.) was not known. Percentages are rounded and may not add up to 100%.

# HIV/AIDS by Sex

Males continue to be diagnosed in Rhode Island more frequently than females. Rates for both females and males declined between 2017 and 2018. Diagnoses among females continued to decrease, reaching a new low, whereas males declined but were still above 2016 rates. The diagnosis rate for HIV cases in males was 11.7/100,000 cases compared to the diagnosis rate for HIV cases in females of 2.4/100,000 cases, with an overall rate of 6.9/100,000 cases for Rhode Island in 2018. Among males, the most common risk factor remains having sex with another male, and for females it is presumed heterosexual sex (Table 2 and 3).

**Figure 3. Rates of Newly Diagnosed Cases of HIV, By Sex, Rhode Island, 2014-2018**



*Rates are based on the 2016 US Census population estimates.*

**Table 2. Newly Diagnosed Male HIV Cases, Demographic and Risk Factor Characteristics, Rhode Island, 2014-2018**

Year	2014		2015		2016		2017		2018	
<b>Age Group</b>										
< 30	25	34%	16	34%	22	42%	25	38%	26	43%
30-39	21	28%	7	15%	13	25%	16	25%	12	20%
40-49	15	20%	8	17%	9	17%	8	12%	9	15%
50+	13	18%	16	34%	9	17%	16	25%	13	22%
Total	74	100%	47	100%	53	100%	65	100%	60	100%
<b>Race/Ethnicity</b>										
Black/African American, non-Hispanic	12	16%	9	19%	9	17%	7	11%	12	20%
Hispanic, All Races	22	30%	16	34%	14	26%	19	29%	15	25%
Other race, non-Hispanic or unknown	6	8%	2	4%	2	4%	4	6%	2	3%
White, non-Hispanic	34	46%	20	43%	28	53%	35	54%	31	52%
Total	74	100%	47	100%	53	100%	65	100%	60	100%
<b>Mode of Exposure</b>										
MSM	57	77%	35	74%	38	72%	53	82%	50	83%
Heterosexual contact	11	15%	3	6%	3	6%	3	5%	1	2%
Other reported risk	N/A	0%	N/A	0%	N/A	0%	N/A	0%	N/A	0%
Unknown/other	6	8%	9	19%	12	23%	9	14%	9	15%
Total	74	100%	47	100%	53	100%	65	100%	60	100%

\*Other races include American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, multi-race, and unknown. Other reported risk includes IDU, MSM & IDU, and transfusion/blood recipient. Categories of race and risk were combined to account for small numbers and ensure privacy protections. Percentages are rounded and may not add up to 100%.

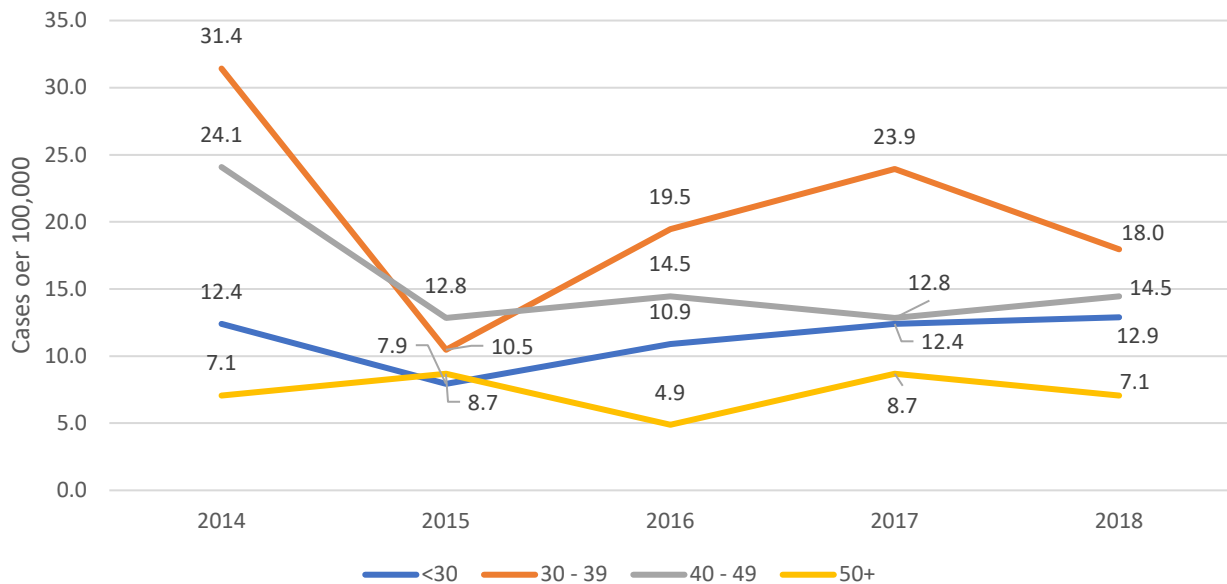
**Table 3. Newly Diagnosed Female HIV Cases, Demographic and Risk Factor Characteristics, Rhode Island, 2014-2018**

Year	2014-2018	
	#	%
<b>Age Category</b>		
< 30	17	21.0%
30-39	20	24.7%
40-49	20	24.7%
50+	24	29.6%
Total	81	100.0%
<b>Race/Ethnicity</b>		
African American/Black, non-Hispanic	33	40.7%
Hispanic or Latino	25	30.9%
Other races, non-Hispanic or unknown	4	4.9%
White, non-Hispanic	19	23.5%
Total	81	100.0%
<b>Risk Factor</b>		
Heterosexual Contact	45	55.6%
IDU	5	6.2%
Other risk reported or unknown	2	2.5%
Presumed Heterosexual Contact	29	35.8%
Total	81	100.0%

On average, there have been fewer than 20 females newly diagnosed with HIV in each of the last five years. Cases have been distributed evenly across all age categories. Black, non-Hispanic, and Hispanic or Latina women have been diagnosed more than other racial and ethnic groups and the rates of disease are far higher in these groups than in other groups. Heterosexual contact with a high-risk male (IDU, MSM, known HIV infection) and presumed heterosexual contact (sex with male and no other risk factor) have been reported in over 90% of all cases.

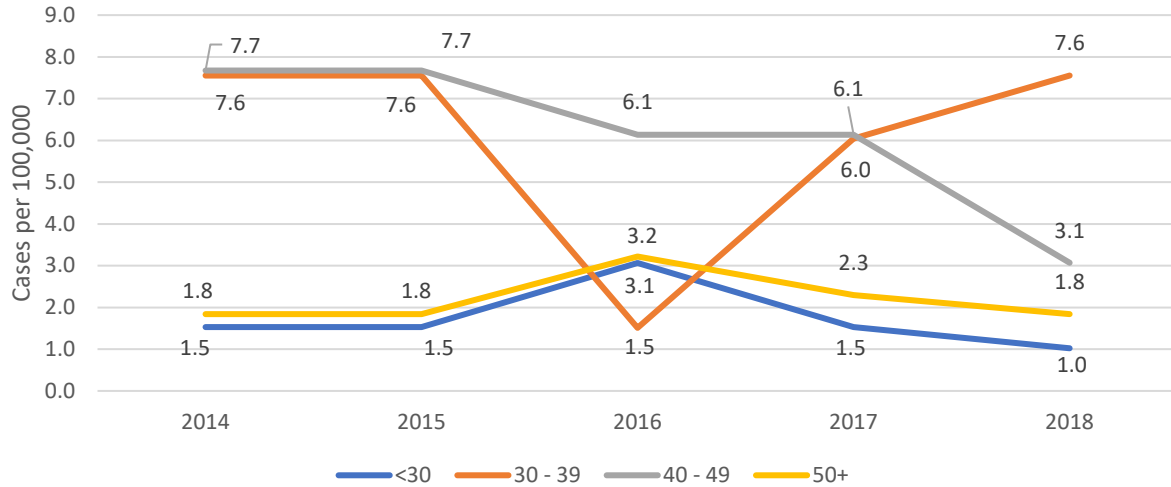
Percentages are rounded and may not add up to 100%.

**Figure 4: Rate of Newly Identified Cases of HIV, By Age Group, Among Males, Rhode Island, 2014-2018**



Rates are based on 2016 US Census population estimates.

**Figure 5: Rate of Newly Diagnosed Cases of HIV, By Age Group, Among Females, Rhode Island, 2014-2018**

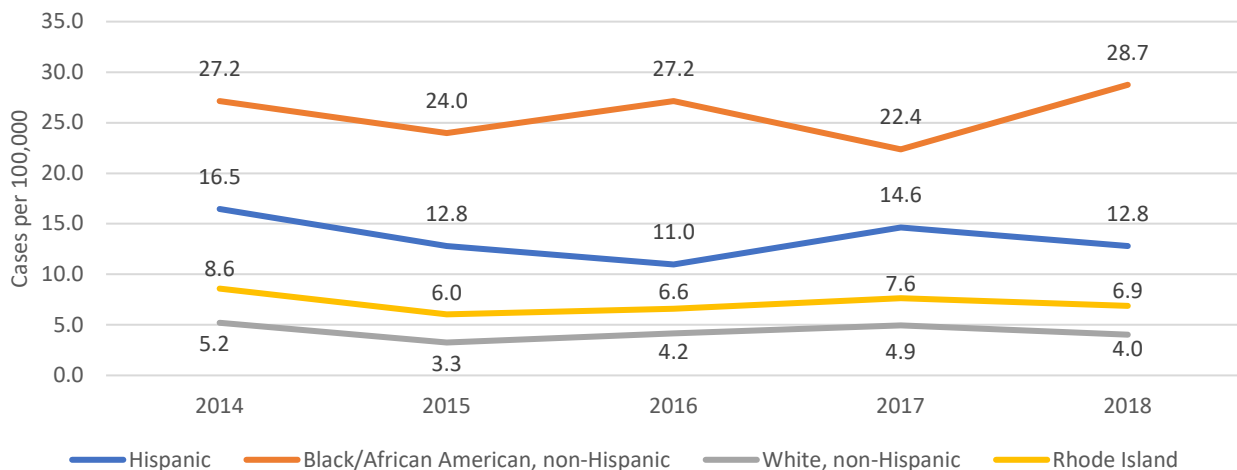


*Note: Rates of disease should be interpreted with caution due to small case counts. Rates of disease may not be statistically reliable. Rates are based on 2016 US Census population estimates.*

## HIV by Race and Ethnicity

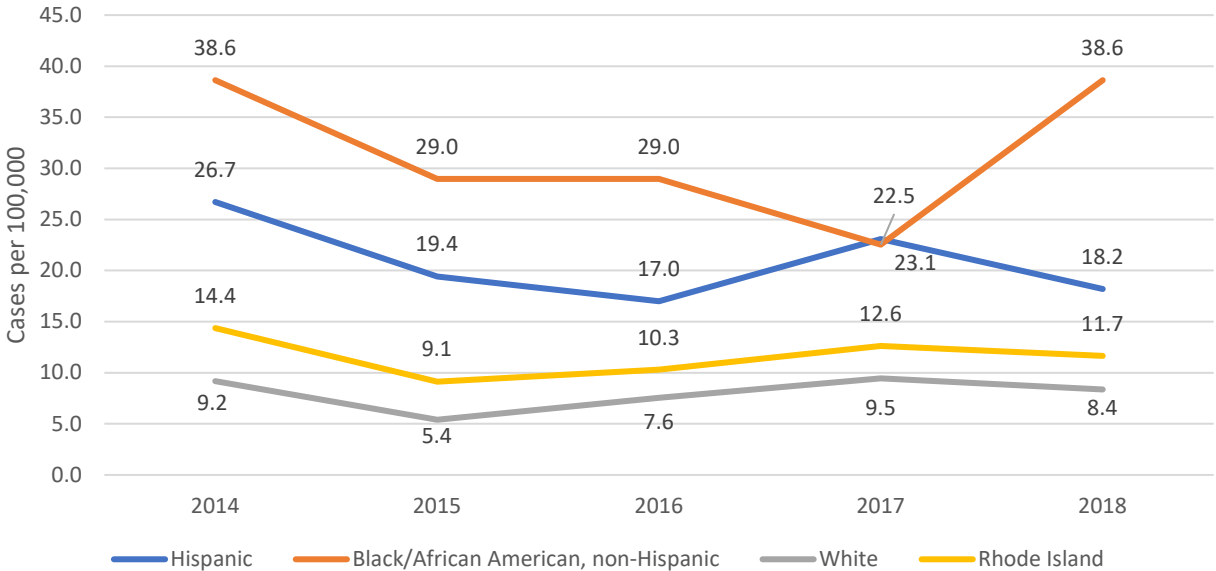
From 2014 to 2018, over 40% of all newly diagnosed HIV cases in Rhode Island were White, non-Hispanics. However, rates of disease are far higher among Black/African American, non-Hispanics and Hispanic or Latinxs. Black/African Americans account for nearly 25% of newly diagnosed cases but represent less than 6% of the state’s total population. Additionally, the diagnosis rate for Black/African Americans increased to a five-year high of 28.7 cases/100,000 in 2018. The Hispanic or Latinx community is also disproportionately burdened by the HIV epidemic. They account for nearly 29% of all HIV cases, but less than 16% of the total population of Rhode Island. These disparities are present in both the male and female populations in Rhode Island, although rates for black males jumped significantly in 2018, following a steady three-year decline.

**Figure 6: Rate of Newly Diagnosed Cases of HIV, by Race and Ethnicity, Rhode Island, 2014-2018**



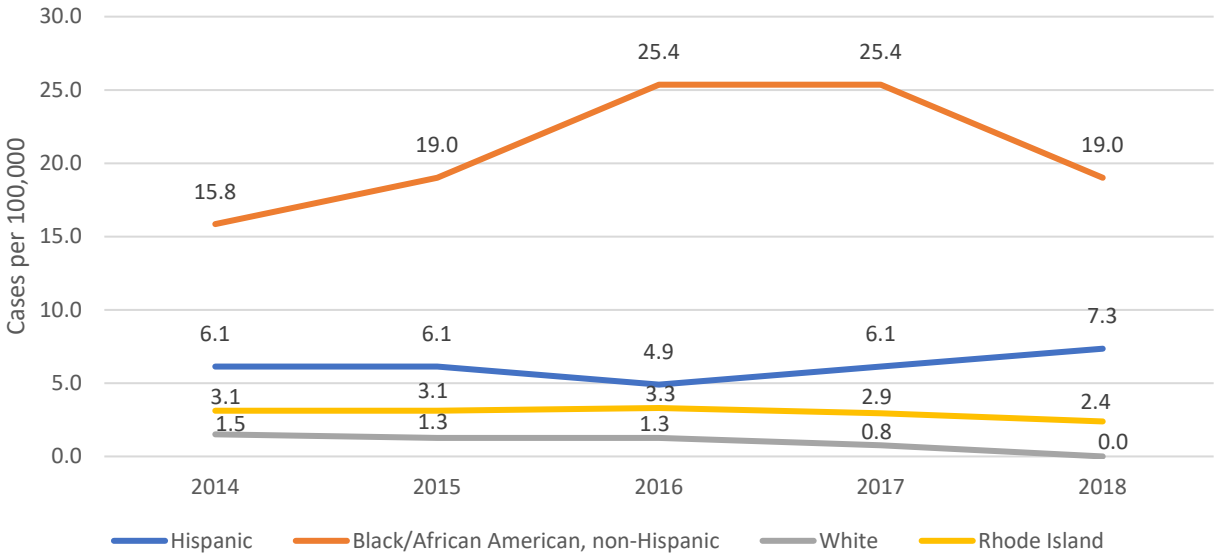
*Rates are based on 2016 US Census population estimates using the combined race/ethnicity variable.*

**Figure 7: Male Rates of Newly Diagnosed Cases of HIV, By Race and Ethnicity, Rhode Island, 2014-2018**



Rates are based on 2016 US Census population estimates using the combined race/ethnicity variable.

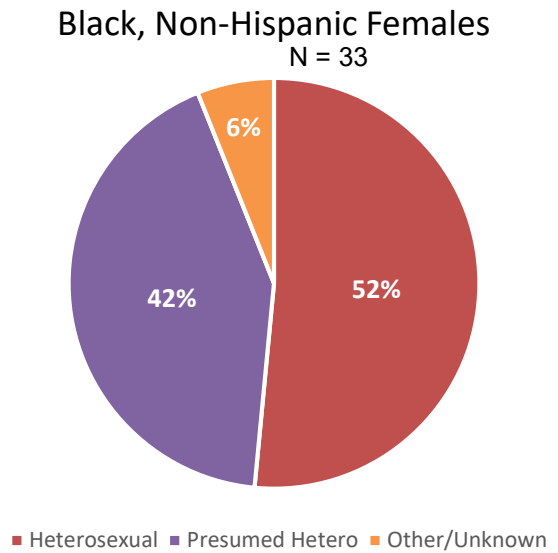
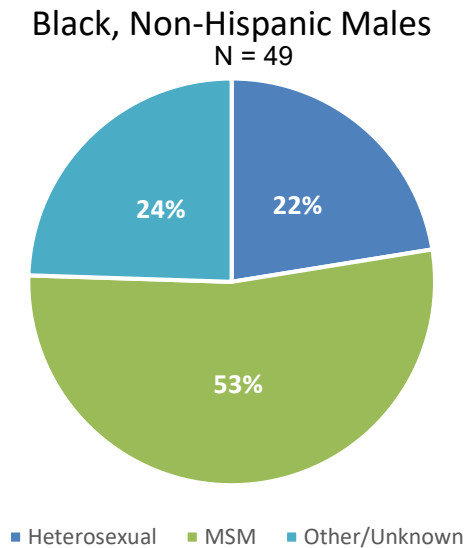
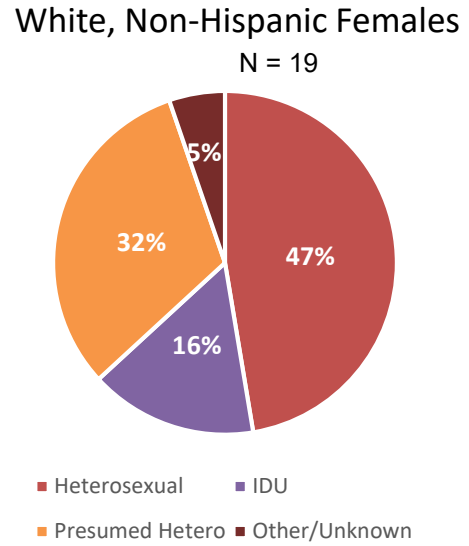
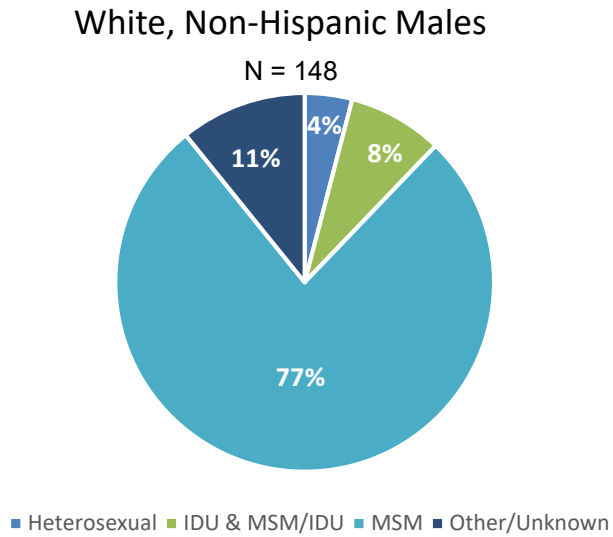
**Figure 8: Female Rate of Newly Diagnosed Cases of HIV, By Race and Ethnicity, Rhode Island 2014-2018**

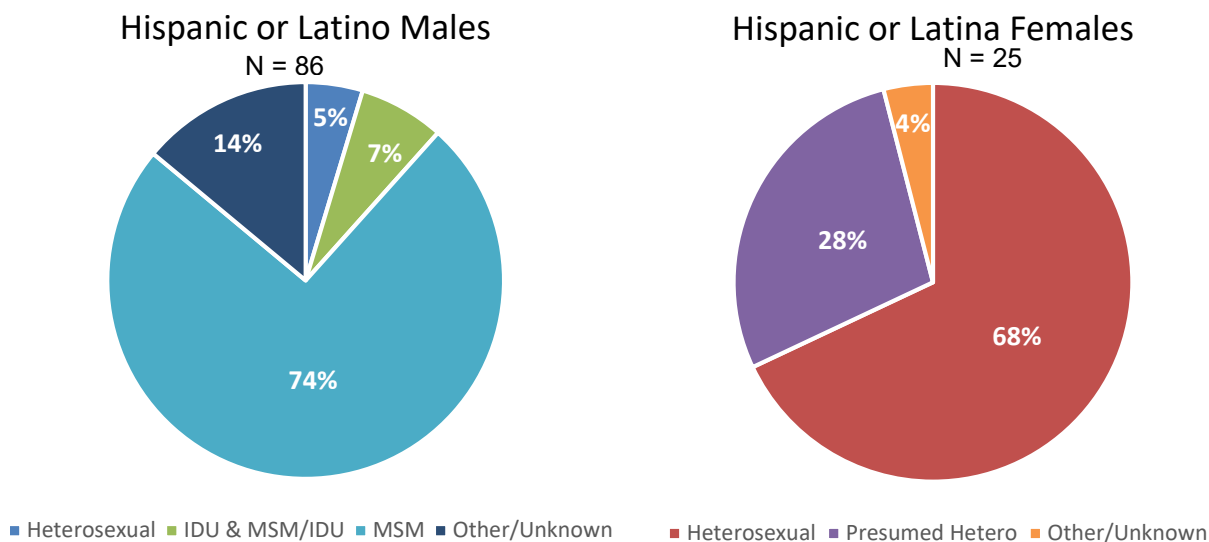


Note: Rates of disease should be interpreted with caution due to small case counts. Rates of disease may not be statistically reliable. Rates are based on 2016 US Census population estimates using the combined race/ethnicity variable.

# HIV by Mode of Exposure

Figures 9 - 14: Newly Diagnosed Cases of HIV, By Sex, Race/Ethnicity, and Mode of Exposure, Rhode Island, 2014-2018





Male-to-male sexual contact continues to be the most frequently reported risk newly diagnosed cases of HIV. This is seen among White, non-Hispanic, Black, non-Hispanic, and Hispanic/Latino males. Injection drug use (IDU)-associated HIV infection continues to be reported in small numbers by males. Among women, heterosexual contact and presumed heterosexual contact (when a female reports sex with a male, but the male’s risk status is unknown) is the most commonly reported exposure mode. White, non-Hispanic women have also reported IDU more than any other risk category, but the overall number of cases reporting IDU has been low. Figures 9-14 show the distribution of exposure category by sex and race/ethnicity among HIV cases for 2014-2018.

## Deaths Among HIV-Diagnosed Individuals

Information on vital status is collected using information obtained from with RIDOH’s Center for Vital Statistics, the National Death Index, and the Social Security Administration. Annually, each of these resources is used to identify any existing HIV-infected individuals who may have died. Matching with death records is critical to accurately estimate the number of persons living with HIV in Rhode Island. Due to matching with national databases, death ascertainment activities are typically completed one year after local surveillance data are analyzed to account for reporting delays. Therefore, Table 4 and Figure 15 describe death reported among persons living with HIV for 2013-2017. The number of deaths are among all individuals reported as HIV-infected to RIDOH, and may include individuals not diagnosed in Rhode Island who have since moved to Rhode Island, as well as individuals diagnosed in Rhode Island who may currently reside in another jurisdiction. From 2013 to 2017, 226 deaths occurred among persons with HIV that had been reported to RIDOH and since 1983, a total of 2,078 deaths among known HIV-positive individuals have been reported to RIDOH. Since the introduction of highly active antiretroviral therapy (HAART), the number of HIV-related deaths has steadily declined in Rhode Island. Due to advances in clinical therapy and antiretroviral medications, the population living with HIV has grown to a much larger size in the past several years.

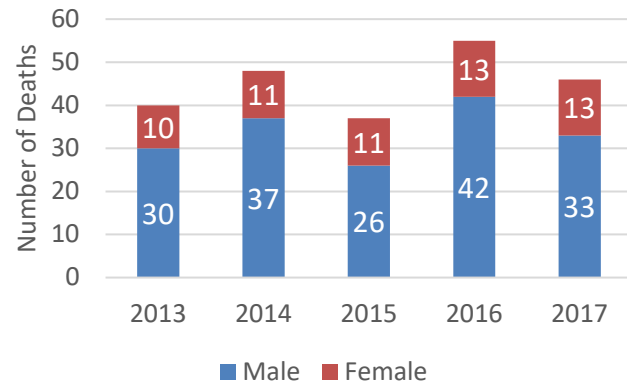


**Table 4. Deaths Among Individuals Diagnosed with HIV, Rhode Island, 2013-2017**

Demographic Characteristics	#	%
<b>Sex</b>		
Male	168	74%
Female	58	26%
Total	226	100%
<b>Age Group</b>		
< 39	135	60%
40-49	49	22%
50-59	25	11%
60+	16	7%
Missing	1	<1%
Total	226	100%
<b>Race/Ethnicity</b>		
Black/African American, non-Hispanic	53	24%
Hispanic or Latino	48	21%
White, non-Hispanic	118	52%
Other race, non-Hispanic or unknown	6	3%
Missing	1	<1%
Total	226	100%
<b>Country of Birth</b>		
US-Born	181	83%
Non-US Born	36	16%
Unknown	2	1%
Missing	7	3%
Total	226	100%

Percentages are rounded and may not add up to zero.  
Data on age, race/ethnicity, and country of birth missing for some cases.

**Figure 15: Deaths Among Individuals Diagnosed with HIV, By Sex, Rhode Island, 2013-2017**



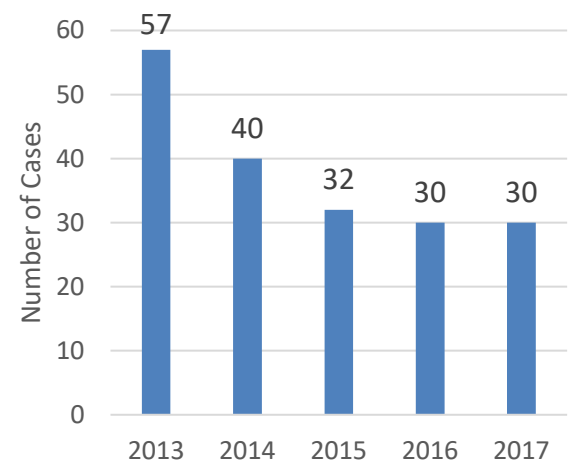
## HIV Stage 3 Disease (AIDS) Surveillance Trends

Stage 3 disease (AIDS) data are reported one year behind trends on new diagnoses to ensure enough time has elapsed to accurately describe how many new diagnoses are progressing to AIDS. Therefore, like death data, AIDS data are reported for 2013-2017. Figure 16 shows the number of individuals who were diagnosed with AIDS while residing in Rhode Island, from 2013-2017. This figure includes individuals who were initially diagnosed with both HIV and AIDS at the time of initial diagnosis and individuals diagnosed with HIV in the past (both in Rhode Island or in other jurisdictions) who progressed to AIDS during the time period while residing in Rhode Island. This figure shows a general reduction in the number of Rhode Islanders living with HIV who have experienced declining health status and a diagnosis of AIDS. Individuals diagnosed with AIDS at the same time as initial HIV diagnosis indicate the individual may not have received appropriate HIV screening during their lifetime. This can be improved through better routine and targeted screening in medical and non-medical settings but is also subject to the individual's care-seeking practices. Roughly 20-25% of individuals diagnosed with HIV are also diagnosed with AIDS and this percentage has been stable over the last 5 years. However, overall, the number of individuals progressing to AIDS during the last five years has declined. This means individuals diagnosed only with HIV initially appear to be achieving better health outcomes than in the past, but for many, late diagnosis continues to be an issue.

**Table 5. Demographic and Risk Factor Characteristics of HIV Cases Who Progressed to Stage 3 Disease (AIDS), Rhode Island, 2013-2017**

Demographic Characteristics	#	%
<b>Sex</b>		
Male	143	76%
Female	46	24%
Total	189	100%
<b>Age Group</b>		
< 20	6	3%
20-29	42	22%
30-39	47	25%
40-49	42	22%
50+	52	28%
Total	189	100%
<b>Race/Ethnicity</b>		
Hispanic or Latino	51	27%
Black/African American, non-Hispanic	35	19%
White, non-Hispanic	98	52%
Other risk or unknown	5	2%
Total	189	100%
<b>Exposure Category</b>		
MSM	78	42%
IDU	15	8%
MSM & IDU	7	4%
Heterosexual Contact	38	20%
Presumed Heterosexual Contact	17	9%
Other Risk or Unknown	32	17%
Total	189	100%

**Figure 16. Cases of HIV Progressing to Stage 3 Disease (AIDS), Rhode Island, 2013-2017**



Percentages are rounded and may not add up to zero. Data on gender and race/ethnicity missing for some cases.

# Special Populations: Persons Unaware of HIV Status

New estimates indicate that over 92% of Rhode Islanders living with HIV are aware of their status. However, this means roughly 8%, or approximately 210 individuals, are infected and do not know it. There are several reasons why people may not know their HIV status. Some people do not seek regular medical care, others do not believe that they are at-risk, and others may deny they have HIV despite preliminary test results.

From 2014-2018, 83 individuals became aware of their positive HIV status when diagnosed concurrently with stage 3 disease, which is 22% of the individuals diagnosed during the same time period. Most individuals diagnosed with stage 3 disease were male (77%). The demographics of HIV with concurrent stage 3 disease diagnosis matches the overall epidemic with the majority of cases being White, non-Hispanic and the majority being MSM. A higher proportion of these cases are among older individuals (40-49 years old and 50+ years old).

**Table 6. Characteristics of Individuals Diagnosed with HIV and Concurrent Stage 3 Disease (AIDS), Rhode Island, 2014-2018**

Demographic Characteristics	#	%
<b>Sex</b>		
Male	64	77%
Female	19	23%
Total	83	100%
<b>Age Group</b>		
< 30	9	11%
30-39	20	24%
40-49	25	30%
50+	29	35%
Total	83	100%
<b>Race/Ethnicity</b>		
White, non-Hispanic	43	52%
Black/African American, non-Hispanic	21	25%
Hispanic or Latino	16	19%
Other Race, non-Hispanic or Unknown	3	4%
Total	83	100%
<b>Exposure Mode</b>		
MSM	41	49%
Heterosexual contact	13	16%
Presumed heterosexual	11	13%
Other risk or unknown	18	22%
Total	83	100%

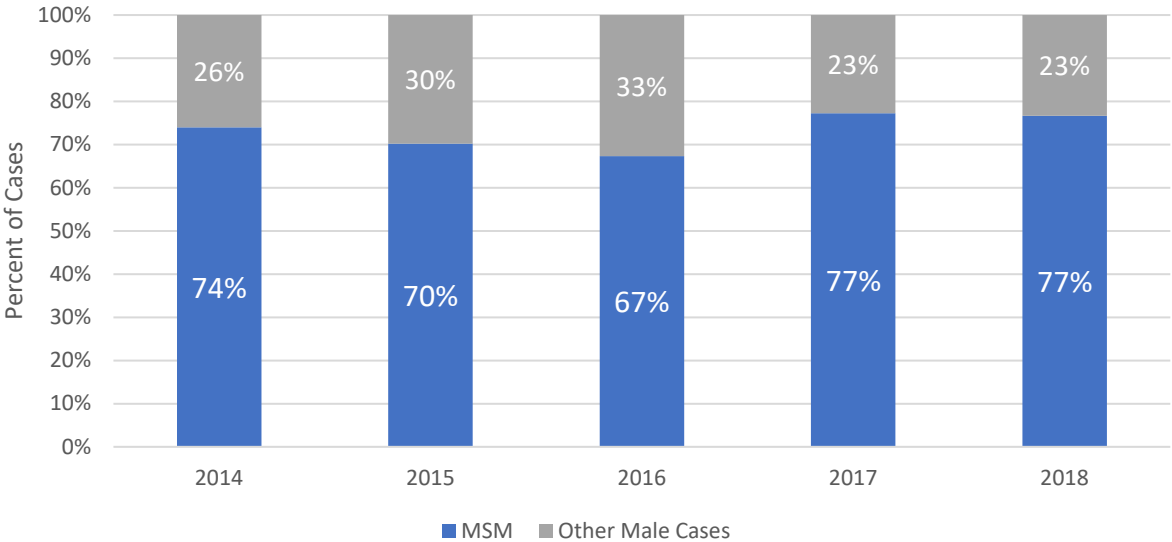
## Special Populations: Babies Born to Women with HIV

In 2009, the mandatory HIV testing of pregnant women and babies with unknown maternal HIV status during pregnancy was added to the Rhode Island General Law (§ 23-6.3-3). This policy decision has ensured earlier detection of HIV among pregnant women, resulting in appropriate clinical management of the mother and the baby, thus reducing chances of vertical (mother-to-child) HIV transmission. Pregnant women who test positive for HIV, as well as HIV testing in infants with potential perinatal exposure, are reportable to RIDOH. There were fewer than five reported cases of vertical HIV transmission identified during the last five years. Importantly, no cases reported were delivered at a Rhode Island facility. In 2018, pregnancy became reportable for women living with a chronic infectious disease, such as HIV, hepatitis C, syphilis, and Zika virus. Reporting of pregnancy allows RIDOH staff to work with healthcare providers (OB/GYN, HIV specialists, and pediatric providers), to ensure adherence to care for the pregnant female prior to delivery to improve health outcomes for the woman and baby after delivery.

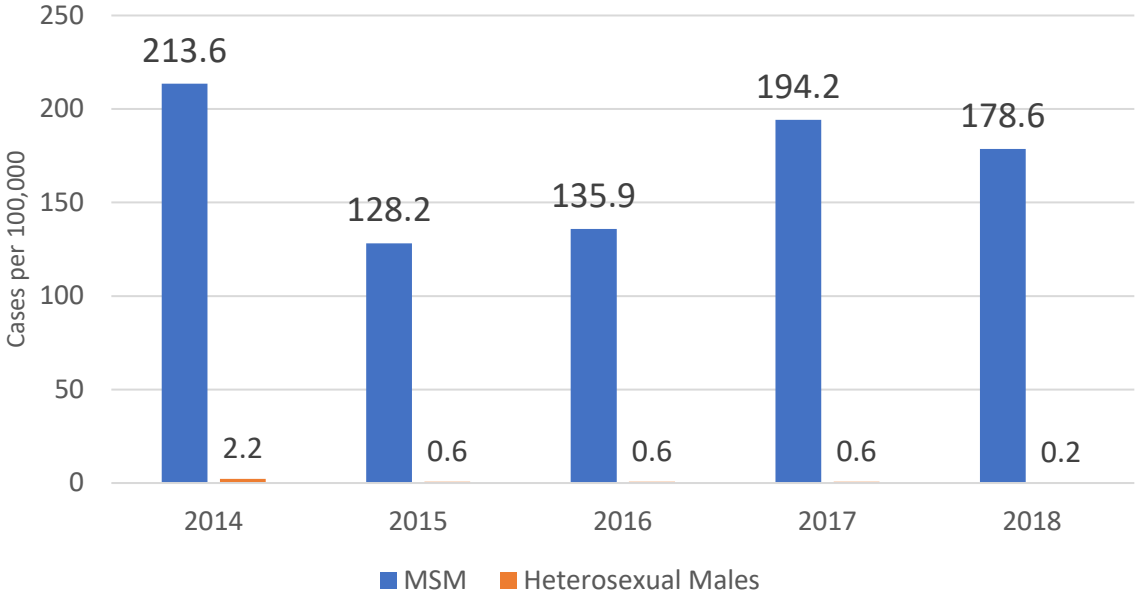
## Special Populations: Gay, Bisexual, and Other Men Who Have Sex with Men

The population of gay, bisexual, and other men who have sex with men continues to experience a disproportionately high burden of HIV despite an overall decrease in the number of new diagnoses. Figure 17 shows that there is a continued high percentage of identified cases that report being MSM. Figure 18 shows this further by describing the rates of disease based on sexual behavior. National research conducted by Lieb, et al. and findings from the Rhode Island BRFSS were used to estimate that 5% of the male population in Rhode Island are MSM. This estimate has allowed RIDOH to estimate rates of disease among this population and to compare these rates of disease to the statewide rates of disease as well as rates for heterosexual men and women. Figure 18 shows the high rates of disease among MSM compared to the estimated heterosexual male population.

**Figure 17: Percentage of Newly Diagnosed Male HIV Cases Who Are MSM, Rhode Island, 2014-2018**



**Figure 18: Rates of Newly Diagnosed Cases of HIV, Among Select Risk Groups, Rhode Island, 2014-2018**

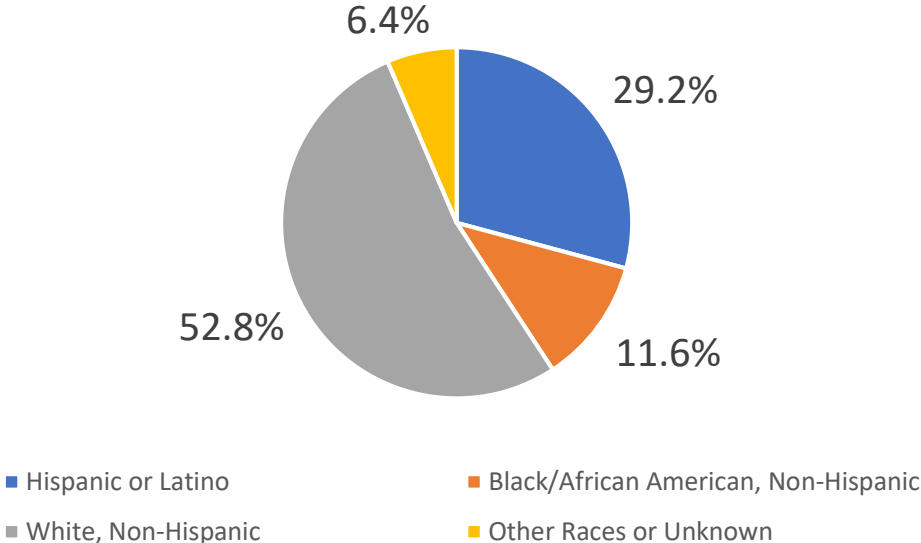


Population estimate for MSM calculated based on Rhode Island’s BRFSS data and Lieb, et al. Note: Rates of disease should be interpreted with caution due to small case counts. Rates of disease may not be statistically reliable. Rates are based on 2016 US Census population estimates using the combined race/ethnicity variable.

Comparing racial and ethnic groups within the MSM population, White non-Hispanic MSM account for the largest proportion infected with HIV – 53% compared to 29% in Hispanic/Latinos and 12% in Black/African American non-Hispanics (Figure 19).

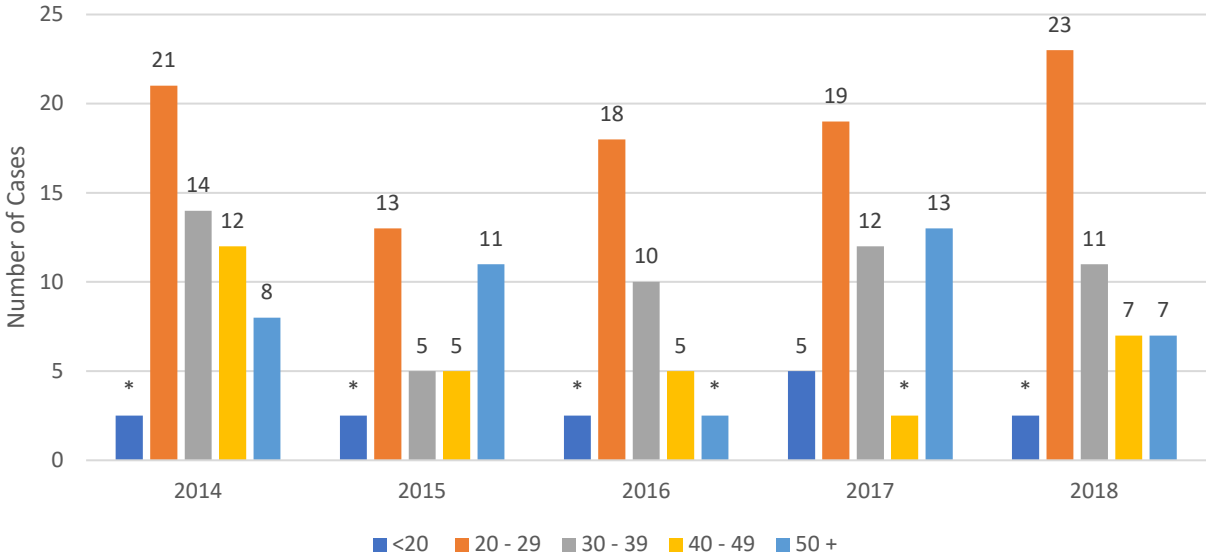
**Figure 19: Newly Diagnosed Cases of HIV, MSM, By Race/Ethnicity, Rhode Island, 2014-2018**

N = 233



The age distribution of MSM diagnosed with HIV, from 2014-2018, is similar to the overall HIV epidemic across Rhode Island. Newly diagnosed cases are increasingly being seen in the younger age categories, though diagnoses in men age 20 or younger remain rare. Prior to 2009, MSM ages 30-39 and 40-49 saw slightly more cases of HIV than MSM ages 20-29. This has changed. Currently, men younger than 30 are reported more frequently than any other age group. All other groups' case counts have fluctuated over the last five years.

**Figure 20: Newly Diagnosed HIV Cases, MSM, by Age, Rhode Island, 2014-2018**

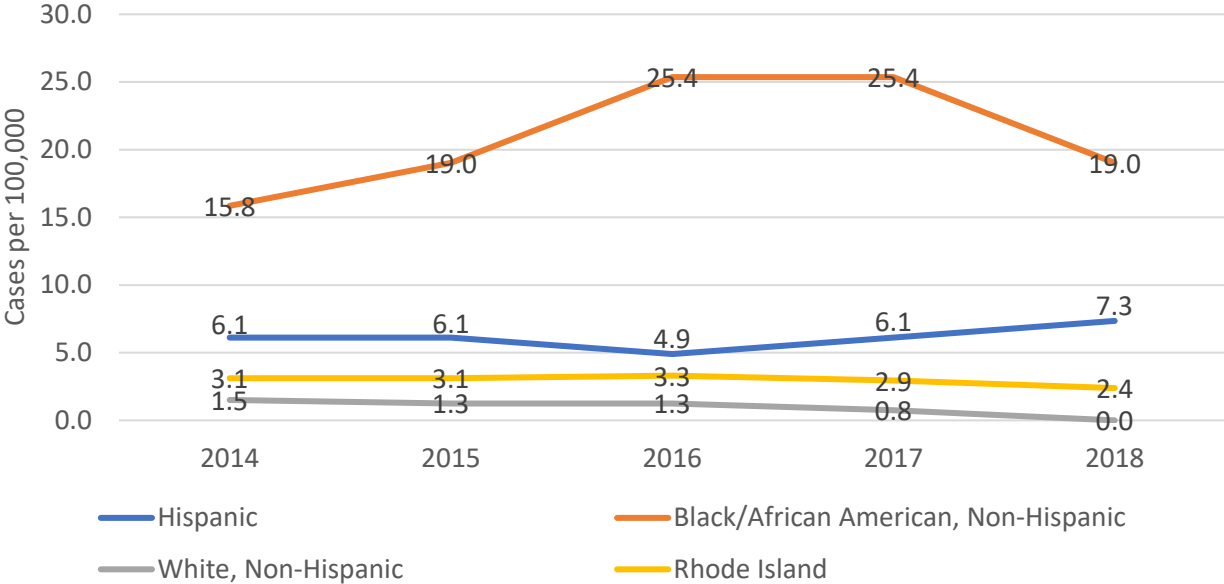


Note: \* denotes value <5

### Special Populations: African American and Hispanic Women

Between 2014 and 2018, 81 women were diagnosed with HIV in Rhode Island. The rate of disease in minority populations continues to be disproportionately high (Figure 21). Black/African American and Hispanic/Latina women have much higher rates of disease compared to White, non-Hispanic women. Over 55% of females reported high-risk heterosexual contact as the mode of exposure. This means that these women may have had sexual contact with a man with known HIV infection, with a man who injects drugs, or with a man who has sex with men. An additional 36% reported only sex with a male as a risk factor without any other information about the male's risks and therefore their risk is presumed heterosexual contact. It is important for individuals to know their partners' HIV status and risk history so they can know their own risk and can seek testing and use prevention methods appropriately.

**Figure 21: Newly Diagnosed Female HIV Cases, by Race/Ethnicity, Rhode Island, 2014-2018**



*Note: Rates of disease should be interpreted with caution due to small case counts. Rates of disease may not be statistically reliable. Rates are based on 2016 US Census population estimates using the combined race/ethnicity variable.*

**Risks Reported by Women**

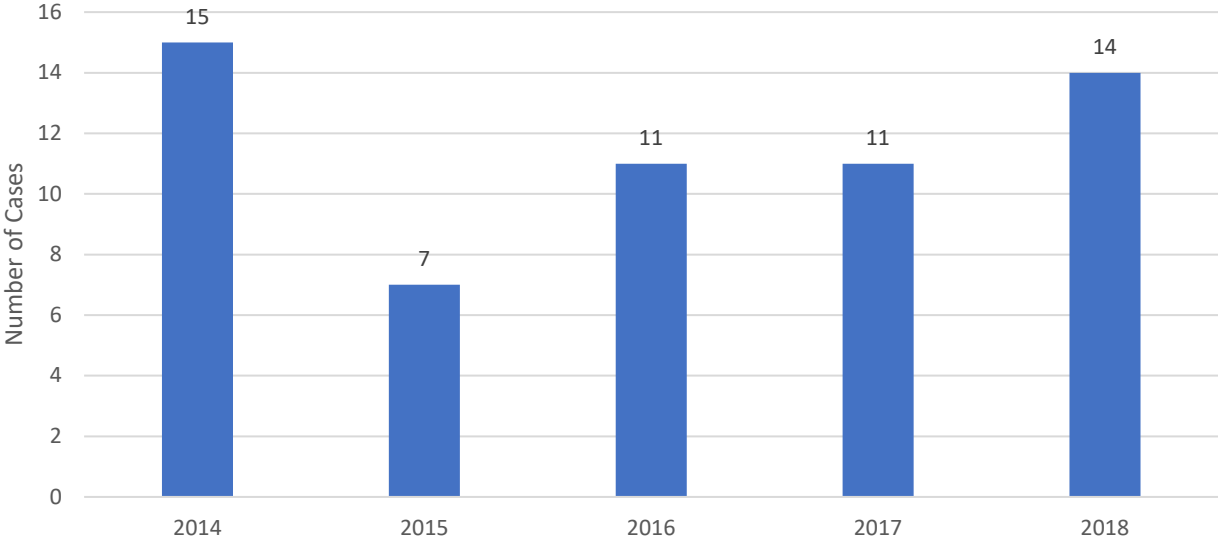
More detailed information on risk behaviors can be found through HIV Partner Services (PS) interviews with index and partner clients. Through these interviews, RIDOH learns if cases exchange sex for money, drugs, goods, or services; have sex while high or intoxicated; have been forced to have sex involuntarily; have ever been incarcerated; or if they have other factors related to higher risk of acquiring HIV and STDs. From 2014 to 2018, 81 females were newly diagnosed with HIV. Of those 81 females:

- Born outside of the US: 71%
- Sex with a known positive case of HIV: 22%
- Exchanged sex for money, drugs, goods, or service within their life: 5%
- Sex while high or intoxicated: 15%
- Forced to have sex involuntarily: 12%
- Injected non-prescription drugs: 9%
- History of incarceration: 9%

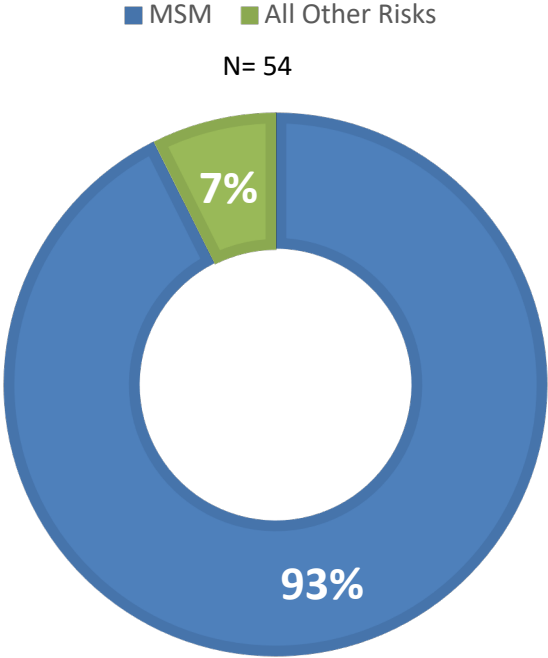
**Special Populations: Youth and Young Adult HIV Cases**

About 15% (58 out of 380) of all the HIV cases diagnosed in Rhode Island in the last five years were ages 13-24. The number of youth cases peaked in 2014 then declined in 2015 and has increased since then. The majority of youth and young adult cases were ages 20-24 and there were very few cases under 20 years of age. Most cases continue to be male and the majority of cases report being MSM. Of the 58 cases diagnosed among youth and young adults during 2014-2018, 54 were male and 4 were female. Racial and ethnic minorities were heavily impacted, with 34% of newly identified youth and young adult HIV cases occurring in Hispanic/Latinos and 21% occurring in African American/Black, non-Hispanic individuals age 13-24. Thirty-six percent of youth and young adult cases were White. Among males, having sex with other men (93%) was the most commonly reported risk factor.

**Figure 22: Newly Diagnosed HIV Cases, Among Youth (Age 13-24), Rhode Island, 2014-2018**



**Figure 23: Newly Diagnosed Male Youth (Age 13-24) HIV Cases, by Risk Factor, Rhode Island, 2014-2018**





## Special Populations: Persons Living With HIV

Prevalence estimates are calculated based on information received on new HIV diagnoses, individuals migrating in and out of Rhode Island based on provider reporting and interjurisdictional reporting, and matching with vital records databases. Information received from these sources is used to generate an estimate of the total number of people currently living in Rhode Island with HIV. Historically, prevalence has been measured using “residence at HIV diagnosis,” which did not account for individuals who were diagnosed in other jurisdictions and have since moved to Rhode Island. In 2014, RIDOH began calculating prevalence using the most recent known address. This method was used for Table 7, which describes the most recent estimate of the people living in Rhode Island with HIV.

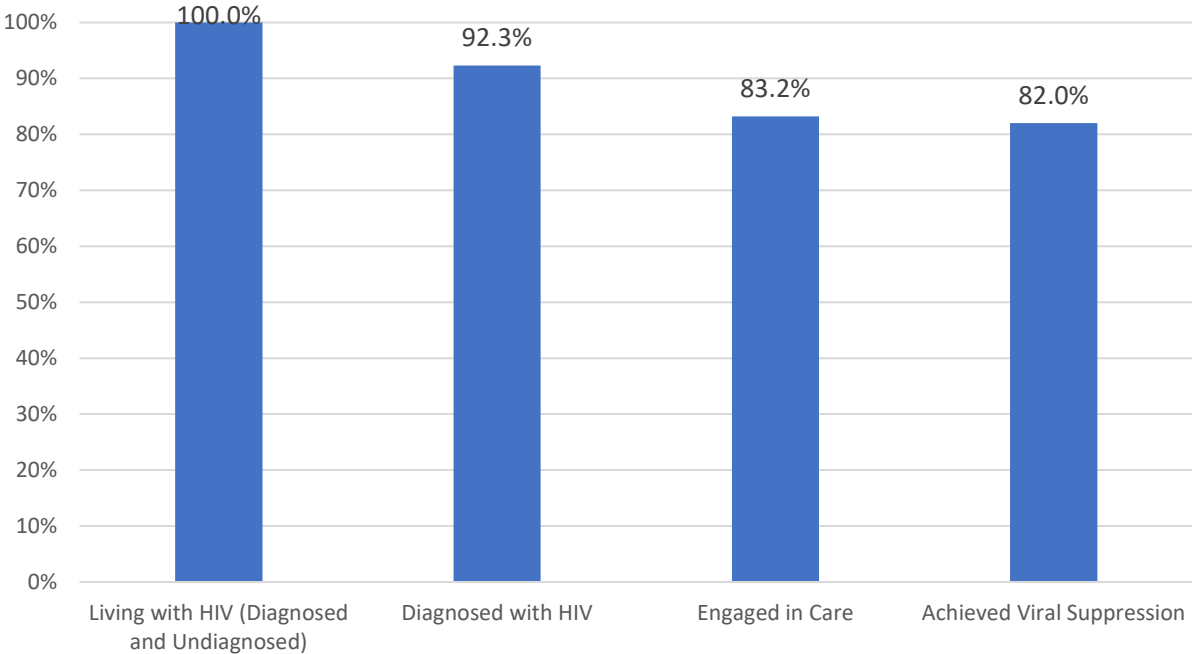
**Table 7. Number of People Living with HIV in Rhode Island, Age 13 or older as of 12/31/2018, Resided in Rhode Island (based on most recent residence), Diagnosed with HIV Infection by 12/31/2017 and Living with HIV by 12/31/2018, Selected Characteristics.**

Characteristics	Persons diagnosed with HIV infection through 12/31/2017 and living with HIV on 12/31/2018 (overall population)
<b>Sex</b>	
Male	1,903
Female	697
Missing/Unknown	2
<b>Age on 12/31/2016</b>	
13-24	62
25-34	304
35-44	465
45-54	834
55-64	727
>=65	210
<b>Race/ethnicity</b>	
American Indian/Alaska Native	10
Asian	40
Black/African American	614
Hispanic/Latino	724
Native Hawaiian/Other Pacific Islander	1
White	1,161
Multiple races	41
Unknown races	11
<b>Transmission category</b>	
Male-to-male sexual contact (MSM)	1,071
Injection drug use (IDU)	384
MSM and IDU	109
Heterosexual contact	549
NIR/NRR (unknown)	446
Other	43
<b>County of Residence at diagnosis</b>	
Bristol	54
Kent	244
Providence	2,100
Newport	109
Washington	89
<b>Total</b>	<b>2,602</b>

# Rhode Island HIV Care Continuum

The HIV Care Continuum is a visual representation of the care status of individuals diagnosed with HIV who reside in Rhode Island. These data are influenced by the availability of locating information to confirm who is living in Rhode Island, and importantly, who has moved out of Rhode Island. The 2018 Rhode Island HIV Care Continuum shows that HIV-diagnosed individuals are not all accessing care or achieving viral suppression, but that improvements are being made, compared to estimates through 2016 and 2017. RIDOH continues to work with local and state partners with the goal of achieving the 90-90-90 goals of having 90% of people known their status, 90% of people engaged in care, and 90% of people virally suppressed.

**Figure 24: Rhode Island HIV Care Continuum, 2018**



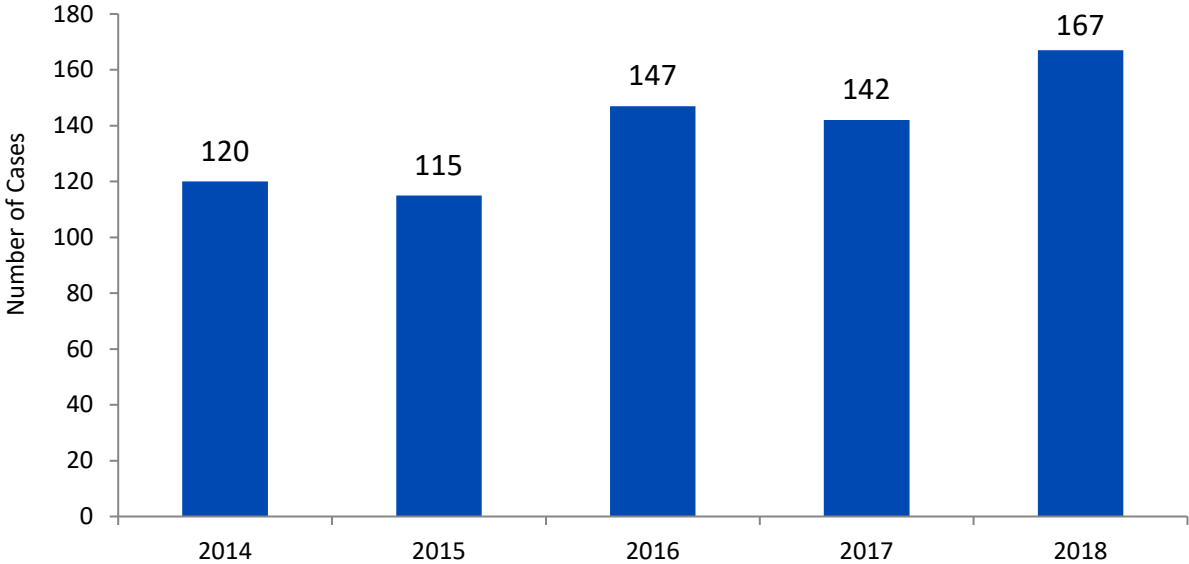
- *Estimated persons living with HIV in Rhode Island derived from the estimated percentage of persons diagnosed with HIV in Rhode Island, which was based on data reported through June 2019 and estimates percent diagnosed with HIV for calendar year 2017, adjusted for reporting delays, missing transmission category, incorrect diagnosis dates, and underreporting. Estimates are based on different data than data used to estimate engagement in care and viral suppression.*
- *Engaged in care is based on persons who have at least one CD4, viral load, or HIV-1 genotype test between 01/01/2018 through 12/31/2018 among persons residing in Rhode Island (based on most recent residence), diagnosed with HIV infection through 12/31/2017, and living with HIV on 12/31/2018, based on data reported through June 2019.*
- *Viral suppression is based on persons who have most recent viral load test result <200 copies/mL between 01/01/2018 through 12/31/2018 among persons residing in Rhode Island (based on most recent residence), diagnosed with HIV infection through 12/31/2018, and living with HIV through 12/31/2018, based on data reported through June 2019.*

# Surrogate Data in Rhode Island

## Infectious Syphilis

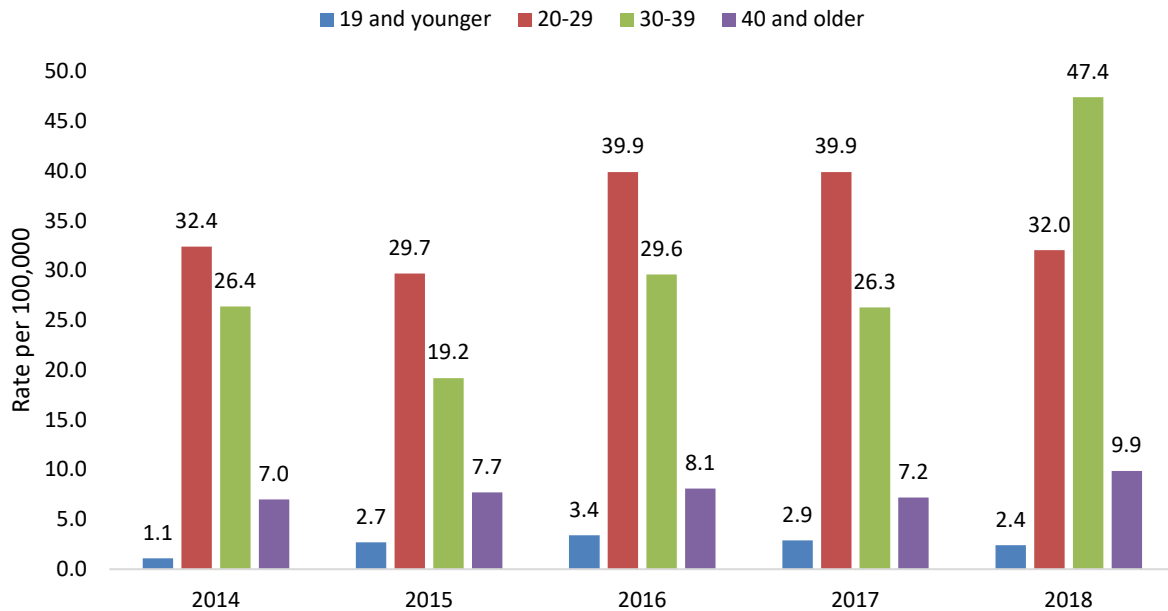
In recent years, Rhode Island, like many other states, has experienced an increase in the number of reported cases of infectious syphilis (primary, secondary, and early non-primary, non-secondary stages). From 2014 to 2018, the number of cases reported to RIDOH increased by 39.2%. In 2018, there were a total of 167 new cases of infectious syphilis. There have been no cases of congenital syphilis in the last five years. Following a similar trend to previous years, the majority of the 2018 cases (83%) were residents of Providence County.

**Figure 25: Infectious Syphilis Cases, Rhode Island, 2014-2018**



Of 167 infectious syphilis cases reported in 2018, 148 (89%) were male and 19 (11%) were female. One hundred fifteen (69%) of the males identified as MSM, and of those, 31 (27%) self-reported HIV infection. In 2018, the highest case rates for infectious syphilis were among the 30-39 year age group, followed by the 20-29 year age group. Together, these age groups accounted for 65% of all infectious syphilis cases reported in 2018.

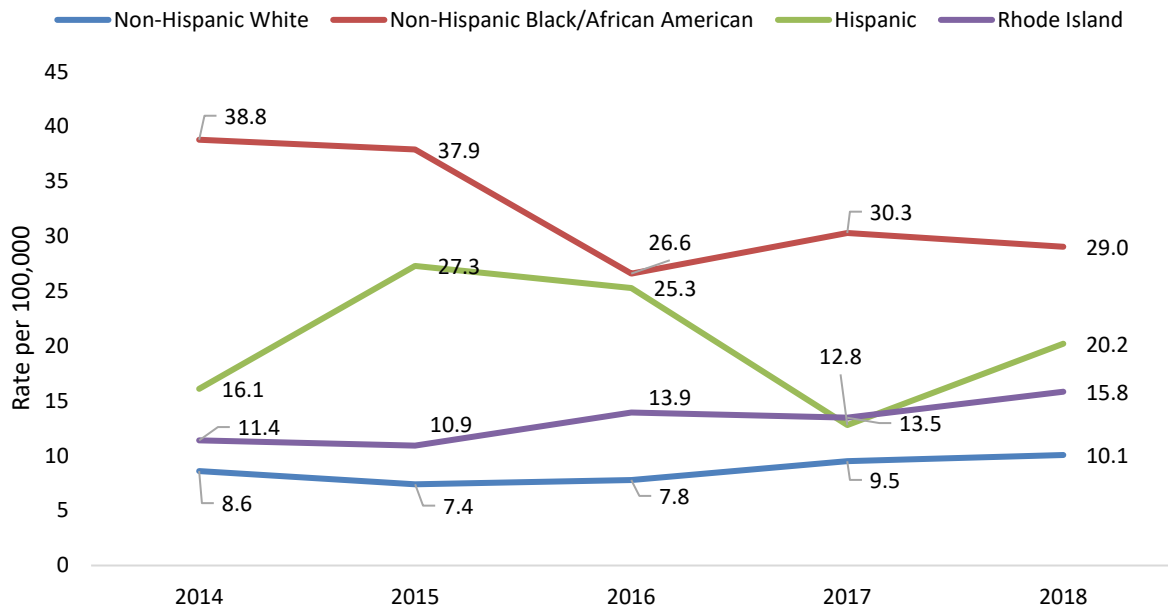
**Figure 26: Rates for Infectious Syphilis Cases, By Age Group, Rhode Island, 2014-2018**



Rates are expressed as cases per 100,000 population. The rates for 2014-2016 are based on the 2010 US Census population estimates. Rates for 2017-2018 are based on the 2016 US Census population estimates.

Although non-Hispanic Whites continue to account for a large percentage (52%) of infectious syphilis cases in Rhode Island, rates are highest for non-Hispanic Black/African American and Hispanic populations.

**Figure 27: Infectious Syphilis Case Rates, By Race/Ethnicity, Rhode Island, 2014-2018**

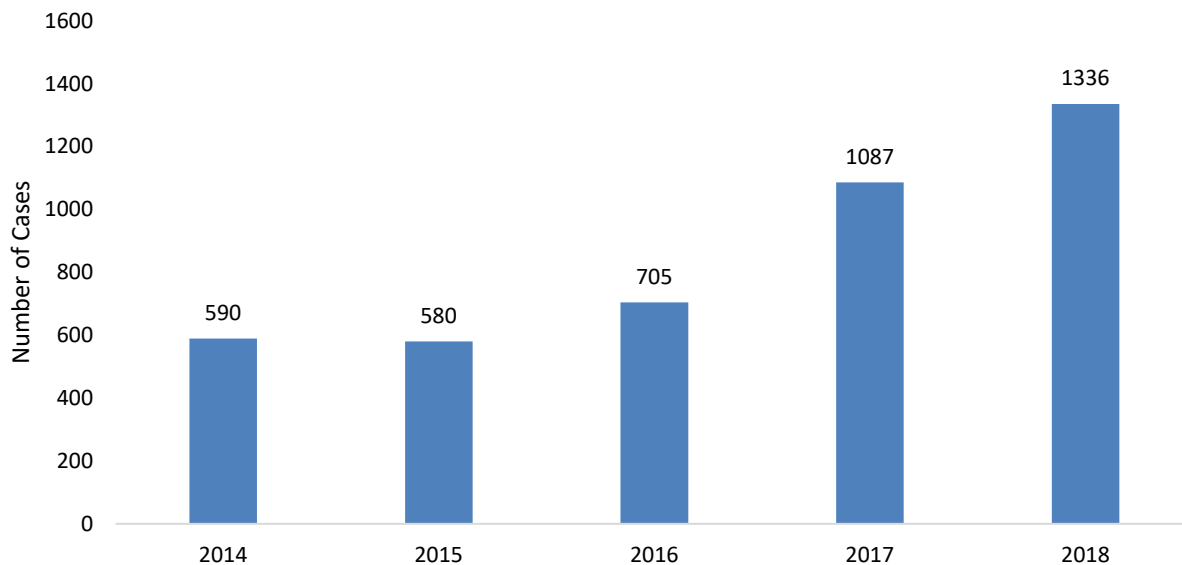


Rates are expressed as cases per 100,000 population. The rates for 2014-2016 are based on the 2010 US Census population estimates. Rates for 2017-2018 are based on the 2016 US Census population estimates.

## Gonorrhea

In 2018, 1,336 cases of gonorrhea were reported to RIDOH, a significant increase from previous years. Of the reported cases in 2018, 879 (66%) were male and 457 (34%) were female. The number of males diagnosed with gonorrhea continues to increase, partially due to the introduction of extragenital testing in 2014, which can identify more cases missed by traditional testing methods. Cases not previously detected through urine or vaginal testing (mostly MSM) are able to be identified by extragenital testing of other body sites.

**Figure 28: Reported Gonorrhea Cases, Rhode Island, 2014-2018**

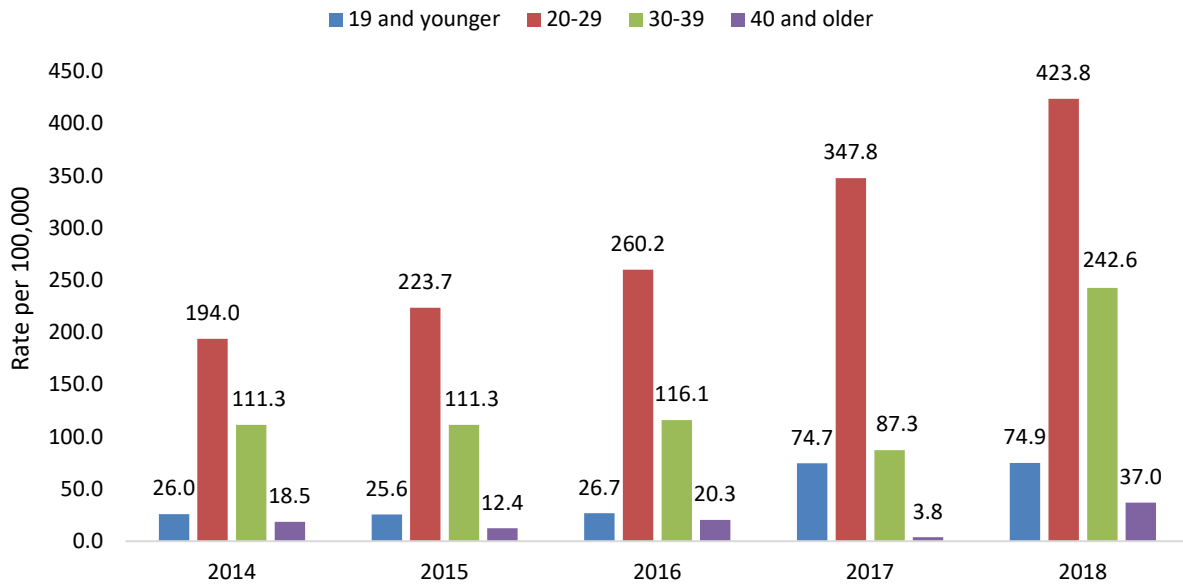


Due to increasing case burden and decreasing staff resources in 2015, the STD Program limited gonorrhea interviews by city of residence; only cases from Providence, Pawtucket, Central Falls, Cranston, and Woonsocket were prioritized for interview. Information on sexual behavior and risk was not available for cases outside this cohort. In 2018 case interview priority was further limited to cases from the city of Providence only.

Geographically, Providence County continues to report the highest proportion of gonorrhea cases each year. In 2018, 83% of the reported cases were residents of Providence County. By city, trends are also stable from previous years, with 40% of cases residing in the city of Providence.

The age distribution among cases reported in 2018 was similar to previous years, with high case rates seen among individuals aged 20-29 years and individuals aged 30-39 years. Rates of gonorrhea infection in young adults aged 15-24 years have steadily increased over the last five years, with the highest case rate occurring in 2018 at 355 cases per 100,000.

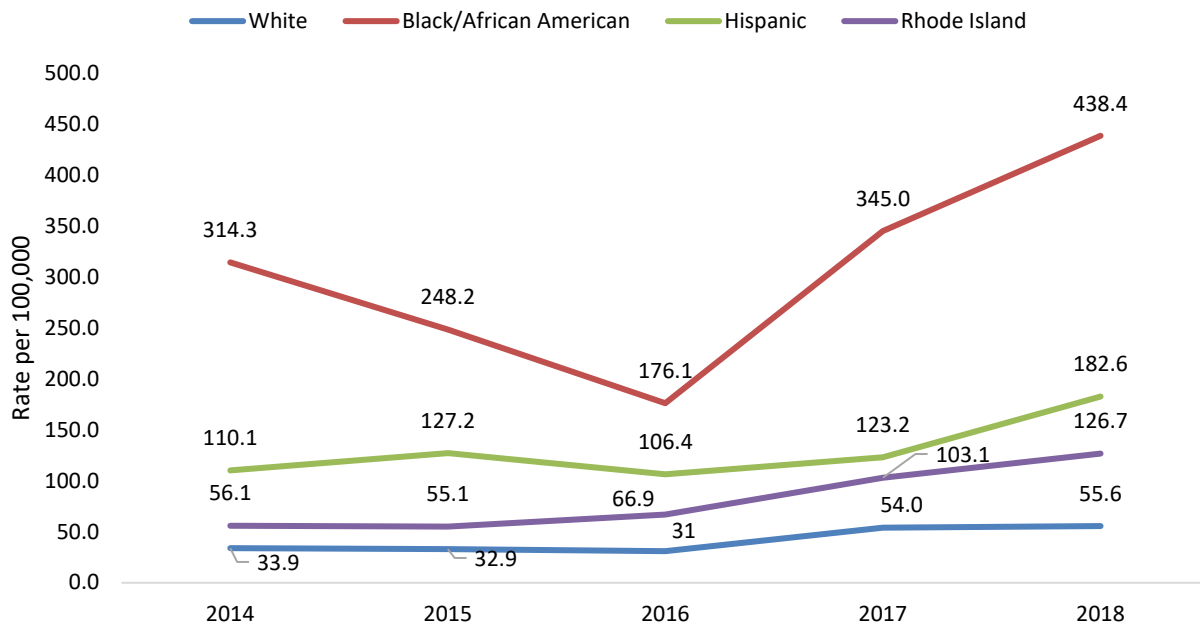
**Figure 29: Gonorrhea Case Rates, By Age Category, Rhode Island, 2014-2018**



Rates are expressed as cases per 100,000 population. The rates for 2014-2016 are based on the 2010 US Census population estimates. Rates for 2017-2018 are based on the 2016 US Census population estimates.

In 2018, the highest rates of gonorrhea were reported in non-Hispanic Black/African Americans, followed by Hispanic/Latinx. Since 2012, case rates have consistently been highest in non-Hispanic Black/African Americans compared to other racial/ethnic groups.

**Figure 30: Gonorrhea Case Rates, By Race/Ethnicity, Rhode Island, 2014-2018**

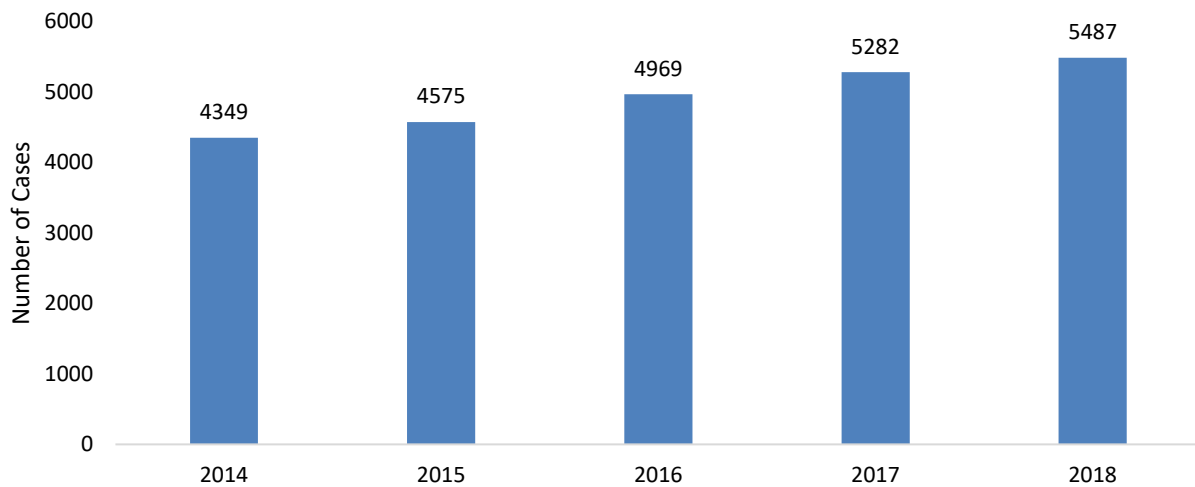


Rates are expressed as cases per 100,000 population. The rates for 2014-2016 are based on the 2010 US Census population estimates. Rates for 2017-2018 are based on the 2016 US Census population estimates.

# Chlamydia

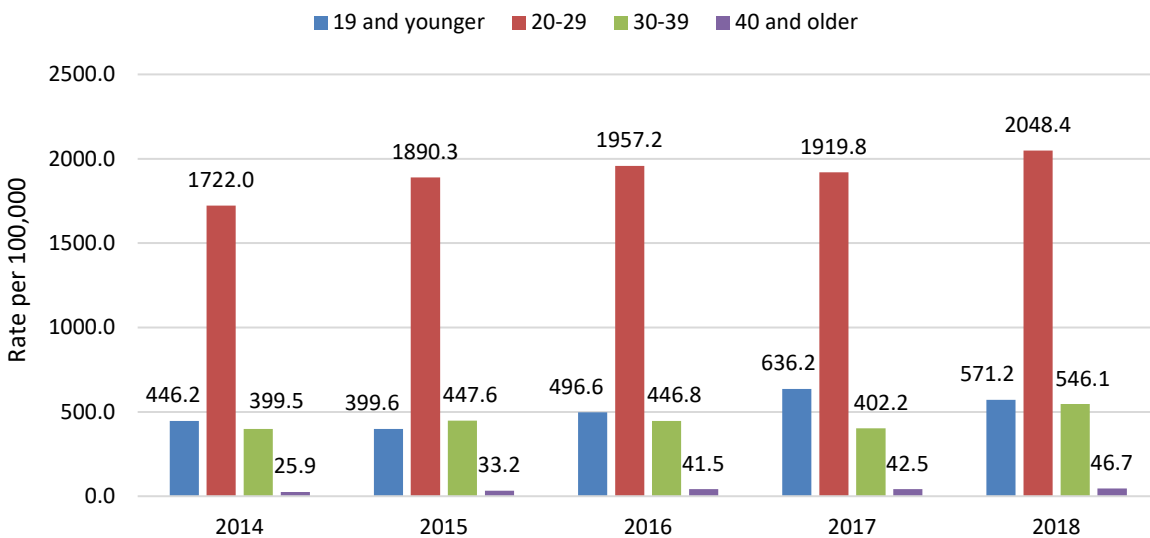
In 2018, there were 5,487 cases of chlamydia reported to RIDOH, an increase from previous years (4,969 cases in 2016 and 5,282 cases in 2017). Comparable to previous years, most reported cases were concentrated in Providence County (75%). The city of Providence alone accounted for 35% of chlamydia cases reported.

**Figure 31: Reported Chlamydia Cases, Rhode Island, 2014-2018.**



In 2018, the distribution of reported chlamydia cases by sex was unchanged as compared to previous years. The majority of cases (65%) were female, with males representing only one third of the total number of cases. Individuals aged 15-24 continue to represent the highest proportion of chlamydia cases in Rhode Island (64%). Most cases occurred in those younger than 30 years old, a trend that holds steady from previous years.

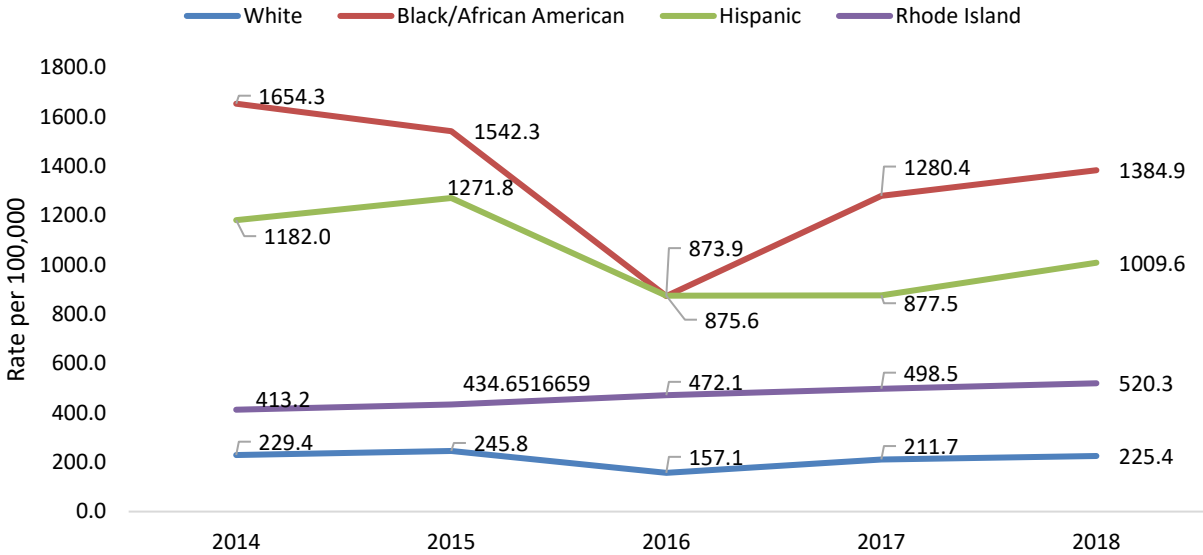
**Figure 32: Chlamydia Case Rates, By Age Group, Rhode Island, 2014-2018**



*Rates are expressed as cases per 100,000 population. The rates for 2014-2016 are based on the 2010 US Census population estimates. Rates for 2017-2018 are based on the 2016 US Census population estimates.*

Since 2016, rates of chlamydia have increased sharpest among Black/African Americans and Hispanics while rates remained consistent among Whites and the state, overall. Roughly 18% of cases in 2018 did not have complete race/ethnicity information, consistent with previous years.

**Figure 33: Chlamydia Cases, By Race/Ethnicity, Rhode Island, 2014-2018**



Rates are expressed as cases per 100,000 population. The rates for 2014-2016 are based on the 2010 US Census population estimates. Rates for 2017-2018 are based on the 2016 US Census population estimates.

### STD/HIV Co-infection

Over the last five years, an average of 23% of reported infectious syphilis cases had confirmed co-infection with HIV. HIV coinfection data for gonorrhea cases were not available at the time of this report.

**Table 8: STD/HIV Co-Infections, Rhode Island, 2014-2018**

Category	2014	2015	2016	2017	2018
% of gonorrhea cases co-infected with HIV	3.9%	8.8%	3.1%	N/A	N/A
% of infectious syphilis cases co-infected with HIV	21.6%	24.3%	27%	24%	20%



## STD Risk Factor Data

RIDOH's STD Program analyzes risk factor data for STD cases annually for infectious syphilis and gonorrhea cases that were interviewed by STD Program staff. Percentages are calculated based on the number of cases interviewed rather than the number of cases reported.

Infectious Syphilis: In 2018, 102 of 167 (61%) of the reported infectious syphilis cases were interviewed, a decrease from 65% interviewed in 2017. Among interviewed infectious syphilis cases, sex without a condom was the most commonly identified risk factor, with 68% of interviewed cases indicating that they had engaged in this behavior. Cases also frequently reported having sex while high or intoxicated (36%) and having anonymous sex (31%). Of individuals reporting use of non-injecting drugs (15%), the majority (93%) identified marijuana as their drug of use, with cocaine and methamphetamine use also reported. When reviewing this data, it is important to note that MSM accounted for 69% of infectious syphilis cases reported in 2018.

Gonorrhea: Beginning in June 2015, gonorrhea cases from Pawtucket, Providence, Central Falls, Cranston, and Woonsocket were prioritized for interview. In 2017, 143 of 1,087 (13%) reported gonorrhea cases were interviewed. In 2018, gonorrhea cases prioritized for interview were further limited to those from the city of Providence. In 2018, 38% of Providence cases were interviewed. Examining risk factors by risk groups revealed that three main risk factors (condom-less sex, sex while high/intoxicated, and sex with anonymous partners) are common in each of these populations.

- Of 176 cases that reported condom-less sex, 37% were female and 30% identified as MSM.
- Of 53 cases that reported having sex while high/intoxicated, 38% were female and 48% identified as MSM.
- 54 cases (27%) reported having at least one anonymous sex partner; 16 (30%) of these cases reported more than three anonymous partners.
- Heterosexual males accounted for 15% of all reported gonorrhea cases in 2018, with the top two risk factors being sex without a condom (68%) and sex while high/intoxicated (48%).
- For all groups, those that reported non-injecting drug use most commonly identified marijuana as the drug of use.

# Tuberculosis

Tuberculosis (TB) is a disease caused by the bacterium *Mycobacterium tuberculosis*. The bacteria typically cause infection in the lungs; however, they can infiltrate any part of the body. Cases of TB outside of the lungs are known as extra-pulmonary infections. TB is spread from person-to-person through airborne particles. It is a fatal disease if not treated properly, although some infections can be asymptomatic or remain latent (LTBI) for many years. Individuals diagnosed with HIV should be tested for TB infection, as this disease is more common in the immunocompromised (Source: CDC, <https://www.cdc.gov/tb/topic/treatment/tbhiv.htm>). If initial testing is positive, active TB disease should be ruled out before initiation of treatment for LTBI (Source: CDC, <https://www.cdc.gov/tb/topic/treatment/tbhiv.htm>).

## Epidemiology of Active TB Cases, Rhode Island, 2018

In 2018, there were 20 cases of active TB reported in Rhode Island. The number of cases in 2018 increased by 54% from 2017. Table 12 compares the demographic distribution of active TB cases between 2017 and 2018. Of the 20 reported cases in 2018, 18 were residents of Providence County (90%) and two were residents of Washington County (10%). No cases were from Bristol, Kent, or Newport counties. The high incidence rate of TB in Providence County is comparable to previous years and is expected as Providence County is home to more than half of all Rhode Island residents. The city of Providence alone accounts for 17% of the state's population<sup>1</sup>.

In 2018, the racial/ethnic distribution of active TB cases was as follows: 35% Hispanic, 25% Non-Hispanic Black, 20% Non-Hispanic White, and 20% Asian. Similar to the national numbers each year, Rhode Island typically has more cases of TB in the foreign-born population as compared to the US-born population. In 2018, 16 of the 20 reported cases were foreign-born (80%). The largest percentage of foreign-born cases originated from Central America/Caribbean (30%), followed by those from Asia (25%), Africa (15%), and Europe (10%). Of all reported cases, the sex/gender distribution was an even 50% with 10 males and 10 females.

Of the 20 cases reported in 2018, one was classified as having both pulmonary and extra-pulmonary TB infection (5%). Fourteen cases (70%) were classified as having exclusively pulmonary disease and five cases (25%) were classified as having exclusively extra-pulmonary disease. The percentage of cases with any pulmonary involvement in 2018 (75%) is lower than in 2017 (92%). TB risk factors reported among 2018 cases included diabetes and end stage renal disease.

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<sup>1</sup> Based on most recent Census data for Rhode Island and the City of Providence  
<https://www.census.gov/quickfacts/fact/map/providencecityrhodeisland/PST045216>  
2018 Rhode Island HIV Epidemiologic Profile

**Table 9: Demographics of Reported Cases of Tuberculosis, Rhode Island, 2017-2018**

	2017		2018	
	Number of Cases	Percent of Cases	Number of Cases	Percent of Cases
<b>Total No. Confirmed Cases</b>	<b>13</b>		<b>20</b>	
<b>Race/Ethnicity</b>				
Non-Hispanic White	1	8%	4	20%
Non-Hispanic Black	3	23%	5	25%
Hispanic	3	23%	7	35%
Asian/Pacific Islander	6	46%	4	20%
<b>Sex</b>				
Female	5	38%	10	50%
Male	8	62%	10	50%
<b>County of Residence</b>				
Bristol	0	0%	0	0%
Kent	1	8%	0	0%
Newport	1	8%	0	0%
Providence	11	84%	18	90%
Washington	0	0%	2	10%
<b>Country of Origin</b>				
United States	1	8%	4	20%
Outside US	12	92%	16	80%
<b>Age Group</b>				
< 5	0	0%	0	0%
5-14	1	8%	0	0%
15-24	1	8%	0	0%
25-44	3	23%	6	30%
45-64	5	38%	7	35%
65 +	3	23%	7	35%

**TB Care in Rhode Island**

There are currently two state-funded TB clinics in Rhode Island whose staff manages care for most active TB cases in the state: the Miriam Hospital’s RISE TB Specialty Clinic and Hasbro Children’s Hospital’s Pediatric TB Clinic. Both operate as outpatient facilities and are connected to a hospital system. All individuals with confirmed or suspected active TB are referred to one of these two clinics for specialty care. Similarly, most cases of LTBI are also referred to one of these clinics for care. RIDOH works closely with staff at each clinic to ensure that patients are provided with adequate treatment and completion of therapy. In 2018, 90% of patients who were alive at the start of treatment completed treatment; one patient died prior to treatment completion.

## HIV/TB Co-Infection

Rhode Island HIV/TB co-infection trends mirror national trends. Over the last five years, the average percentage of newly diagnosed TB cases with prior HIV diagnosis has fluctuated, although the actual number of new TB patients who are HIV positive has remained relatively stable at 1-2 cases per year (Table 13). It is important to note that the total number of new TB cases in 2018 decreased by 33% since 2015.

**Table 10: HIV/TB Co-infection, Rhode Island, 2014-2018**

	2014	2015	2016	2017	2018
Number of TB Cases	21	30	12	13	20
Number HIV Positive	0	<5	<5	<5	<5

HIV testing is an integral part of active TB case management and has been incorporated into the CDC's *TB Elimination National TB Program Objectives and Performance Targets* that the RIDOH TB Program strives to achieve. The program's 2020 target of 98% of active TB cases in Rhode Island having a known HIV status at the time of TB testing was not met in 2018 (95% known HIV status); note that one case in Rhode Island represents 5% of the total due to small numbers. HIV status was unknown for only one of 20 reported cases in 2018.

**Table 11: Rhode Island TB Program Progress on HIV Co-infection Testing**

Objective: Increase the proportion of TB cases with positive or negative HIV test result reported to 85%.					
	2014	2015	2016	2017	2018
<b>Goal</b>	85%	94%	93%	93%	95%
<b>Results</b>	90%	87%	92%	92%	95%

Each year, the TB Program investigates any TB case in which the HIV status of the patient unknown; this allows for improved HIV testing among diagnosed TB cases in Rhode Island. Review of data from 2010-2018 indicated that many TB cases did not have a known HIV status because HIV testing was not offered at the time of diagnosis. Collaboration between the TB Program staff and physicians at the RISE Clinic has contributed to improving HIV testing percentages in TB patients across the state.

The RISE Clinic utilizes an opt-out policy for HIV testing, however, RISE staff do offer and encourage all active TB cases to be tested. Once a patient is acclimated to their schedule for direct observation therapy and routine clinical visits, the medical director of the RISE Clinic advocates for HIV testing to be offered. In 2018, there was one case without HIV testing results; the patient died shortly after being diagnosed with active TB, prior to HIV testing.

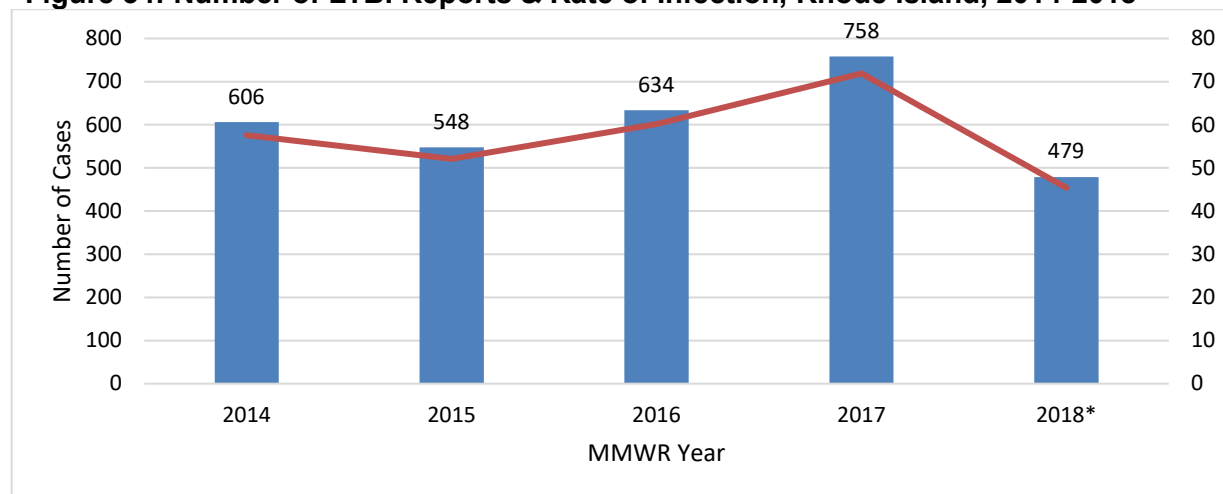
**Table 12: Reasons for Not Obtaining HIV Status in TB Cases, Rhode Island, 2013-2017**

	2014		2015		2016		2017		2018	
	#	%	#	%	#	%	#	%	#	%
Total Cases	21	--	30	--	21	--	30	--	20	--
<b>Known HIV Status</b>	<b>19</b>	<b>90%</b>	<b>26</b>	<b>86.7%</b>	<b>19</b>	<b>90%</b>	<b>26</b>	<b>86.7%</b>	<b>19</b>	<b>95.0%</b>
Died before testing	1	5%	2	6.7%	1	5%	2	6.7%	1	5%
Moved before testing	0	0%	0	0%	0	0%	0	0%	0	0%
No HIV Testing Offered	0	0%	0	0%	0	0%	0	0%	0	0%
Refused	1	5%	2	6.7%	1	5%	2	6.7%	0	0%

## Latent Tuberculosis Infection (LTBI)

Based on National Health and Nutrition Examination Survey (NHANES) data, RIDOH estimates that approximately 30,000 to 40,000 individuals in Rhode Island are currently living with LTBI. In 2018, 479 new cases of LTBI were reported to RIDOH, a decrease from previous years, although data entry delays may skew true burden (Figure 16). The rate of LTBI infection was 45.4 cases per 100,000. Most of these cases were reported by one of the two specialty clinics described previously.

**Figure 34: Number of LTBI Reports & Rate of Infection, Rhode Island, 2014-2018**



Rates are expressed as cases per 100,000 population. The rates for 2014-2016 are based on the 2010 US Census population estimates. Rates for 2017-2018 are based on the 2016 US Census population estimates. \*2018 data may be subject to data entry delays and skew true burden of infection.

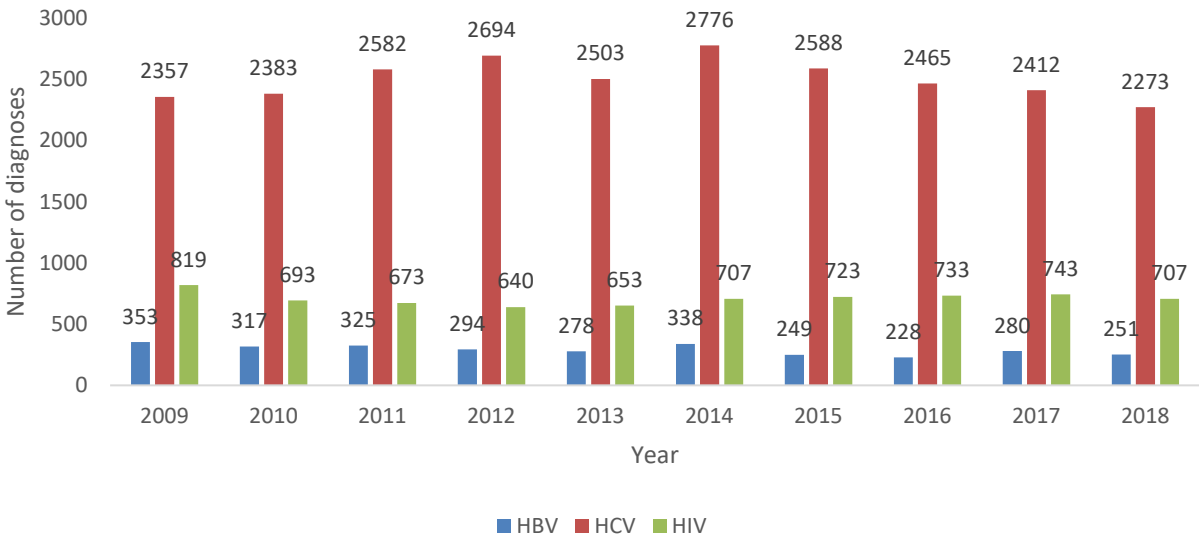
# Hepatitis C (HCV)

Hepatitis C is a liver infection caused by the hepatitis C virus (HCV) and is the most common blood-borne infection in the US. For some people, hepatitis C is a short-term illness but for 70-85% of people who become infected with HCV, it becomes a long-term, chronic infection. It is estimated that five million Americans are chronically infected<sup>2-4</sup>. Chronic HCV infection increases the risk for hepatitis fibrosis, cirrhosis, and hepatocellular carcinoma and is the leading cause of liver transplantation<sup>5</sup>. Today, most people become infected with HCV by sharing needles or other equipment to inject drugs. Rhode Island is currently experiencing a syndemic of opioid dependence and overdose stemming from heroin use. As identified in both Appalachia and in Massachusetts, the syndemics of acute HCV, opioid dependence, heroin use, and overdose in Rhode Island are increasing in tandem and are likely driven by increases in injection drug use<sup>6</sup>. However, these syndemics are not well understood in Rhode Island and warrant urgent and immediate public health action.

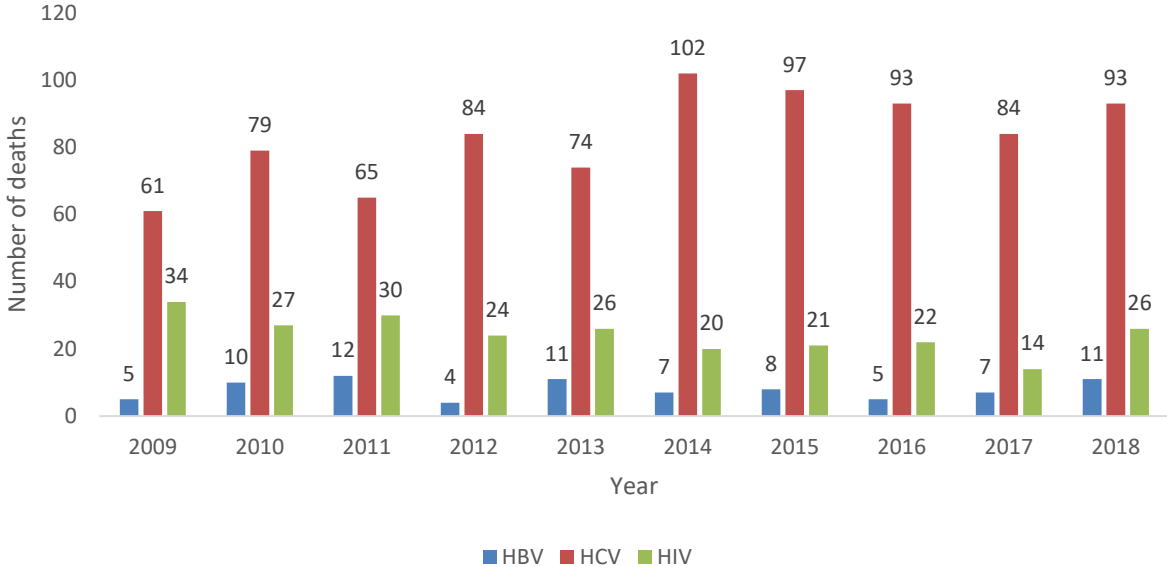
Nationally, the number of acute cases of HCV reported has increased each year from 2013-2017<sup>7</sup>. This increase is thought to reflect both true increases in incidence and improved case ascertainment. Based on these data and epidemiological studies, new cases of HCV infection are predominantly among young persons who are white, live in non-urban areas (particularly in Eastern and Midwestern States), have a history of injection drug use, and previously used opioids such as oxycodone<sup>8-9</sup>. Adjusting for under-ascertainment and under-reporting, an estimated 44,700 (35,400-152,400) new HCV infections occurred in 2017, nationally.

Mortality among HCV-infected persons, primarily adults age 55-64, is increasing<sup>10-11</sup>. A major public health challenge is to increase the proportion of persons tested and the proportion of those who test positive who are referred to care and treatment. Patients in the US with chronic HCV are estimated to have a hospitalization rate three times that of persons without HCV infection<sup>14</sup>. Figure 35 shows that from 2009-2018 the number of hospitalizations in Rhode Island acute-care hospitals with any discharge diagnosis including HCV ranged from 2,273 to 2,776, well above the discharge diagnoses mentioning HIV or hepatitis B virus infection.

**Figure 35: Inpatient Hospitalizations, With Any Discharge Diagnosis of HBV, HCV, or HIV, Rhode Island, 2009-2018**



**Figure 36: Deaths Associated with Viral Hepatitis and HIV, Rhode Island, Rhode Island, 2009-2018**



Research published in 2014 by researchers from Brown University estimated the true prevalence of Hepatitis C in Rhode Island. It was estimated that between 16,603 and 22,660 (1.7%-2.3%) persons in Rhode Island have ever been infected with HCV and between 12,286 and 16,768 (1.2%-1.7%) have, or are currently, chronically infected with HCV. Nationwide, the annual number of deaths attributed to HCV surpassed the number of deaths attributed to HIV and 59 other nationally notifiable infectious diseases combined in recent years<sup>15</sup>. The number of deaths related to HCV has increased 400% 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 deaths were in people age 45-64, with a mean age of 58 years.

HCV surveillance is also overseen by RIDOH and RIDOH collects all positive laboratory reports for HCV. Since 2014, progress has been made to improve laboratory testing volume analysis. Multiple hospital and commercial laboratories have converted their reporting from paper-based to electronic laboratory reporting and as of 2018 it is estimated that 60% of HCV laboratory results are received electronically. These reports are automatically uploaded to the RIDOH’s surveillance system for data analysis.

Infection with HCV is the most common co-infection in people with HIV. Of people with HIV in the US, about 25% are co-infected with HCV<sup>13</sup>. HCV is one of the most frequent causes of chronic liver disease in the US and HCV infection progresses more rapidly to liver damage in HIV-infected persons. HCV infection may also impact the course and management of HIV infection. In response to this and to practice programmatic efficiency, RIDOH has integrated HIV and HCV prevention and control strategies and messaging. RIDOH’s counseling, testing, and referral program is an integrated HIV and HCV program serving individuals at risk for either HIV or HCV. Funded agencies and their qualified professional test counselors are educated in the biology, prevention, and control of HIV and HCV. Educational materials and referrals to additional resources are provided to clients for both HIV and HCV. Further, the ENCORE program provides clean needles and other supplies to persons who inject drugs who are at risk of HIV or HCV infection due to unsafe injection practices.

## **Behavioral Risk Factor Surveillance System (BRFSS)**

The BRFSS is an ongoing population-based telephone interview survey, administered and supported by the CDC's National Center for Chronic Disease Prevention and Health Promotion. These surveys are developed and conducted to monitor state-level prevalence of the major behavioral risks among adults associated with premature morbidity and mortality. The information attained from the BRFSS is useful in describing the populations at risk for contracting HIV through their behaviors. These surveys are conducted annually throughout the state.

In 2015, a survey question about sexual orientation was added. This is an important question for HIV and sexually transmitted diseases because the MSM population has a higher risk of disease transmission compared to heterosexual men. In 2018, in Rhode Island, 8% of females and 6% of males identified as gay or lesbian, bisexual or something else other than straight.

In 2018, survey questions related to sexual behaviors were added. The survey showed 48.6% of those between the ages of 18 and 64 in Rhode Island indicated that they were ever tested for HIV at some point in their life, aside from routine screening when donating blood. This number has been increasing slightly since 2012.

Among adults who had more than one sexual partner in the past 12 months, the percentage that used a condom at last sexual intercourse was 46.8%. Condom use is recommended for individuals who have multiple sex partners to prevent HIV and STDs. The population for targeted interventions is the 53.2% of adults who had multiple sex partners and did not use a condom the last time they had sex.



# Youth Risk Behavior Survey (YRBS)

YRBS is an anonymous and voluntary survey conducted on alternate years among randomly selected high school students nationwide, the most current data available is from 2017. It was developed by the Division of Adolescent and School Health at the CDC. Approximately 15,000 high school students participated in the 2017 National YRBS. Parental permission was obtained for students to participate in the survey. States and large urban school districts could modify the questionnaire for their own surveys to meet their needs. The 2017 YRBS includes National YRBS data and data from surveys conducted in 39 states and 21 large urban school districts.

Overall, the results of the 2017 YRBS indicate that Rhode Island high school students reported less sexual-risk taking behaviors than high school students nationally. In 2017, 36% of Rhode Island high school students reported ever having sexual intercourse, compared to 41.2% nationwide (Table 14). Rhode Island has continued to see a decrease in the percentage of currently sexually active youth from 33% (35% nationally) in 2005 to 26% (29% nationally) in 2017. However, although the percentage of currently sexually active youth has decreased, the percentage of students who indicate that they have not used a condom during their last sexual encounter has increased from 34% (39% nationally) in 2007 to 46% (46% nationally) in 2017.

In 2017, the Rhode Island high school students participating in the 2017 YRBS self-identified as follows: heterosexual (84%), gay or lesbian (3%), bisexual (9%), and not sure (5%). It is important to note that these students experience differences in risk behaviors compared to students who self-identify as heterosexual. These students were more likely to have been forced to have sexual intercourse, to have intercourse before age 13, and to be bullied at school, compared to those students who identified themselves as heterosexual or straight.

**Table 13. Youth Risk Behavior Survey Sexual Health Results, Rhode Island and US, 2017**

Question	Rhode Island	United States
Ever had sexual intercourse	36%	40%
Had sexual intercourse before age 13 years (for the first time)	4%	3%
Had sexual intercourse with 4 or more persons (during their life)	8%	10%
Were currently sexually active (sexual intercourse with at least one person during the 3 months before the survey)	26%	29%
Did not use a condom (during last sexual intercourse among students who were currently sexually active)	42%	46%

**Table 14. Youth Risk Behavior Survey Sexual Health Results, Rhode Island, 2017**

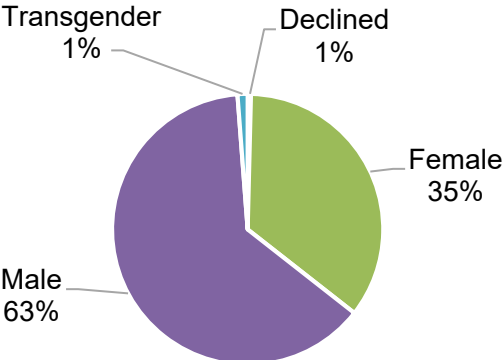
Question	Heterosexual	Gay, Lesbian, Bisexual
Ever had sex	35%	43%
Had sex before age 13	3%	7%
Had sex with >4 partners	7%	11%
Had sex with at least one person in the last 3 months	25%	30%
Did not use a condom	41%	38%

# Integrated HIV/Viral Hepatitis Counseling, Testing, Referral (CTR) Services

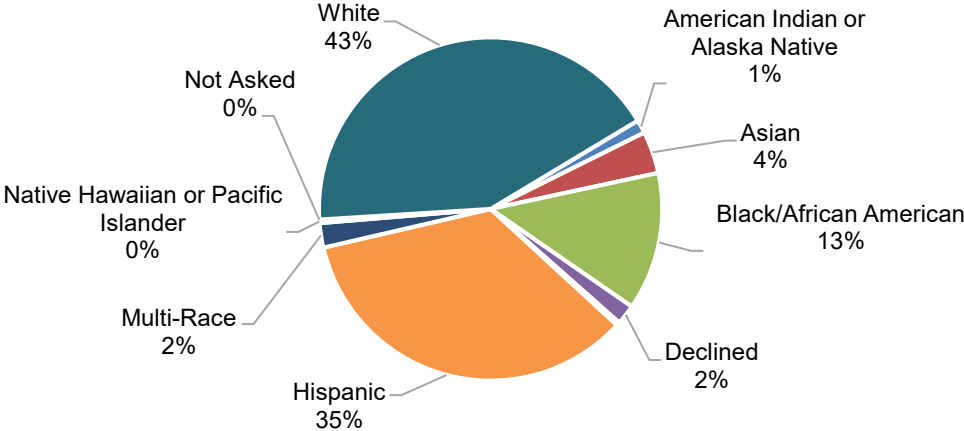
Publicly funded counseling and testing services provided by RIDOH, in collaboration with the CDC, were initiated in 1985 to provide alternatives to blood donation as a means for high-risk persons to determine their HIV status. These services became an integral part of the HIV prevention program and continue today. Additionally, the HIV Prevention Program has continued to expand its public health efforts by integrating other preventive services, such as rapid HCV testing. HCV remains a disease of relevance to HIV, due to similarities in the at-risk populations and modes of transmission. The Integrated HIV/Viral Hepatitis Counseling, Testing, and Referral System (CTR) provides free, confidential/anonymous, and voluntary services. In 2017, RIDOH provided funds to three community-based agencies (AIDS Care Ocean State [ACOS], AIDS Project Rhode Island [APRI], and Project Weber/RENEW [PWR]) to provide prevention services throughout the state. In addition to these agencies, HIV counseling and testing is offered through RIDOH's Partner Services program, specifically for partners of individuals who have been diagnosed with HIV. Staff who conduct HIV or HCV testing are required to obtain certification as a Qualified Professional Test Counselor (QPTC) prior to conducting testing.

In 2018, the CTR program administered 3,075 rapid HIV tests at 55 fixed and mobile locations through the community-based agencies (Table 9). Eleven (11) tests were preliminary-positive, two were previously diagnosed, one was unable to be confirmed, and eight were confirmed new HIV-positive cases (positive percentage=0.26%). Of the 8 cases confirmed, all were linked to care within 90 days of their diagnosis and confirmed to have attended their first appointment. Men were the most reported users of CTR services (63%) in 2018. Whites represented the largest racial/ethnic group tested (43%), followed by Hispanics/Latinos (35%) and Black/African Americans (13%). Thirty-one percent of the tested population was age 20-29. The risk categories in descending order of frequency were females with heterosexual risk (29%), males with heterosexual risk (29%), MSM (28%), injection drug use (5%), unknown (4%), other (2%) and MSM/IDU (2%). Figures 35 and 36 provide additional analysis of the testing population, stratified separately by gender and race.

**Figure 37. Distribution of HIV CTR Clients, By Gender, Rhode Island, 2018**



**Figure 38. Distribution of HIV CTR Clients, By Race/Ethnicity, Rhode Island, 2018**



AIDS Care Ocean State (ACOS): ACOS, an AIDS service organization located in Providence, conducted 1,548 rapid HIV tests across one fixed site and 12 satellite sites including: one bathhouse; social service agencies for victims of sexual abuse or domestic violence; homeless shelters; substance use treatment centers; outreach events including PrideFest, and mobile sites in Newport, Woonsocket, and Pawtucket/Central Falls. The majority of individuals who received an HIV test were male (63%) and Hispanic (48%). The age distribution was quite similar among each age category of those ages 20-29, ages 30-39, ages 40-49, and ages 50 and older. More than 80% of those tested reported high-risk heterosexual contact or GBMSM as their primary risk factor.

AIDS Project Rhode Island (APRI): APRI, an AIDS service organization in Providence, conducted 1,185 rapid HIV tests across 34 sites. Sites included 12 colleges, one bathhouse, one LGBT youth center, a variety of community-based organizations, local festivals and events, and APRI’s main office. About 66% of individuals who received an HIV test were male and 51% were white. People ages 20-29 represented the largest age category tested (48%). In terms of primary risk factors, 43% had indicated MSM, 29% were females indicating heterosexual contact, and 21% were males indicating heterosexual contact.

Project Weber/RENEW (PWR): PWR is a non-profit organization committed to providing HIV prevention, testing, and other health and wellness services to male and female commercial sex workers in Providence and Pawtucket. This site conducted 342 rapid HIV tests in 2018. Of those tested, 58% were male, 40% were female, and 2% were transgender. The largest groups represented were those ages 30-39 years (39%) and White non-Hispanic (50%).

In addition to rapid HIV tests, many of the community-based agencies also conducted rapid HCV testing. In 2018, ACOS, APRI, and PWR provided 1,274 rapid HCV tests. This testing identified 74 preliminary-positive individuals, which produces an overall positivity rate of 5.8%. Of all HCV rapid testing clients, 62% were male, 16% were ages 20-29, 29% were ages 30-39, and 31% were ages 50+; 42% were Hispanic/Latino, 45% were White, and 13% were Black or African/American. The most frequently reported risk factor was intranasal drug use (33%), followed by previous incarceration (30%), and belonging to the “baby boomer” generation (23%). Injection drug use was reported the primary risk factor by 15% of clients.

**Table 15. HIV Counseling, Testing, and Referral Site Client Characteristics, Rhode Island, 2018**

	Total		ACOS		APRI		Project Weber/ RENEW	
	N (%)	%	N	%	N	%	N	%
Tests conducted	3,075	100.0%	1,548	100.0%	1185	100.0%	342	100.0%
<b>Gender</b>								
Male	1944	63.2%	969	62.6%	777	65.6%	198	57.9%
Female	1082	35.2%	557	36.0%	388	32.7%	137	40.1%
Transgender	37	1.2%	17	1.1%	13	1.1%	7	2.0%
Another Gender*	5	0.2%	0	0.0%	5	0.4%	0	0.0%
Declined	7	0.2%	5	0.3%	2	0.2%	0	0.0%
<b>Race/Ethnicity</b>								
Am Indian/AK Native	39	1.3%	17	1.1%	6	0.5%	16	4.7%
Asian	122	4.0%	29	1.9%	92	7.8%	1	0.3%
Black/African American	400	13.0%	165	10.7%	162	13.7%	73	21.3%
Hispanic or Latino	1062	34.5%	747	48.3%	249	21.0%	66	19.3%
Native HI/Pacific Islander	9	0.3%	9	0.6%	0	0.0%	0	0.0%
White	1303	42.4%	531	34.3%	600	50.6%	172	50.3%
Multi-Racial	71	2.3%	30	1.9%	34	2.9%	7	2.0%
Declined	58	1.9%	11	0.7%	40	3.4%	7	2.0%
Unknown	11	0.4%	9	0.6%	2	0.2%	0	0.0%
<b>Age</b>								
13-19	191	6.2%	21	1.4%	167	14.1%	3	0.9%
20-29	942	30.6%	322	20.8%	574	48.4%	46	13.5%
30-39	713	23.2%	425	27.5%	154	13.0%	134	39.2%
40-49	541	17.6%	375	24.2%	89	7.5%	77	22.5%
50-59	467	15.2%	259	16.7%	141	11.9%	67	19.6%
60+	210	6.8%	140	9.0%	56	4.7%	14	4.1%
Unknown	11	0.4%	6	0.4%	4	0.3%	1	0.3%
<b>Risk</b>								
MSM	877	28.5%	332	21.4%	505	42.6%	40	11.7%
Male - heterosexual only	880	28.6%	522	33.7%	252	21.3%	106	31.0%
Female - heterosexual contact	888	28.9%	456	29.5%	344	29.0%	88	25.7%
IDU	168	5.5%	113	7.3%	2	0.2%	53	15.5%
MSM/IDU	61	2.0%	44	2.8%	4	0.3%	13	3.8%
Other Risk Category	79	2.6%	42	2.7%	31	2.6%	9	2.6%
Unknown	122	4.0%	39	2.5%	47	4.0%	33	9.6%

\*Data for this option exists from 10/1/18 – 12/31/18

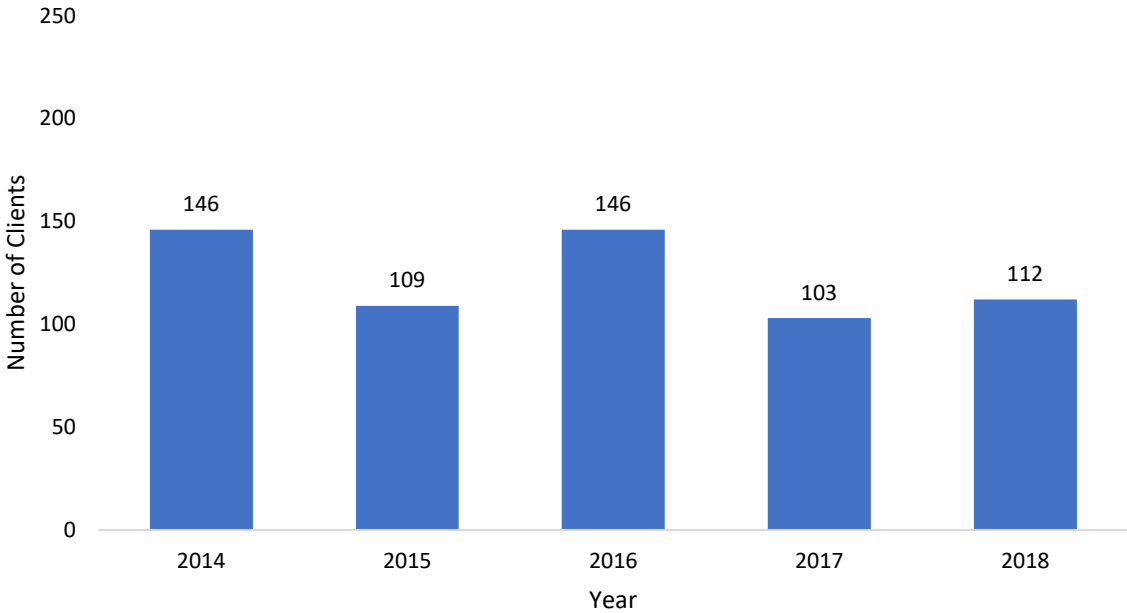
# ENCORE: Rhode Island’s Needle Exchange Program

ENCORE (Education, Needle Exchange, Counseling, Outreach and Referral) is an anonymous and confidential harm-reduction program, coordinated by RIDOH and administered through AIDS Care Ocean State. The purpose of the needle exchange program is to prevent HIV transmission by giving injection drug users the tools (new syringes, bleach, clean cotton, alcohol swabs, condoms, information on skin care, and counseling and/or referrals) to protect themselves from acquiring blood-borne pathogens from contaminated needles and other drug paraphernalia.

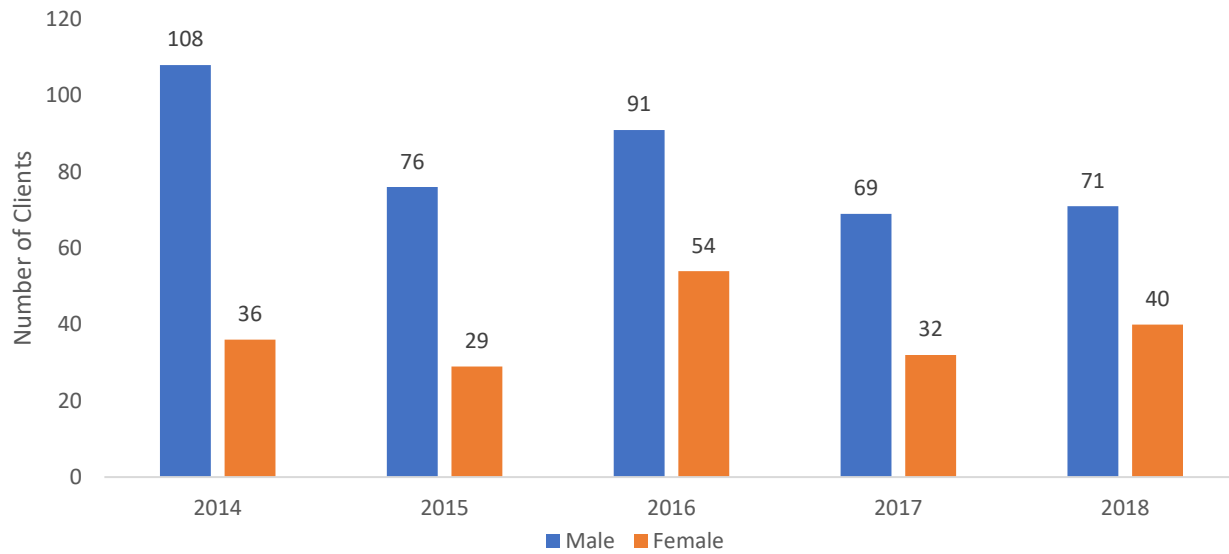
All new clients take part in a mandatory enrollment interview. In 2018, ENCORE enrolled 112 new clients; this was slightly more new enrollees than 2017. ENCORE program activities occurred across two fixed sites in Providence, and mobile sites in Providence, Central Falls, Woonsocket, and Newport. In 2018, approximately 50,000 used syringes were turned in to the ENCORE program, and more than 70,000 new syringes were distributed.

Of new clients, the majority were male (64%) and white (61%). Adults ages 30-39 represented the largest proportion of newly enrolled clients (35%) and 37% of newly enrolled clients reported being homeless. Most (57%) had been enrolled in a drug-treatment program at some point in their life. When asked about their primary injecting drug, 87% reported heroin, and 20% reported fentanyl/other opioids (individuals could indicate more than one response). A little over half of the enrollees (52%) reported they did not share syringes/works in the last seven days. Among enrollees, 46% reported usual to consistent condom usage, but 18% reported no use of condoms. About 29% of new enrollees self-reported having ever been infected with HCV, and 7% self-reported having ever tested positive for HIV. Due to the presence of some missing data and small numbers, it is important to interpret the results with caution.

**Figure 39: Number of New Clients Enrolled at ENCORE, Rhode Island, 2014-2018**



**Figure 40: Enrollment of New Clients at ENCORE, By Current Gender, Rhode Island, 2014-2018**



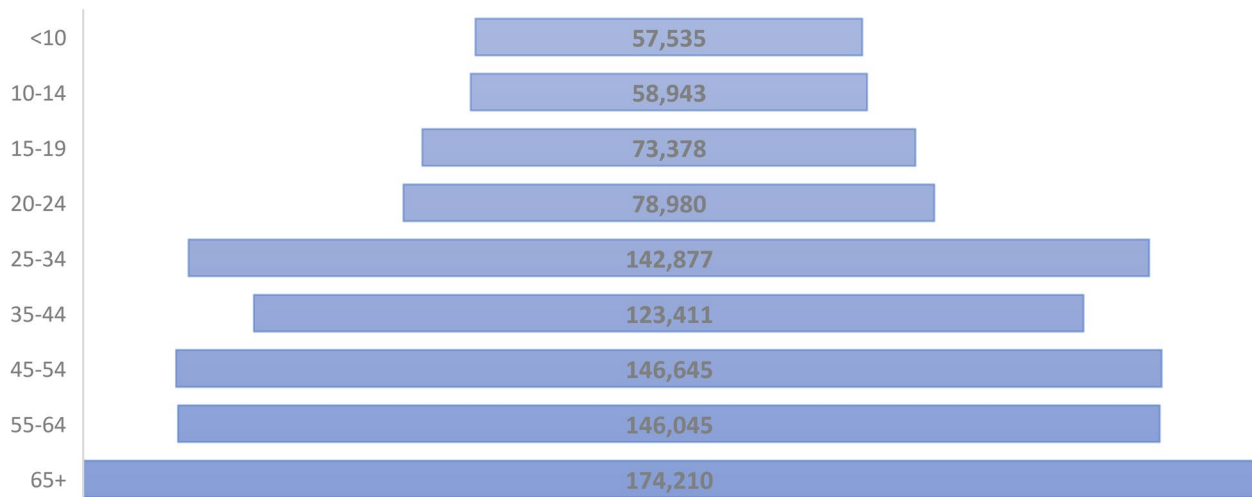
**Table 16. ENCORE New Client Enrollment Characteristics, Rhode Island, 2018**

Characteristic	Number	Percentage
<b>Gender</b>		
Female	40	36%
Male	71	64%
<b>Race/Ethnicity</b>		
Hispanic/Latino	28	25%
White	68	61%
African-American/Black	10	9%
Asian	1	<1%
Other	5	4%
<b>Age at Enrollment</b>		
20-29	34	30%
30-39	39	35%
40-49	24	21%
50+	15	13%
<b>Sexual Orientation</b>		
Bisexual	13	12%
Gay or Lesbian	5	4%
Heterosexual or Straight	65	58%
Not reported/Unknown	29	26%
<b>City of Residence</b>		
Providence	58	52%
Cranston	5	4%
Warwick/West Warwick	6	5%
Not Reported/Unknown	28	25%
Other	15	13%

## Sociodemographic Characteristics of Rhode Islanders

Rhode Island is a small, but densely populated state – it is the third most densely populated state. Data to describe the population of Rhode Island were obtained from the 2016 Population Estimates and 2018 American Community Survey of the US Census Bureau. In 2018, Rhode Island had a total population of 1,056,611. Of these, 543,279 (51%) were females and 513,332 (49%) were males. The median age was 39.9 years. Twenty percent of the population was younger than 18, and 17% was 65 or older.

**Figure 41. Population Distribution, Rhode Island, 2018**



Source: U.S. Census Bureau, 2018 American Community Survey 1-Year Estimates

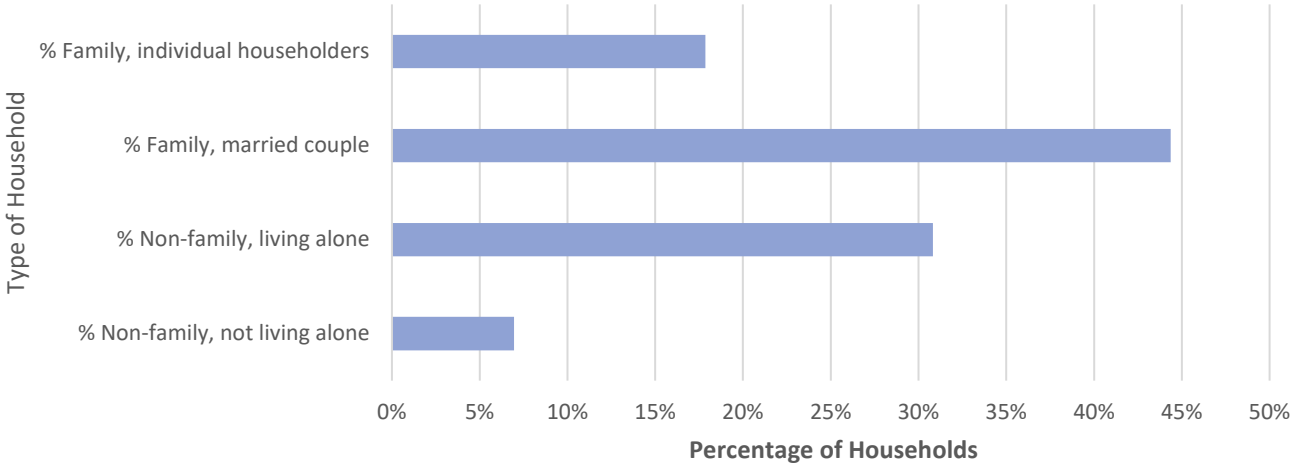
### Race and Ethnicity

Data on race and ethnicity were obtained from the 2018 population estimates from the US Census Bureau. In 2018, for people reporting one race alone, 81% were White; 7% were Black or African American; 0.5% were American Indian and Alaska Native; 3% were Asian; 0.1% were Native Hawaiian and other Pacific Islander. Fifteen percent of the people in Rhode Island were Hispanic or Latino and 3.1% reported two or more races.

### Households and Families

Data on households and families were obtained from the 2018 American Community Survey estimates from the US Census Bureau. There were 410,885 households in Rhode Island. Families made up 62% of the households in Rhode Island. Of this figure, 71% were married-couple families, while 29% were considered other families. Non-family households made up 38% of all households in Rhode Island. Of the non-family households, most were people living alone (82%), but some were comprised of people living in households in which no one was related to the householder. Twenty-two percent of people age 5 or older spoke a language other than English at home.

**Figure 42. Types of Households in Rhode Island, 2018**



Source: U.S. Census Bureau, 2018 American Community Survey 1-Year Estimates

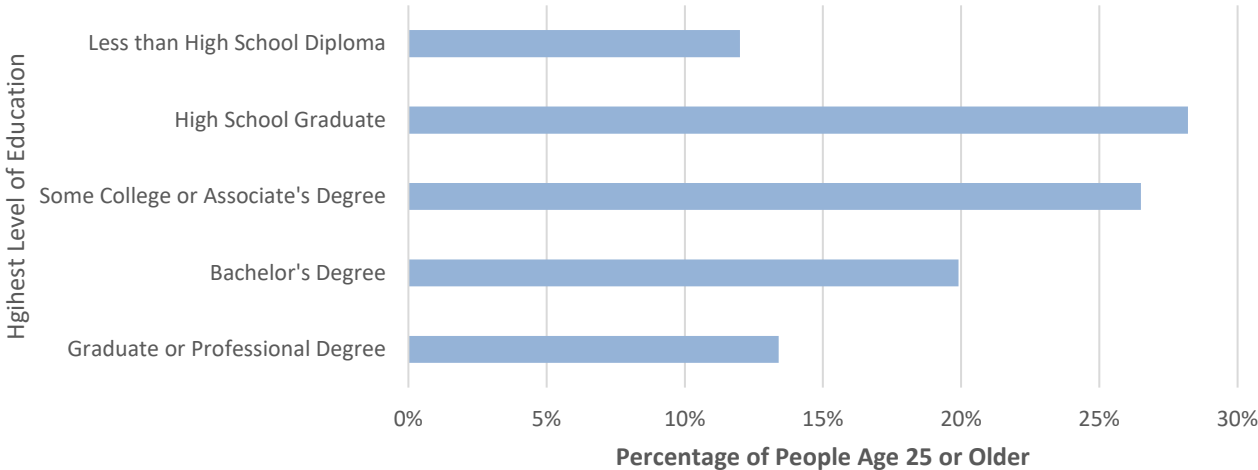
**Place of Birth and Citizenship Status**

Data on these variables were obtained from the 2018 American Community Survey. Fourteen percent of people were foreign-born, and 55% of foreign-born people were naturalized US citizens. Of foreign-born people, 45% were born in Latin America, 21% were born in Europe, 19% were born in Asia, 12% were born in Africa, 2% were born in North America, and less than 0.5% were born in Oceania (Islands of the tropical Pacific Ocean).

**Education**

Data on education were obtained from the 2018 American Community Survey. In 2018, 88% of people age 25 or older had at least graduated from high school and 33% had a bachelor's degree or higher. The 2018 American Community Survey reports that total school enrollment in Rhode Island was 261,044 among those ages 3 years and over. Pre-elementary school enrollment was 24,818 and elementary (grades 1-8) or high school (grades 9-12) enrollment was 142,511. College and graduate school enrollment was 93,715.

**Figure 43. Educational Attainment of People, Age 25 or Older, Rhode Island, 2018**



Source: U.S. Census Bureau, 2018 American Community Survey 1-Year Estimates



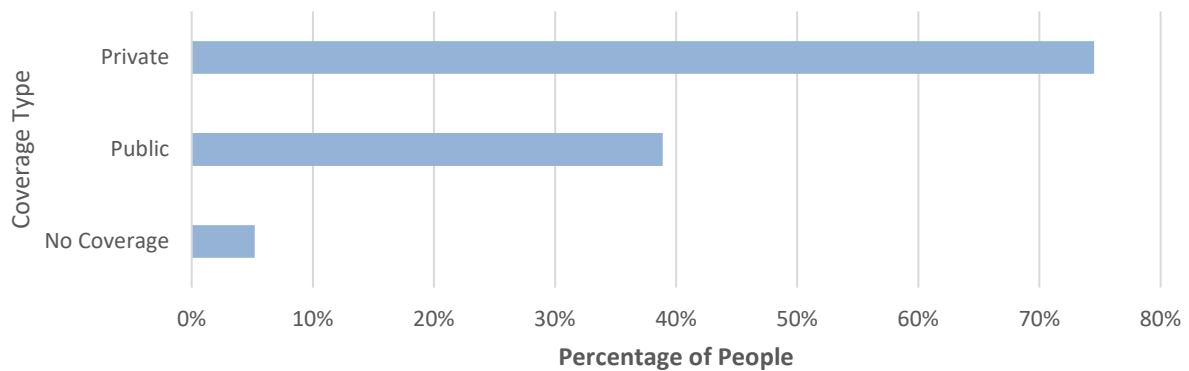
### Income

Data on education were obtained from the 2018 American Community Survey. In 2018, the median income of households in Rhode Island was \$63,296. Seventy-six percent of the households received earnings and 18% received retirement income other than Social Security. Thirty-two percent of the households received Social Security. The average income from Social Security was \$18,736. These income sources are not mutually exclusive; that is, some households received income from more than one source.

### Health Insurance Coverage

Data on health insurance coverage were obtained from the 2018 American Community Survey. In 2018, 75% of Rhode Islanders had private health insurance and 39% had public health coverage. Five percent of people had no health insurance coverage. Public and private insurance sources are not mutually exclusive.

**Figure 44. Health Insurance Coverage, Rhode Island, 2018**



Source: U.S. Census Bureau, 2018 American Community Survey 1-Year Estimates

### Employment Status

Data on employment status were obtained from the 2018 American Community Survey. Of all people age 16 years or older, 35% were not in the labor force at all, and 0.4% were in the armed services. The remaining 64.6% of people were in the civilian labor force. Of these, 61% were employed and 4% were unemployed. Among females specifically, numbers are similar – 61% of females age 16 years or older in the civilian workforce are employed, and 3% are unemployed.

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