HIV/AIDS Trends from 2000 to 2011

Every year, the number of people living with HIV/AIDS has increased annually as new HIV infection diagnoses continue to exceed the number of deaths among people reported with HIV/AIDS. Since 2000, there are more people living with HIV/AIDS in Massachusetts and fewer people being diagnosed with HIV infection. From 2000 to 2011, the number of people living with HIV/AIDS increased by 44%. During the same time period the number of HIV infection diagnoses decreased by 44% and the number of deaths among people reported with HIV/AIDS decreased by 41%.

General Statistics:

- As of December 31, 2012, a cumulative total of 31,384 individuals were diagnosed with HIV infection and reported in Massachusetts, with or without an AIDS diagnosis.
  - 41% (N=12,925) have died and 59% (N=18,459) are living with HIV/AIDS
  - As of December 31, 2012, there were 18,459 people living with HIV/AIDS who were diagnosed in Massachusetts. An additional 2,615 people living with HIV/AIDS in Massachusetts were first diagnosed in another state.
- Including estimates of Massachusetts residents infected with HIV who do not yet know their status, who have not been reported, or who were first reported in another state, there are 27,000 – 29,000 individuals currently living with HIV/AIDS in the Commonwealth.
  - An estimated 18% of people with HIV infection do not know their status

Who is most at risk of HIV infection?

Trends in HIV infection diagnoses from 2002 to 2011, the most recently available ten year period after the implementation of HIV infection reporting in 1999, are used to highlight populations at elevated risk of HIV infection. These trends, as well as the distribution of 1,979 people who were recently diagnosed with HIV infection within the three-year period 2009 to 2011, provide useful information for planning HIV prevention programs.

- The number of annual HIV diagnoses reported decreased by 37% from 1,043 in 2002 to 657 in 2011.
- From 2002 to 2011, the number of males diagnosed with HIV infection decreased by 33% (from 706 to 473) while the number of females diagnosed with HIV infection decreased by 45% (from 337 to 184).
- From 2002 to 2011, the number of white (non-Hispanic) individuals diagnosed with HIV infection decreased by 43% (from 402 to 231); the number of black (non-Hispanic) individuals decreased by 37% (from 368 to 231); the number of Hispanic/Latino individuals decreased by 44% (from 246 to 162); and the number Asian/Pacific Islanders increased by 14% (from 21 to 24).
The Massachusetts HIV/AIDS Epidemic at a Glance

- While the distribution of HIV infection diagnoses across gender, race/ethnicity and place of birth has remained fairly stable from 2002 to 2011, there has been a shift in the distribution of HIV infection diagnoses by exposure mode. The proportion of cases with injection drug use as the reported exposure mode decreased from 18% in 2002 to 8% in 2011 and the number of cases decreased by 71% (from 189 to 55).
- During the same time period, the proportion of all HIV infection diagnoses with male-to-male sex as an exposure mode increased from 30% to 38% and cases with undetermined exposure mode increased from 19% to 27%.
- Among individuals recently diagnosed with HIV infection (within the three-year period 2009 to 2011), male-to-male sex was the leading reported exposure mode, accounting for 41% of diagnoses, followed by people of undetermined risk (24%).

- The distribution of race/ethnicity among persons diagnosed with HIV infection within the years 2009 to 2011 was different among males and females. While 45% of males diagnosed with HIV infection within the years 2009 to 2011 were white (non-Hispanic), 52% of females diagnosed during this time period were black (non-Hispanic).
- Fifty-one percent of black (non-Hispanic) individuals diagnosed with HIV infection within the three-year period 2009 to 2011 were born outside the US, compared with 39% of Hispanic/Latino individuals and 8% of white (non-Hispanic) individuals. An additional 26% 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.

Who is currently living with HIV/AIDS?

- Forty-three percent of people living with HIV/AIDS in Massachusetts are white (non-Hispanic), 30% are black (non-Hispanic), 24% are Hispanic/Latino, 2% are Asian/Pacific Islander, and less than 1% are of other/undetermined race/ethnicity. Comparatively, black (non-Hispanic) individuals make up 6%, and Hispanic/Latino individuals 10% of the total Massachusetts population.
- Among males living with HIV/AIDS, 51% are white (non-Hispanic), 24% are black (non-Hispanic) and 23% are Hispanic/Latino.
Among females living with HIV/AIDS, 26% are white (non-Hispanic), 45% are black (non-Hispanic) and 27% are Hispanic/Latina.

Male-to-male sex and injection drug use are the leading reported exposure risks for HIV infection among all people living with HIV/AIDS, accounting for 36% and 20% of all exposures, respectively. iii

Who is experiencing differential impact from HIV/AIDS?

With age-adjusted prevalence rates of 1,354.3 and 914.3 cases per 100,000 population, black (non-Hispanic) and Hispanic/Latino populations are affected by HIV/AIDS at levels ten and seven times that of the white (non-Hispanic) population (134.7 per 100,000).

With age-adjusted prevalence rates of 1,623.4 and 1,327.5 cases per 100,000, black (non-Hispanic) and Hispanic/Latino males are affected by HIV/AIDS at levels seven and six times that of white (non-Hispanic) males (229.4 per 100,000).

With age-adjusted prevalence rates of 1,124.2 and 557.1 cases per 100,000, black (non-Hispanic) and Hispanic/Latina females are affected by HIV/AIDS at levels 25 and 12 times that of white (non-Hispanic) females (45.8 per 100,000).

Who is being concurrently diagnosed with HIV and AIDS?

“Concurrent diagnosis”, diagnosis with both HIV infection and AIDS within two months, likely occurs in people who have been infected for some time prior to learning of their status and are therefore late to access HIV-related care and treatment. As such, concurrently diagnosed individuals may not experience the full benefits of these services, including improved health, better quality of life, longer survival and reduction in the likelihood of transmitting HIV to others.

From 2009 to 2011, 626 people had AIDS when HIV infection was diagnosed (or were diagnosed with AIDS within two months), representing 32% of the 1,979 diagnoses of HIV infection during this time period.

Among people born outside the US who were diagnosed with HIV infection in Massachusetts between 2009 and 2011, 36% were concurrently diagnosed, compared to 30% of people born in the US and 27% of people born in Puerto Rico or other US dependencies.

Concurrent diagnosis appears to increase with age: the highest proportion of concurrent diagnosis was among people who were aged 60 years old and older at 61%, followed by 45% among people 55 to 59 years old, and 39% among people 45 to 54 years old.

Among all people diagnosed with HIV infection, those with undetermined HIV exposure mode have a higher proportion (41%) of concurrent diagnosis than people exposed through other modes.

The proportion of people concurrently diagnosed within the years 2009 and 2011 did not vary substantially by gender or race/ethnicity.

How have patterns of AIDS diagnoses changed over time?

After reaching a plateau of incidence approaching 900 new AIDS diagnoses each year from 1997 to 1999, reported AIDS incidence declined from 2000 to 2011, when 382 cases of AIDS were reported.

From 2002 to 2011, the proportion of newly diagnosed AIDS cases among white (non-Hispanic) individuals ranged from 34% to 43%. The proportion of AIDS cases among Hispanic/Latino individuals ranged from 23% to 27%. The proportion among black (non-Hispanic) individuals ranged from 30% to 38%.

For 12 years, from 1992 through 2003, the number of new AIDS diagnoses with injection drug use as the reported exposure mode surpassed the number of AIDS diagnoses with male-to-male sex as the reported exposure mode (625 MSM vs. 668 IDU in 1992 and 148 MSM vs. 175 IDU in 2003). From 2004 through 2011, the trend reversed with the number of new AIDS diagnoses with male-to-male sex exceeding the number of those with injection drug use (185 MSM vs. 170 IDU in 2004 and 118 MSM vs. 51 IDU in 2011).
Who is dying with HIV/AIDS and how has this changed over time?

- After reaching a peak of 1,156 in 1994, deaths among people reported with AIDS declined each year until 1998, when there were 320 deaths (data not shown). Deaths in people reported with HIV infection [non-AIDS] have not been available prior to 1999 because HIV infection was not a reportable condition before that time.

- In 2011, the annual number of deaths of people reported with HIV (non-AIDS) and AIDS declined to a low of 208.

- From 2002 to 2011, the proportion of deaths among males reported with HIV/AIDS ranged from 66% to 73%, and among females from 27% to 34%.

- From 2002 to 2011, the proportion of deaths among people reported with HIV/AIDS by race/ethnicity remained fairly stable with roughly half of deaths each year among white (non-Hispanic) individuals and roughly one quarter each among black (non-Hispanic) and Hispanic/Latino individuals.

- The proportion of deaths among people reported with HIV/AIDS, with a primary reported risk of injection drug use, decreased from 54% in 2002 to 42% in 2011 while the proportion in people with undetermined risk increased from 7% to 15%.

- From 2002 to 2011, the proportion of deaths among people reported with HIV/AIDS, with a primary reported risk of male-to-male sex, ranged from 15% to 22%; heterosexual sex (with partners of known risk and/or HIV status) ranged from 7% to 12%; presumed heterosexual sex (female reporting sex with male of unknown risk and HIV status) from 2% to 6%; and male-to-male sex and injection drug use (MSM/IDU) from 3% to 9%.

Data Sources

All HIV/AIDS Case Data: Massachusetts Department of Public Health (MDPH) HIV/AIDS Surveillance Program, Data as of 1/1/13

1. 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.


3. The category of presumed heterosexual is used exclusively for females, to define HIV exposure mode in cases when sex with males is the only reported risk factor for HIV infection.

4. People with HIV infection (non-AIDS) refers to those who were reported with an HIV infection diagnosis and did not progress to AIDS before death.