



# Massachusetts HIV/AIDS Data Fact Sheet

## Who is most at risk of HIV infection?

### Fast Facts

- The number of persons diagnosed with HIV infection has decreased over the past decade in Massachusetts, but gender, sexual orientation, and racial/ethnic disparities persist.
- Despite the decline, male-to-male sex has predominated and has accounted for an increasing proportion of cases.
- Although black non-Hispanic and Hispanic/Latina women are diagnosed with HIV infection at rates 33 and 12 times that of white non-Hispanic women, respectively, there has been a dramatic decrease in newly diagnosed HIV infection cases among women in all demographic groups.
- The second largest exposure mode group consists of individuals, predominantly men of color, reported to MDPH (Massachusetts Department of Public Health) with missing exposure mode information.
- The most dramatic decrease in HIV infection diagnoses has been in persons who inject drugs.

### Overview

Although newly diagnosed HIV infections during a recent three-year time period are not a direct measure of newly acquired HIV infections, recent HIV infection diagnoses are the best available indicator for who is most at risk for HIV infection. While the relative proportions of diagnosis of HIV infection by Sex at Birth, race/ethnicity, and place of birth have remained fairly stable over the past ten years, there has been a shift in the distribution of HIV infection diagnoses by exposure mode.

The proportion of reported cases with injection drug use as the exposure mode decreased from 14% in 2005 to 4% in 2014, and the number of cases decreased by 81% (from 125 to 24). During the same time period, the proportion of persons diagnosed with HIV infection and male-to-male sex exposure mode increased from 38% (N=350/913) to 46% (N=288/629). Among men, the proportion of HIV diagnoses with male-to-male sex as the exposure mode increased from 53% in 2005 to 61% in 2014, even though the absolute number of new infections attributed to MSM exposure has declined (from 350 in 2005 to 288 in 2014).

### Trends in HIV Infection Diagnoses from 2005 to 2014:

- The number of HIV infection diagnoses decreased by 37% from 2000 (N=1,191) to 2008 (N=746), then plateaued at an average of 691 diagnoses each year from 2009 to 2014.<sup>ii</sup>

### Exposure Mode:

- From 2005 to 2014, male-to-male sex remained the predominant exposure mode, accounting for the largest proportion of persons newly diagnosed with HIV infection each year, and increasing from 38% (N=350/913) to 46% (N=288/629) of the total.
- From 2005 to 2014, the second largest exposure mode group was undetermined (reported with missing exposure information), at 23% (N=1,664/7,393) of all cases during this time period.
- The proportion of persons diagnosed with HIV infection and injection drug use as the exposure mode decreased from 14% (N=125/913) in 2005 to 4% (N=24/629) in 2014.
- From 2005 to 2014, the number of individuals diagnosed with HIV infection with:
  - injection drug use (IDU) exposure mode decreased by 81% (from 125 to 24);
  - heterosexual sex exposure mode decreased by 75% (from 116 to 29);
  - MSM/IDU exposure mode decreased by 38% (from 24 to 15).
  - male-to-male sex as an exposure mode decreased by 18% (from 350 to 288);
  - presumed heterosexual exposure mode<sup>iii</sup> decreased by 17% (from 99 to 82); and
  - undetermined exposure mode decreased by 4% (from 194 to 187).

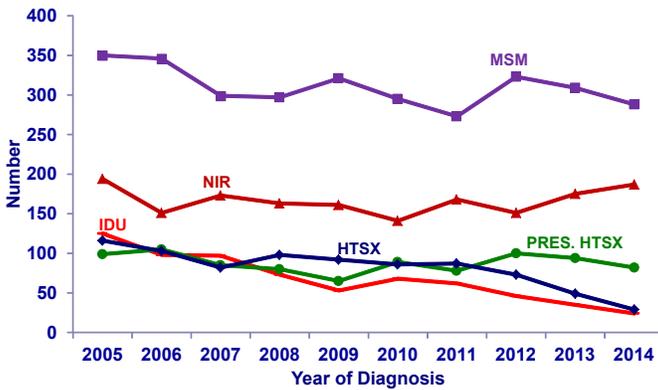




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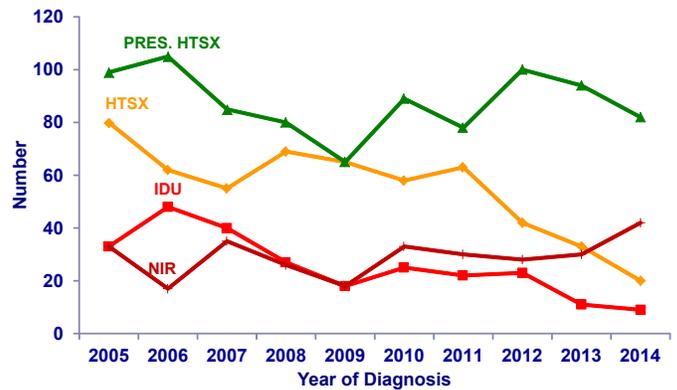
## Who is most at risk of HIV infection?

**Figure 1. Trends in the Number of Individuals Diagnosed with HIV Infection by Selected Exposure Mode and Year of Diagnosis: Massachusetts, 2005–2014**



Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 3/1/16

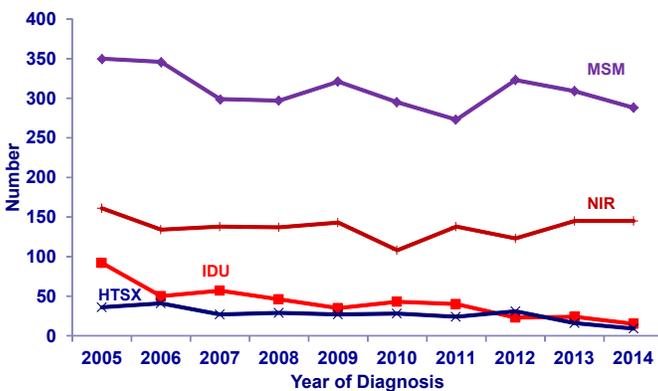
**Figure 3. Trends in the Number of Women Diagnosed with HIV Infection by Selected Exposure Mode and Year of Diagnosis: Massachusetts, 2005–2014**



Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 3/1/16

### Exposure Mode and Sex at Birth:

**Figure 2. Trends in the Number of Men Diagnosed with HIV Infection by Selected Exposure Mode and Year of Diagnosis: Massachusetts, 2005–2014**

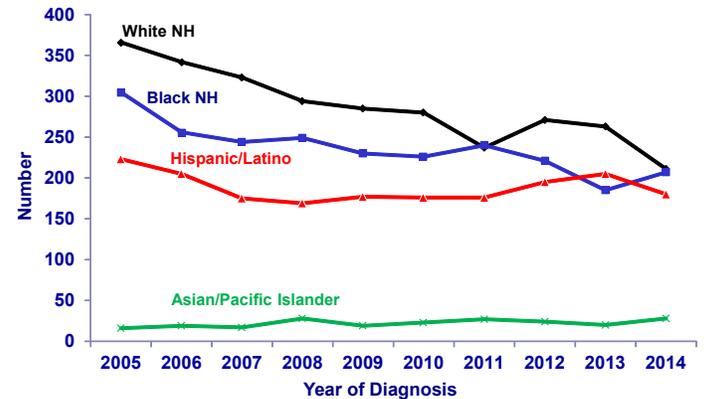


Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 3/1/16

### Race/Ethnicity:

- From 2005 to 2014, the number of white (non-Hispanic) individuals diagnosed with HIV infection decreased by 42% (from 366 to 211); the number of black (non-Hispanic) individuals decreased by 32% from (305 to 207); and the number of Hispanic/Latino individuals decreased by 19% (from 223 to 180).

**Figure 4. Trends in the Number of People Diagnosed with HIV Infection by Race/Ethnicity and Year of Diagnosis: Massachusetts, 2005–2014**



Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 3/1/16



For detailed data tables and technical notes see Appendix  
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### Sex at Birth:

- From 2005 to 2014, the number of men diagnosed with HIV infection decreased by 28% (from 663 to 475) while the number of women diagnosed with HIV infection decreased by 38% (from 250 to 154).

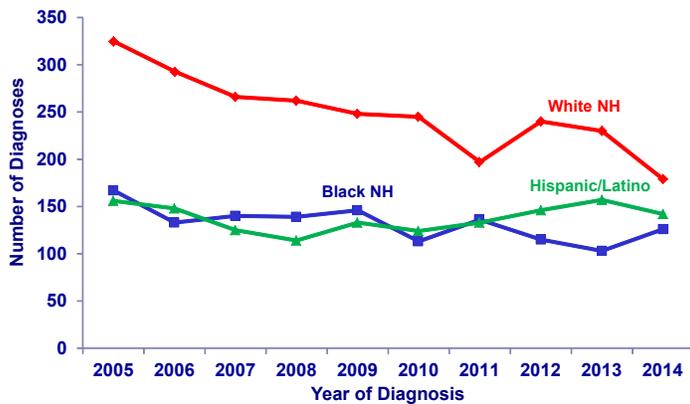
### Sex at Birth and Race/Ethnicity:

- During the same time period, the proportion of HIV diagnoses reported in people between the ages of 25 and 44 years old decreased from 64% (N=582/913) to 49% (N=310/629).
- The proportion of HIV diagnoses reported in people age 45 years or older increased from 28% (N=257/913) in 2005 to 35% (N=220/629) in 2014.

### Place of Birth and Sex at Birth:

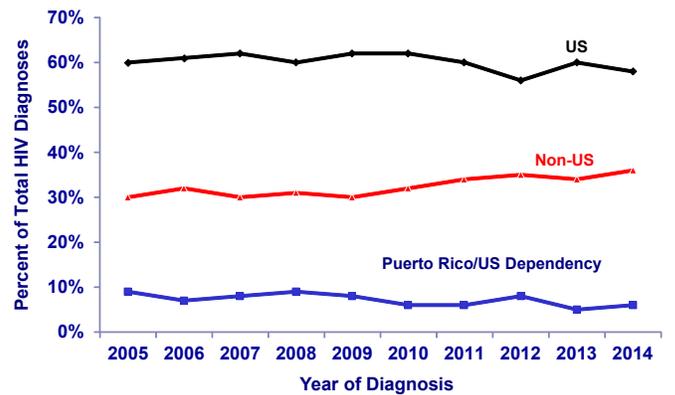
- The proportion of individuals diagnosed with HIV infection born outside the US was relatively stable from 2005 to 2014.

**Figure 5. Trends in the Number of Men Diagnosed with HIV Infection by Race/Ethnicity and Year of Diagnosis: Massachusetts, 2005–2014**



Data Source: MDPH HIV/AIDS Surveillance Program; NH = Non-Hispanic; Data as of 3/1/16

**Figure 7. Trends in the Percentage Distribution of People Diagnosed with HIV Infection by Place of Birth and Year of Diagnosis: Massachusetts, 2005–2014**



Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 3/1/16

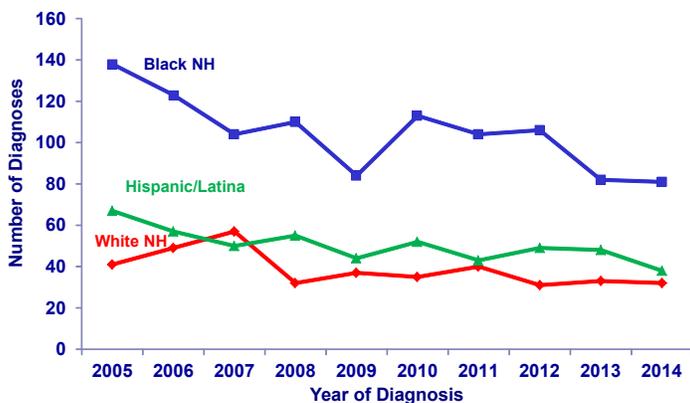
- The proportion of women diagnosed with HIV infection who were born outside the US increased from 45% (N=112/250) in 2005 to 57% (N=118/208) in 2010 and then decreased to 47% (N=73/154) in 2014.

### A Profile of People Recently Diagnosed with HIV Infection:

#### Race/Ethnicity and Exposure Mode:

- The predominant exposure mode among white (non-Hispanic) individuals diagnosed with HIV infection during 2012 to 2014, was male-to-male sex (66%, N=492/745); for 16% (N=117/745) exposure mode was undetermined.

**Figure 6. Trends in the Number of Women Diagnosed with HIV Infection by Race/Ethnicity and Year of Diagnosis: Massachusetts, 2005–2014**



Data Source: MDPH HIV/AIDS Surveillance Program; NH = Non-Hispanic; Data as of 3/1/16

### Age at HIV Infection Diagnosis:

- The proportion of HIV diagnoses reported among people aged 24 years or younger at the time of diagnosis increased from 8% (N=74/913) in 2005 to 16% (N=99/629) in 2014.



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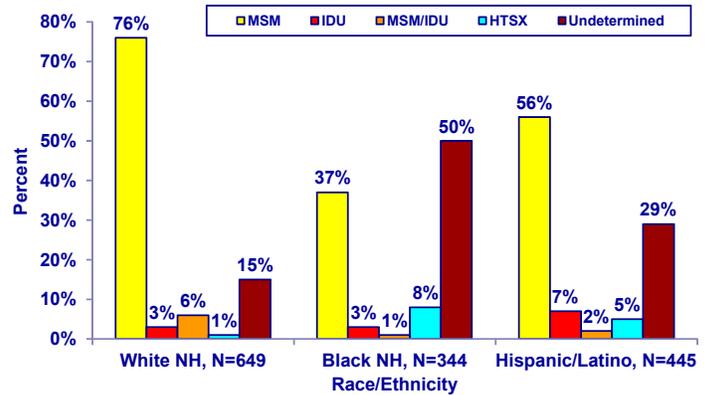
## Who is most at risk of HIV infection?

- Exposure mode was undetermined among 35% (N=217/613) of black (non-Hispanic) individuals recently diagnosed with HIV infection. Women reporting sex with a man of unknown risk and HIV status (presumed heterosexual sex) was the exposure mode for 29%( N=177/613), male-to-male sex for 21% (N=126/613) and heterosexual sex with partners of known risk and/or HIV status for 11% (N=67/613).
- Among Hispanic/Latino individuals, male-to-male sex was the most frequently reported exposure mode during 2012 to 2014 (43%, N=250/580) followed by presumed heterosexual sex (11%, N=63/580), heterosexual sex (9%, N=51/580) and injection drug use (8%, N=46/580); for 27% (N=159/580) exposure mode was undetermined.

### Race/Ethnicity, Exposure Mode and Sex at Birth:

- Among white (non-Hispanic) men diagnosed with HIV infection during 2012 to 2014 (N=649), male-to-male sex (76%) was most frequently reported exposure mode; for 15% exposure mode was undetermined.
- Fifty percent of black men recently diagnosed with HIV infection (N=344) were reported with missing exposure mode information. Male-to-male sex was the most frequently reported exposure mode accounting for 37% of all HIV infections, followed by heterosexual sex at 8%, and injection drug use at 3% of exposures.
- Among Hispanic/Latino men (N=445), male-to-male sex was the most frequently reported exposure mode accounting for 56% of HIV infections, followed by injection drug use at 7% and heterosexual sex at 5% of HIV infections. Twenty-nine percent of Hispanic/Latino men were reported with missing exposure mode information.

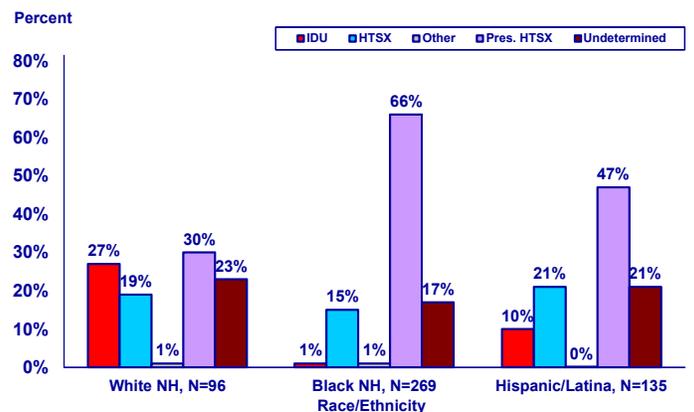
**Figure 8. Percentage Distribution of Men Diagnosed with HIV Infection During 2012–2014 by Exposure Mode and Race/Ethnicity: Massachusetts**



NH= Non-Hispanic, Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 3/1/16

- The most frequently reported exposure mode among women of all race/ethnicities recently diagnosed with HIV infection (N=517) was presumed heterosexual sex, accounting for 66% of black (non-Hispanic) women recently diagnosed with HIV infection, 47% of Hispanic/Latina women, and 30% of white (non-Hispanic) women.

**Figure 9. Percentage Distribution of Women Diagnosed with HIV Infection Within the Years 2012–2014 by Exposure Mode and Race/Ethnicity: Massachusetts**



NH= Non-Hispanic, API=Asian/Pacific Islander, Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 3/1/16

### Race/Ethnicity and Sex at Birth:

- While 43% (N=649/1,510) of men diagnosed with HIV infection during 2012 to 2014 were white (non-Hispanic), 52% (N=269/517) of women diagnosed during this time period were black (non-Hispanic).



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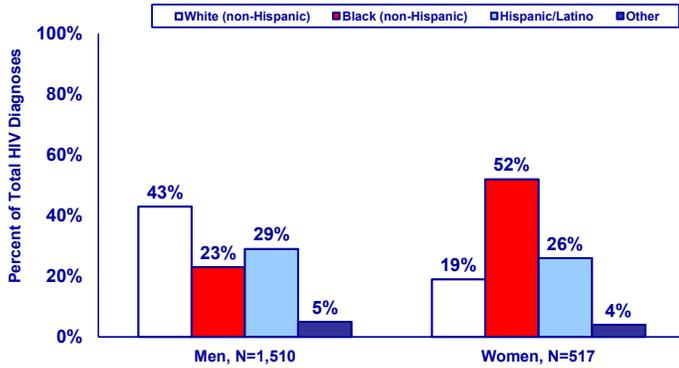




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## Who is most at risk of HIV infection?

**Figure 10. Percentage Distribution of People Diagnosed with HIV Infection Within the Years 2012–2014 by Gender and Race/Ethnicity: Massachusetts**

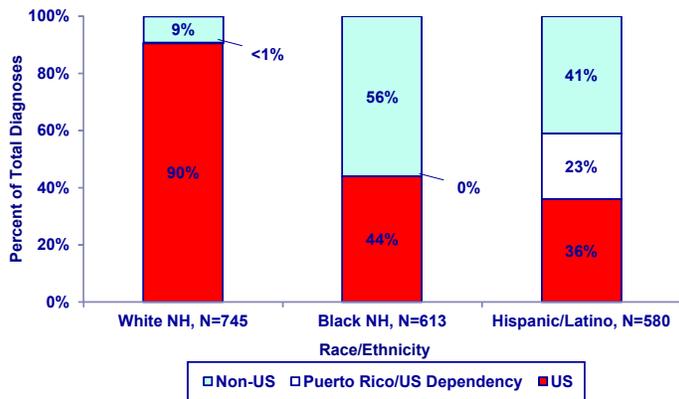


Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 3/1/16

### Race/Ethnicity and Place of Birth:

- During 2012 to 2014, 56% of black (non-Hispanic) individuals diagnosed with HIV infection were born outside the US, compared to 41% of Hispanic/Latino individuals and 9% of white (non-Hispanic) individuals. An additional 23% percent of Hispanic/Latino individuals diagnosed with HIV infection during this time period were born in Puerto Rico or another US Dependency, compared to less than one percent of white (non-Hispanic) individuals and no black (non-Hispanic) individuals.

**Figure 11. Percentage Distribution of People Diagnosed with HIV Infection Within the Years 2012–2014 by Race/Ethnicity and Place of Birth: Massachusetts**



Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 3/1/16 NH = Non-Hispanic

- The majority of the 343 non-US born black (non-Hispanic) individuals diagnosed with HIV infection during 2012 to 2014 were from sub-Saharan Africa (57%), and the Caribbean (39%); the majority of the 239 non-US born Hispanic/Latino individuals were from Central and South America (71%), and the Caribbean (24%). The majority of the 70 non-US born white (non-Hispanic) individuals were from North America, and Europe (39%) and Central and South America (37%).
- Forty-nine percent (N=253/517) of women diagnosed with HIV infection during 2012 to 2014 were born outside the US compared to 30% (N=460/1,510) of men. Among black (non-Hispanic) women diagnosed with HIV infection, the proportion born outside the US was 69% (N=185/269) compared to 36% (N=48/135) of Hispanic/Latina women and 8% (N=8/96) of white (non-Hispanic) women. Among black (non-Hispanic) men, the proportion born outside the US was 46% (N=158/344) compared to 43% (N=191/445) of Hispanic/Latino men and 10% (N=62/649) of white (non-Hispanic) men.

### Distribution by Exposure Mode and Health Service Region (HSR):<sup>iv</sup>

- Male-to-male sex was the most frequently reported exposure mode in all regions among the 2,027 people diagnosed with HIV infection during 2012 to 2014, accounting for 52% of HIV infections in the Boston HSR, 43% in the Central HSR, 48% in the Metro West HSR, 40% in the Northeast HSR, 42% in the Southeast HSR, and 41% in the Western HSR.
- The Central and Western HSRs had the highest proportions of injection drug use exposure mode, at 8% (N=11/146) and 7% (N=16/241), respectively. Injection drug use accounted for 2% to 6% of HIV infection diagnoses in the remaining regions.

### Distribution by Race/Ethnicity and Health Service Region (HSR):

- White (non-Hispanic) individuals constituted the largest proportion of people recently diagnosed with HIV infection in the Southeast (47%, N=145/307), Metro West (42%, N=129/310) and Northeast (38%, N=149/392) HSRs.
- In the Boston HSR (N=606), black (non-Hispanic) individuals accounted for 33%, and white (non-Hispanic) and Hispanic/Latino individuals each accounted for 31% of recently diagnosed persons.



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- In the Central HSR (N=146), white (non-Hispanic) individuals accounted for 37%, black (non-Hispanic) individuals 36%, and Hispanic/Latino individuals 23% of recently diagnosed persons.
- In the Western HSR (N=241), Hispanic/Latino individuals (43%) accounted for the largest proportion of people recently diagnosed with HIV infection, followed by white (non-Hispanic) individuals (32%) and black (non-Hispanic) individuals (23%).

### Distribution by Sex at Birth and Health Service Region (HSR):

- The Boston HSR had the highest proportion of men among those with HIV infection diagnosed during 2012 to 2014, at 80% (N=487/606), followed by the Southeast and Metro West HSRs at 77% (N=235/307) and 76% (N=236/310), respectively.
- The Northeast HSR had the highest proportion of women among people diagnosed with HIV infection during 2012 to 2014 at 34% (N=133/392), followed by the Central and Western HSRs at 30% (N= 44/146) and 29% (N=71/241), respectively.

### People at Risk for HIV Infection:

#### State-funded prevention and integrated counseling, screening, and referral (PICSAR):

- In 2014, 0.5% of 66,426 HIV tests conducted at publicly funded PICSAR sites were positive. Testing identified 276 new diagnoses, representing 44% of individuals newly diagnosed with HIV infection (N=629) in the state.
- In 2014, more HIV tests were performed on men (58%, N=38,440) than women (41%, N=27,242) at publicly funded sites and 0.7% of HIV tests conducted among men were positive, compared to 0.3% of HIV tests conducted among women.
- A similar proportion of HIV tests was performed on white (non-Hispanic) (35%, N=22,967), black (non-Hispanic) (32%, N=21,461), and Hispanic/Latino clients (27%, N=17,622).
- The percentage of positive HIV tests was highest among Hispanic/Latino clients at 0.7%, followed by Asian clients at 0.6%, black (non-Hispanic) clients at 0.5%, and white (non-Hispanic) clients at 0.4%.

- By age category, the highest percentage of positive HIV tests was among clients between the ages of 50 and 54 years at 1.1%, followed by clients between the ages of 45 and 49 years at 1.0%.

### Behavioral Risk for HIV Infection

#### Number of Sexual Partners:

- Among 3,543 respondents to the 2013 and 2014 Massachusetts Behavioral Risk Factor Surveillance System (BRFSS) surveys, 18–64 years of age, 9% reported two or more sexual partners in the previous year, 69% reported one partner, and 22% reported no sexual partners.
- A larger proportion of men reported two or more partners in the previous year (14% of men compared to 4% of women), as well as 18 to 24 year olds (30% of 18 to 24 year olds reported two or more partners compared to 12% of 25 to 34 year olds, 5% of 35 to 44 year olds, and 2% of 45 to 64 year olds).

#### Male-to-Male Sex:

- Among 1,043 male respondents to the 2013 and 2014 BRFSS 18–64 years of age, 6.4% reported having sex with other men in the previous 12 months.

#### Condom Use:

- Of 2,512 18–64 year old sexually active respondents to the 2013 and 2014 BRFSS, 25% reported using a condom at last sexual encounter (27% of male respondents and 24% of female respondents).
- Thirty-one percent of 140 black (non-Hispanic) respondents reported condom use at last sexual encounter, compared to 28% of 190 Hispanic/Latino individuals and 24% of 2,056 white (non-Hispanic) individuals.
- Thirty-seven percent of the 79 respondents reporting three or more sexual partners in the previous year also reported condom use at last sexual encounter, compared to 65% of the 75 respondents reporting two partners and 22% of the 2,348 respondents reporting one partner.



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### Data Sources

HIV/AIDS Case Data: Massachusetts Department of Public Health, HIV/AIDS Surveillance Program, all data as of 1/1/16

Counseling and Testing Data: Massachusetts Department of Public Health, Office of HIV/AIDS, Office of Research and Evaluation

BRFSS Data: Massachusetts Department of Public Health, Bureau of Health Statistics, Research

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<sup>i</sup> Please note “women” and “men” are used for stylistic reasons to describe female and male populations diagnosed with HIV infection that include a small number of girls and boys (N=24 children living with HIV infection under age 13 as of 1/1/16). Data reflect sex at birth and therefore not gender identity or gender expression of transgender individuals (N=56 transgender individuals living with HIV infection).

<sup>ii</sup> Effective January 1, 2011, the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>iii</sup> The category of presumed heterosexual is used exclusively for women, to define HIV risk in cases when sex with men is the only reported risk factor for HIV infection.

<sup>iv</sup> Reflects the health service region of a person’s residence at the time of report (not necessarily current residence). HSRs are regions defined geographically to facilitate targeted health service planning. See Epidemiologic Profile General Appendices, Health Service Region Maps, available at <http://www.mass.gov/eohhs/docs/dph/aids/2006-profiles/app-hrs-maps.pdf> for configuration of health service regions.



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