



## Adolescents and Young Adults

### Introduction

The proportion of Massachusetts HIV infection diagnosed among adolescents and young adults 13–24 years old increased from 7% in 2001 to 11% in 2010 but still remains below the national average.<sup>i</sup> Eleven percent of people diagnosed and reported with HIV infection in Massachusetts between 2008 and 2010 were 13–24 years old compared to 19% nationally.<sup>ii</sup> From 2001 to 2010, the number of 13–24 year olds diagnosed with HIV infection has remained between 70 and 75 diagnoses each year, with the exception of two years: 2002 when there were 94 diagnoses and 2006 when there were 81.

Comparing adolescents and young adults to people who are older at the time of their diagnosis, differences are apparent in exposure mode, gender, and race/ethnicity. Male-to-male sex accounts for a greater proportion of recent diagnoses among male adolescents and young adults (75%) than among men 25 years old and older (52%). Females account for 23% of adolescents and young adults recently diagnosed with HIV infection, compared to 28% of people diagnosed at age 25 years and above. A smaller proportion of adolescents and young adults recently diagnosed with HIV infection are white (non-Hispanic) compared to those diagnosed at older ages: 33% compared to 39%. The following describes adolescents and young adults recently diagnosed with HIV infection and those known to be living with HIV/AIDS in Massachusetts.

### General Statistics:

- Within the three-year period 2008 to 2010, 215 adolescents and young adults 13–24 years of age were diagnosed with HIV infection, accounting for 11% of all diagnoses reported in Massachusetts.
- On December 31, 2011, 463 (3%) people living with HIV/AIDS were 13–24 years old. Of people living with HIV/AIDS in Massachusetts, 1,774 (10%) were diagnosed with HIV infection between ages 13 and 24 years.

### Regional Distribution:

- Fourteen percent of people in the Central Health Service Region (HSR)<sup>iii</sup> diagnosed with HIV infection within the three-year period 2008 to 2010 were diagnosed as adolescents and young adults, compared to 11% of people in the Boston, Metro West and Western HSRs, and 10% in the Northeast and Southeast regions.

The following cities have the largest number of people diagnosed with HIV infection at ages 13–24 years within the three year period 2008 to 2010 (% = N/215, the total number of HIV diagnoses in 13–24 year olds in Massachusetts):

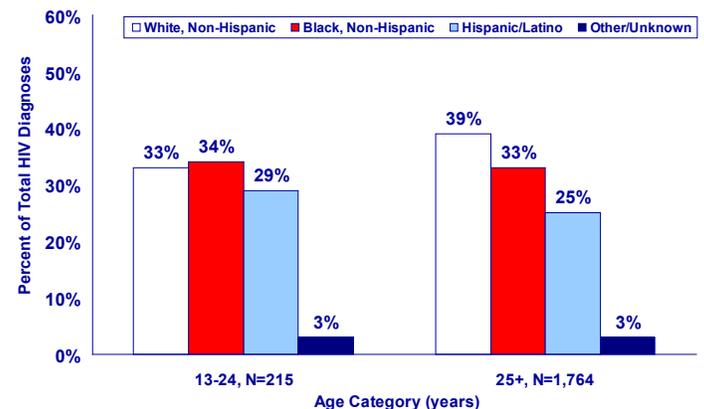
City	N	%
Boston	60	28%
Worcester	12	6%
Springfield	7	3%
Lynn	6	3%
Brockton	6	3%
<b>Massachusetts</b>	<b>215</b>	<b>100%</b>

- Within the three-year period 2008 to 2010, the city of Boston had the largest number of people diagnosed with HIV infection between the ages of 13–24 years (N=60), accounting for 28% of diagnoses in this age group, and 27% of diagnoses overall.

### Race and Ethnicity:

- Among adolescents and young adults diagnosed with HIV infection within the three-year period 2008 to 2010, 34% were black (non-Hispanic), compared to 33% of people diagnosed at age 25 years or older; 29% were Hispanic/Latino, compared to 25% of people diagnosed at age 25 years or older.

**Figure 1. People Diagnosed with HIV Infection Within the Years 2008 to 2010 by Age at HIV Diagnosis and Race/Ethnicity: Massachusetts**



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





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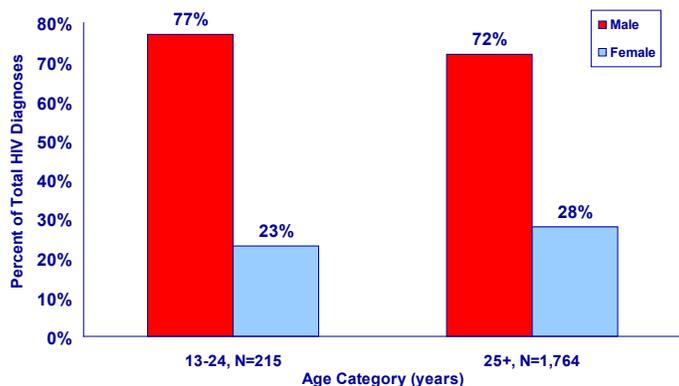
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- Among youth living with HIV/AIDS who were 13 to 24 years of age on December 31, 2011, 42% were black (non-Hispanic), compared to 29% of people age 25 years or older living with HIV/AIDS, and 30% were Hispanic/Latino, compared to 24% of people age 25 years or older living with HIV/AIDS.

### Gender:

- Adolescents and young adults diagnosed with HIV infection within the three-year period 2008 to 2010 were 77% male and 23% female. In contrast, 72% of people diagnosed with HIV infection at age 25 years or older were male and 28% female.

**Figure 2. People Diagnosed with HIV Infection Within the Years 2008 to 2010 by Age at HIV Diagnosis and Gender: Massachusetts**



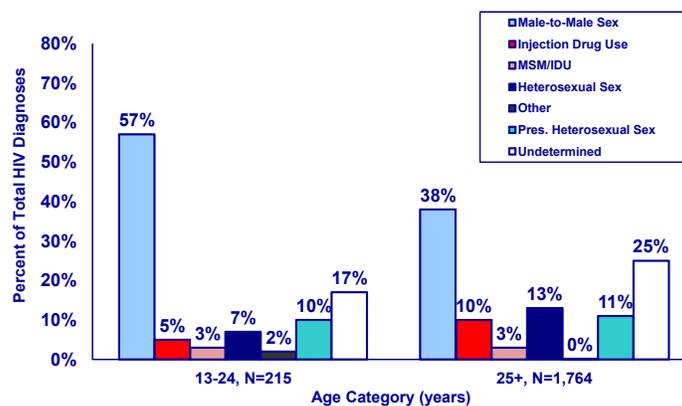
Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/12

- Among individuals living with HIV/AIDS who were 13–24 years old on December 31, 2011, 40% were female, compared to 29% of those age 25 years and older.

### Exposure Mode:

- A greater proportion of adolescents and young adults, compared to adults 25 years or older, was recently diagnosed with HIV infection with exposure mode of male-to-male sex (57% vs. 38%). A smaller proportion had undetermined exposure mode (17% vs. 25%) or was exposed through injection drug use (5% vs. 10%) or through heterosexual sex with partners with known risk or HIV status (7% vs. 13%).

**Figure 3. People Diagnosed with HIV Infection Within the Years 2008 to 2010 by Age at HIV Diagnosis and Mode of Exposure: Massachusetts**



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

- Seventy-five percent of recently diagnosed adolescent and young adult males were exposed through male-to-male sex compared to 52% of recently diagnosed males aged 25 years or older.
- Among individuals living with HIV/AIDS who were 13–24 years old on December 31, 2011, smaller proportions were exposed through injection drug use (1% vs. 22%) and male-to-male sex (21% vs. 36%) than among those 25 years old and older. Fifty-four percent were born to infected mothers and exposed at or around birth.

### Perinatal and Pediatric Exposure to HIV Infection Among Adolescents Living with HIV/AIDS:

- Among 340 individuals living with HIV/AIDS who were diagnosed with HIV infection with perinatal or pediatric exposure mode, 74% (N=251) are currently age 13–24 years old.

Of these 251 individuals:

- Fifty-two percent are male and 48% are female.
- Forty-four percent are black (non-Hispanic), 35% are Hispanic/Latino, and 20% are white (non-Hispanic).



For detailed data tables and technical notes see Appendix  
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### Exposure Mode and Gender:

- A higher proportion of adolescent and young adult males diagnosed with HIV infection within the three-year period 2008 to 2010 were exposed to HIV through male-to-male sex compared to men age 25 years old and older (75% vs. 52%). Conversely, a lower proportion were exposed through injection drug use (1% among 13–24 year olds vs. 9% among 25+ year olds).
- A larger proportion of adolescent and young adult females diagnosed with HIV infection within the three-year period 2008 to 2010 were exposed through injection drug use compared to women age 25 years old and older (16% vs. 12%). A smaller proportion were exposed to HIV through heterosexual sex<sup>iv</sup> (22% among 13-24 year olds vs. 34% among 25+ year olds).

### Exposure Mode and Race/Ethnicity:

- Male-to-male sex is the predominant exposure mode for people of all race/ethnicities age 13–24 years diagnosed with HIV infection within the three-year period 2008 to 2010. During this time period male-to-male sex accounted for:
  - 71% of exposures among white (non-Hispanic) adolescents and young adults,
  - 49% of exposures among black (non-Hispanic) adolescents and young adults, and
  - 51% of exposures among Hispanic/Latino adolescents and young adults.
- Heterosexual sex accounted for 8% of recently diagnosed HIV exposures among Hispanic/Latino youth age 13-24 years, 5% among black (non-Hispanic) youth and 6% of exposures among white (non-Hispanic) youth.
- Presumed heterosexual sex accounted for 15% of recently diagnosed HIV exposures among black (non-Hispanic) youth, 13% among Hispanic/Latino youth and 3% of exposures among white (non-Hispanic) youth.
- Injection drug use accounted for 8% of recently diagnosed HIV exposures among Hispanic/Latino youth age 13-24 years, 7% among white (non-Hispanic) youth and no exposures among black (non-Hispanic) youth.

- The largest proportion of recent HIV diagnoses with undetermined exposure was among black (non-Hispanic) youth at 27%, followed by Hispanic/Latino youth at 11% and white (non-Hispanic) youth at 10%.

### Adolescents at Risk of HIV Infection:

**Behavioral Risk Factors:** According to school-based behavioral surveys, adolescents in Massachusetts are engaging in behaviors that may place them at risk for HIV infection.

- There have been small or no fluctuations in the following reported sexual behaviors between 2003 and 2011:
  - condom use at last intercourse (57% in 2003 and 58% in 2011),
  - ever had sexual intercourse (41% in 2003 and 42% in 2011),
  - sexual intercourse before age 13 (5% in 2003 and 4% in 2011),
  - four or more lifetime sexual partners (10% in 2003 and 11% in 2011),
  - sexual intercourse in the past three months (30% in 2003 and in 2011),
  - alcohol or drug use at last intercourse (25% in 2003 and 23% in 2011),
  - ever been or gotten someone pregnant (4% in 2003 and 5% in 2011), and
  - ever had sexual contact against their will (10% in 2003 and in 2011).
- In addition to infection risks associated with sharing injection equipment, both injection and non-injection substance use has been documented to drive sexual risk for HIV infection. Among 2,729 high school-aged respondents to the 2011 Massachusetts Youth Risk Behavior Survey (MYRBS), 5% reported ever using cocaine, 2% reported ever using heroin and 2% reported ever using a needle to inject drugs.
- The proportion of MYRBS respondents reporting injection drug use has remained stable at 2% to 3% between the years 2003 and 2011.



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### **State-Funded HIV Counseling and Testing:**

- Of 60,371 HIV tests performed in 2010, 28% (N=16,612) were among 13–24 year olds, of which 0.3% were tested HIV positive. Comparatively, 1.1% of tests performed among people age 25 years old or older were tested HIV positive.

### **Data Sources:**

HIV/AIDS Case Data: MDPH HIV/AIDS Surveillance Program, Data as of January 1, 2012

Youth Risk Behavior Survey Data: Massachusetts Department of Elementary and Secondary Education, Youth Risk Behavior Survey

HIV Counseling and Testing Data: MDPH Office of HIV/AIDS, Office of Research and Evaluation

<sup>i</sup> 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.

<sup>ii</sup> Centers for Disease Control and Prevention. HIV Surveillance Report, 2010; vol. 22. <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/>. Published March 2012. Accessed [6/15/2012].

<sup>iii</sup> 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. Reflects the health service region of a person's residence at the time of report (not necessarily current residence).

<sup>iv</sup> 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-seven percent of females living with HIV/AIDS and 40% 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.



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