



Massachusetts HIV/AIDS Data Fact Sheet

Who is most at risk of HIV infection?

Overview

Although newly diagnosed HIV infection is not a direct measure of HIV incidence, recent trends in the distribution of HIV infection diagnoses are the best available indicator for who are most at risk of HIV infection. While the diagnosis of HIV infection across gender, race/ethnicity and place of birth has remained fairly stable over the past ten years, there has been a shift in place of birth distribution among females. From 2001 to 2010, the proportion of new diagnoses in females born outside the US has grown from 37% to 52%.

There has also been a shift in the distribution of HIV infection diagnoses by exposure mode. The proportion of all HIV infection diagnoses with male-to-male sex as an exposure mode increased from 31% in 2001 to 36% in 2010. Among males, the proportion of HIV infection diagnoses with male-to-male sex as the reported exposure mode increased from 44% in 2001 to 51% in 2010. The proportion of cases with injection drug use as the reported exposure mode decreased from 20% in 2001 to 11% in 2010.

The following analyses depict trends in HIV infection diagnosis and describe populations at risk of HIV infection in Massachusetts. Trends in the distribution of HIV infection diagnoses from 2001 to 2010 are used to highlight populations at elevated risk of HIV infection. These trends, as well as the characteristics of the 1,994ⁱ people who were recently diagnosed with HIV infection within the three-year period 2008 to 2010, provide useful information for planning HIV prevention programs.

Trends in HIV Infection Diagnoses from 2001 to 2010

General Statistics:

- The number of annual HIV diagnoses reported decreased from 985 in 2001 to 653 in 2009.
- As of January 1, 2011, 648 HIV diagnoses were reported for 2010.

Gender:

- From 2001 to 2010, the distribution of people diagnosed with HIV infection by gender ranged from 68% to 75% male and 25% to 32% female.

Race/Ethnicity:

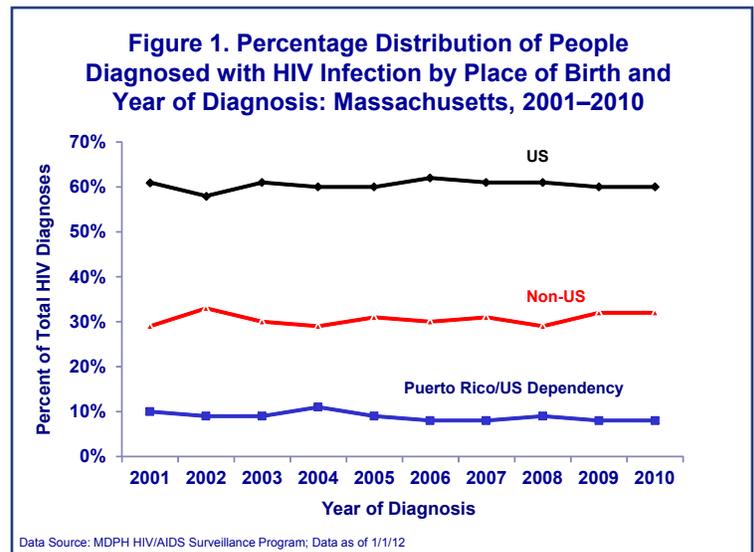
- From 2001 to 2010, the proportion of HIV diagnoses ranged from 38% to 43% in white (non-Hispanic) individuals; from 30% to 35% in black (non-Hispanic) individuals; and from 23% to 27% in Hispanic/Latino individuals.

Gender and Race/Ethnicity:

- In the years 2001 through 2010, among males, the largest proportion of HIV infection diagnoses was among white (non-Hispanic) males (range 44% to 51%), followed by black (non-Hispanic) males (range 21% to 28%) and Hispanic/Latino males (range 21% to 27%).
- Among females diagnosed with HIV infection from 2001 to 2010, the largest proportion was among black (non-Hispanic) females (range 46% to 55%), followed by Hispanic/Latina females (range 24% to 31%) and white (non-Hispanic) females (range 16% to 25%).

Place of Birth and Gender:

- From 2001 to 2010, the proportion of people born outside the US among those diagnosed with HIV infection remained between 29% and 33%.



- From 2001 to 2010, the proportion of individuals born outside the US among males diagnosed with HIV infection ranged from 22% to 28%.





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- During the same time period, the proportion of individuals born outside the US among females increased from 37% to 52%.

Exposure Mode and Gender:ⁱⁱ

- Among males, the proportion of HIV diagnoses with male-to-male sex as the primary reported exposure mode increased from 44% in 2001 to 51% in 2010.
- The proportion of males reported with undetermined risk increased from 21% in 2001 to 30% in 2010.
- The proportion of HIV exposures among males attributed to injection drug use decreased from 19% in 2001 to 10% in 2010.
- From 2001 to 2010, the proportion of females reported to be exposed to HIV through sex with males of unknown risk and HIV status (presumed heterosexual sex) increased from 32% to 43%.
- Among females diagnosed with HIV infection, the proportion with injection drug use as the reported exposure mode decreased from 21% in 2001 to 13% in 2010.

Age at HIV Infection Diagnosis:

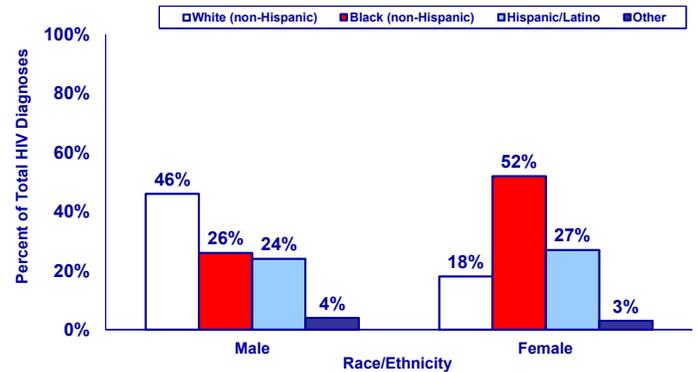
- The proportion of HIV diagnoses reported in people age 24 years or younger increased from 8% in 2001 to 12% in 2010.
- During the same time period, the proportion of HIV diagnoses reported in people age 50 years or older increased from 9% to 21%.
- In 2010, the majority (57%) of HIV infection diagnoses were reported in people between the ages of 30 and 49 years old.

A Profile of People Recently Diagnosed with HIV Infection:

Race/Ethnicity and Gender:

- The distribution of race/ethnicity among persons diagnosed with HIV infection within the years 2008 to 2010 was different among males and females. While 46% of males diagnosed with HIV infection within the years 2008 to 2010 were white (non-Hispanic), 52% of females diagnosed during this time period were black (non-Hispanic).

Figure 2. People Diagnosed with HIV Infection Within the Years 2008–2010 by Gender and Race/Ethnicity: Massachusetts



Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/12

Race/Ethnicity and Place of Birth:

- Ninety-two percent of white (non-Hispanic) individuals diagnosed with HIV infection within the three-year period 2008 to 2010 were born in the US, compared to 48% of black (non-Hispanic) individuals and 32% of Hispanic/Latino individuals.
- During the same time period, 51% of black (non-Hispanic) individuals diagnosed with HIV infection within the three-year period 2008 to 2010 were born outside the US, compared to 35% of Hispanic/Latino individuals and 8% of white (non-Hispanic) individuals. An additional 33% 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 both black (non-Hispanic) and white (non-Hispanic) individuals.
- The majority of non-US born black (non-Hispanic) individuals diagnosed with HIV infection within the three-year period 2008 to 2010 were from sub-Saharan Africa, and the Caribbean; the majority of non-US born Hispanic/Latino individuals were from Central and South America, and the Caribbean. The majority of non-US born white (non-Hispanic) individuals were from Central and South America, North America, and Europe.



For detailed data tables and technical notes see Appendix
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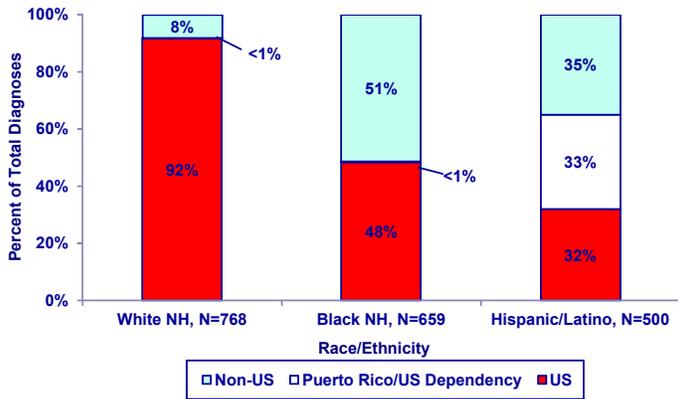




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Figure 3. People Diagnosed with HIV Infection Within the Years 2008–2010 by Race/Ethnicity and Place of Birth: Massachusetts



Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/12, NH = Non-Hispanic

Race/Ethnicity, Place of Birth and Gender:

- Forty-eight percent of females diagnosed with HIV infection within the three-year period 2008 to 2010 were born outside the US compared to 24% of males. Among black (non-Hispanic) females diagnosed with HIV infection, the proportion born outside the US was 70% compared to 32% of Hispanic/Latina females and 5% of white (non-Hispanic) females. Among black (non-Hispanic) males, the proportion born outside the US was 37% compared to 36% of Hispanic/Latino males and 8% of white (non-Hispanic) males.

Race/Ethnicity and Exposure Mode:

- The predominant mode of exposure among white (non-Hispanic) individuals diagnosed with HIV infection within the years 2008 to 2010 was male-to-male sex (64%); for 15% exposure mode was undetermined.
- Exposure mode was undetermined in 34% of black (non-Hispanic) individuals recently diagnosed with HIV infection. Among those with a reported risk, female reporting sex with male of unknown risk and HIV status (presumed heterosexual exposure, 22%), was the most frequently reported exposure followed by heterosexual sex with partners of known risk and/or HIV status (19%) and male-to-male sex (18%).

- Among Hispanic/Latino individuals, male-to-male sex accounted for 28%, injection drug use 18%, and heterosexual exposure 17% of reported HIV exposures within the years 2008 to 2010; for 23% exposure mode was undetermined.

Race/Ethnicity, Exposure Mode and Gender:

- Exposure mode among people diagnosed with HIV infection within the three-year period 2008 to 2010 varies by race/ethnicity among both males and females.
- Among white (non-Hispanic) males, male-to-male sex was the predominant exposure mode, accounting for 74% of reported exposures; for 15% exposure mode was undetermined.
- Exposure mode was undetermined in 47% of black (non-Hispanic) males and male-to-male sex was the most frequently reported risk accounting for 32% of all exposures, followed by heterosexual sex at 10%, and injection drug use at 7% of reported exposures.
- Among Hispanic/Latino males, male-to-male sex was the most frequently reported exposure mode accounting for 40% of exposures, followed by injection drug use at 18% and heterosexual sex at 9% of exposures. For 29% of Hispanic/Latino males, exposures mode was undetermined.
- Among white (non-Hispanic) females diagnosed with HIV infection, injection drug use and heterosexual sex (with partners of known risk and/or HIV status) were the most frequently reported exposure modes accounting for 32% and 31% of exposures, respectively. Sex with males of unknown risk and HIV status (presumed heterosexual) accounted for 22% of exposures.
- The predominant exposure mode among black (non-Hispanic) females was sex with males of unknown risk and HIV status (presumed heterosexual exposure) (50%).
- Among Hispanic/Latina females, heterosexual sex (with partners of known risk and/or HIV status) was the most frequently reported exposure mode accounting for 38% of exposures, followed by sex with males of unknown risk and HIV status (presumed heterosexual exposure) at 34% and injection drug use at 17% of exposures.



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Distribution by Gender and Health Service Region (HSR):ⁱⁱⁱ

- The Boston and Metro West HSRs have the highest proportion of males among those with HIV infection diagnosed within the three-year period 2008 to 2010, both at 76%.
- The Central HSR has the highest proportion of females among people diagnosed with HIV infection within the three-year period 2008 to 2010 at 40%.

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

- White (non-Hispanic) individuals constitute the largest proportion of people recently diagnosed with HIV infection in the Southeast (56%) and Metro West (43%) HSRs.
- In the Boston HSR, black (non-Hispanic) individuals constitute the largest proportion of recent diagnoses at 41%.
- In the Central HSR, black (non-Hispanic) individuals account for 37%, white (non-Hispanic) individuals 34% and Hispanic/Latino individuals 26% of recent diagnoses.
- In the Western HSR, Hispanic/Latino individuals followed by white (non-Hispanic) individuals (42% and 36%, respectively) account for the largest proportions of people recently diagnosed with HIV infection.
- In the Northeast HSR, Hispanic/Latino and white (non-Hispanic) individuals each constitute 32% of people recently diagnosed with HIV infection.

Distribution by Exposure Mode and Health Service Region (HSR):

- Male-to-male sex was the most frequently reported exposure mode in all regions among people diagnosed with HIV infection within the years 2008 to 2010, accounting for 45% of exposures in the Boston HSR, 27% in the Central HSR, 46% in the Metro West HSR, 34% in the Northeast HSR, 42% in the Southeast HSR, and 39% in the Western HSR. This marks the second time in recent years that male-to-male sex is the predominant exposure mode throughout the Commonwealth (the first was within the years 2007 to 2009).

- The Western and Central HSR had the highest proportion of exposures attributed to injection drug use, at 15% and 12%, respectively. Injection drug use accounted for 5% to 8% of exposures in the remaining regions.
- The largest proportion of exposures attributed to heterosexual sex (with partners of known risk and/or HIV status) was 19% in the Central HSR. Heterosexual sex accounted for 10% to 15% of exposures in the remaining regions.
- The largest proportion of exposures attributed to female reporting sex with male of unknown risk and HIV status (presumed heterosexual exposure) was 16% in the Central HSR, while the smallest was 9% in the Western HSR.

People at Risk of HIV Infection

State-funded HIV Counseling, Testing and Referral:

- In 2010, 60,371 HIV tests were performed on 55,482 unique clients at publicly funded HIV Counseling, Testing and Referral (CTR) sites. Of the 60,371 HIV tests a total of 515 (0.9%) were positive, of which 315 were newly identified. The 315 new positive tests were performed on 306 unique clients, representing 47% of individuals newly diagnosed with HIV infection (N=648) in the state.
- In 2010, more HIV tests were performed on males (58%, N=34,772) than females (41%, N=24,896) at publicly funded sites.
- The largest proportions of HIV tests were performed on white (non-Hispanic) (33%, N=20,089) and black (non-Hispanic) clients (32%, N=19,148), followed by Hispanic/Latino clients (27%, N=16,535).
- Three percent (N=1,866) of HIV tests were performed on Asian/Native Hawaiian/Pacific Islander clients, 1% (N=529) on multi-race clients, and <1% (N=177) on American Indian/Alaska Native.
- Black (non-Hispanic) clients accounted for 30% of positive HIV tests and 32% of all tests conducted.
- Hispanic/Latino clients accounted for 30% of positive HIV tests and 27% of all tests conducted.
- White (non-Hispanic) clients accounted for 34% of positive HIV tests and 33% of all tests conducted.



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- Asian/Native Hawaiian/Pacific Islander clients accounted for 2% of positive HIV tests and 3% of all tests conducted.
- By race/ethnicity, the highest percentage of positive HIV tests was among white (non-Hispanic) and Hispanic/Latino clients, both at 0.9%, followed by multi-race and black (non-Hispanic) clients both at 0.8%.
- While people ages 20–24 and 25–29 years old account for the largest proportions (20% and 19%) of total tests performed across age categories, the percent of positive tests in both age groups was low (0.3% and 0.5%), accounting for just 7% and 10% of the positive tests, respectively.

Behavioral Risk for HIV Infection

Number of Sexual Partners:

- Among 6,219 respondents 18–64 years of age to the 2009 and 2010 Massachusetts Behavioral Risk Factor Surveillance System (BRFSS) survey, 7% reported two or more sexual partners in the previous year, 77% reported one partner, and 16% reported no sexual partners.
- Larger proportions of people reporting two or more partners in the previous year were men (11% of men reported two or more partners compared to 3% of women), and were black (non-Hispanic) (11% of black [non-Hispanic] individuals reported two or more partners compared to 8% of Hispanic/Latino, 7% of white [non-Hispanic], and 5% of Asian individuals).
- Twenty-two percent of males who had sex with male partners reported two or more sexual partners in the previous year, compared to 12% of males who had sex with opposite-sex partners.
- Thirty-three percent of males ages 18–24 years reported two or more sexual partners in the previous year, compared to 18% of males ages 25–34, 6% of males ages 35–44 and 4% of males ages 45–64.
- Thirteen percent of females ages 18–24 years reported two or more sexual partners in the previous year compared to 5% of females ages 25–34, 2% of females ages 35–44 and 1% of females ages 45–64.

Male-to-Male Sex:

- Among 2,028 male respondents 18–64 years of age, 4.3% reported having sex with other males.

Condom Use:

- Of 4,679 18–64-year-old sexually active respondents to the 2009 and 2010 BRFSS, 22% reported using a condom at last sexual encounter (26% of male respondents and 18% of female respondents).
- Thirty-nine percent of black (non-Hispanic) and 24% of Hispanic/Latino respondents reported condom use at last sexual encounter, compared to 20% of white (non-Hispanic) individuals.
- Sixty-one percent of those reporting three or more sexual partners in the previous year also reported condom use at last sexual encounter, compared to 45% of those reporting two partners and 19% of those reporting one partner.
- Thirty-eight percent of men reporting a same-sex partner also reported condom use at last sexual encounter compared to 25% of men with an opposite-sex partner.

Data Sources

HIV/AIDS Case Data: Massachusetts Department of Public Health, HIV/AIDS Surveillance Program, all data as of 1/1/12

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 and Evaluation, Behavioral Risk Factor Surveillance System

ⁱ Effective January 1, 2011, the Massachusetts Department of Public Health (MDPH), Bureau of Infectious Diseases, HIV/AIDS fact sheets, epidemiologic reports and other HIV data presentations have been updated to remove all HIV/AIDS cases who were first diagnosed in another state before being reported in Massachusetts. As of January 1, 2012, this resulted in the removal of 2,924 HIV/AIDS cases, of which 808 have died and 2,116 were living. These persons living with HIV/AIDS may still continue to reside and receive care in the Commonwealth. The total number of persons living with HIV/AIDS, irrespective of location of diagnosis, is the basis for MDPH service planning. This change is partially a result of increased activities required by the Centers for Disease Control and Prevention (CDC) for de-duplication among states in an effort to identify cases that are counted multiple times in the National HIV/AIDS surveillance system. The cases are assigned to the state that reports the earliest date of AIDS diagnosis if available. If the case has not progressed to AIDS, the case is assigned to the state with the earliest HIV diagnosis date. Please note that all previous HIV/AIDS fact sheets, data reports and presentations include cases that may have been first diagnosed in another state.



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ⁱⁱ Effective January 1, 2011, the Massachusetts Department of Public Health (MDPH) HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to eliminate the presumed heterosexual exposure mode category for males; those cases have been reassigned to the no identified risk (NIR) exposure mode category. The presumed heterosexual exposure mode category was used with the intention of identifying HIV exposure mode for females when sex with males is the only reported risk factor, there is no evidence of current or past injection drug use (IDU), and behavioral risk and HIV status information about male sexual partners are unknown. Twenty-nine percent of females living with HIV/AIDS and 41% of recent female HIV diagnoses are reported in the presumed heterosexual exposure mode category. The application of the presumed heterosexual exposure mode category to males is overly inclusive in that female to male HIV transmission is biologically less probable, and there are alternate exposure modes that are possible for males, including sex with other men (MSM) or IDU. The CDC reports males diagnosed with HIV/AIDS who report sex with females as their only risk factor, without corresponding partner risk or HIV status information, in the NIR exposure mode category. This revision to report presumed heterosexual male HIV/AIDS cases as NIR will bring Massachusetts HIV/AIDS case reporting for males in alignment with CDC standards. The MDPH will maintain presumed heterosexual and heterosexual exposure mode categories for females.

ⁱⁱⁱ 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/dph/aids/research/profile2005/app5_hrs_maps.pdf for configuration of health service regions.



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