

Detailed Data Tables: Women at Risk

Recent changes to the presentation of Massachusetts HIV/AIDS surveillance data

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 that were first diagnosed in another state before being reported in Massachusetts. As of January 1, 2011, this resulted in the removal of 2,297 HIV/AIDS cases, of which 739 have died and 1,558 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.

Also 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 efficient, 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 cases among males in alignment with CDC standards. The MDPH maintains presumed heterosexual and heterosexual exposure mode categories for females.

Table 1. People diagnosed with HIV infection by gender: Massachusetts¹, 2007–2009²		
Gender:	N	%
Male	1,342	74%
Female	480	26%
Total	1,822	100%

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.
² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.
 Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); data as of 1/1/11

Table 2. People living with HIV/AIDS on December 31, 2010 by gender: Massachusetts¹		
	HIV/AIDS	
Gender:	N	%
Male	12,549	71%
Female	5,072	29%
Total	17,621	100%

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.
 Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); data as of 1/1/11

Table 3. People diagnosed with HIV infection by Health Service Region (HSR)¹ and gender: Massachusetts², 2007–2009³

Health Service Region:	Male		Female		Total
	N	%	N	%	N
Boston HSR	432	80%	107	20%	539
Central HSR	95	62%	58	38%	153
Metro West HSR	224	72%	85	28%	309
Northeast HSR	192	65%	103	35%	295
Southeast HSR	216	76%	67	24%	283
Western HSR	134	72%	52	28%	186
Prisons ⁴	48	86%	8	14%	56
Massachusetts Total	1,342	74%	480	26%	1,822

¹ Reflects the health service region of a person's residence at the time of report (not necessarily current residence). 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.

² 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 Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

⁴ HSRs are regions defined geographically to facilitate targeted health service planning. While prisons do not constitute an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. Prisons include only persons who were diagnosed with HIV/AIDS while in a correctional facility. These data do not reflect current incarceration status. Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 4. People living with HIV/AIDS on December 31, 2010 by Health Service Region (HSR)¹ and gender: Massachusetts²

Health Service Region	Male		Female		Total
	N	%	N	%	N
Boston HSR	4,295	76%	1,330	24%	5,625
Central HSR	953	62%	582	38%	1,535
Metro West HSR	1,761	72%	694	28%	2,455
Northeast HSR	1,771	66%	900	34%	2,671
Southeast HSR	1,714	71%	698	29%	2,412
Western HSR	1,232	62%	746	38%	1,978
Prison ³	821	87%	120	13%	941
Massachusetts Total⁴	12,549	71%	5,072	29%	17,621

¹ Reflects the health service region of a person's residence at the time of report (not necessarily current residence). 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.

² 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 HSRs are regions defined geographically to facilitate targeted health service planning. While prisons do not constitute an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. Prisons include only persons who were diagnosed with HIV/AIDS while in a correctional facility. These data do not reflect current incarceration status.

⁴ Mass. Total includes 4 people living with HIV/AIDS with unknown residence at time of report.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 5. Ten cities/towns¹ in Massachusetts² with the highest proportion of women among HIV infection diagnoses (HIV Dx): 2007–2009³

Rank	City/Town	Number of HIV Dx among women	Percent of Total HIV Dx
1	Lowell	21	46.7%
2	New Bedford	19	46.3%
3	Lawrence	23	45.1%
4	Holyoke	10	43.5%
5	Brockton	25	43.1%
6	Worcester	37	41.1%
7	Lynn	14	36.8%
8	Framingham	10	33.3%
9	Waltham	9	32.1%
10	Medford	7	31.8%
10	Quincy	7	31.8%

¹ Among cities/towns with over 20 reported HIV infection diagnoses in the years 2007–2009. Note: reflects the city/town of a person's residence at the time of report (not necessarily current residence). People diagnosed while at a correctional facility are not included.

² 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 Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999. Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); data as of 1/1/11

Table 6. People diagnosed with HIV infection by gender and race/ethnicity: Massachusetts¹, 2007–2009²

Race/Ethnicity:	Male		Female	
	N	%	N	%
White (non-Hispanic)	643	48%	100	21%
Black (non-Hispanic)	354	26%	241	50%
Hispanic/Latino	304	23%	129	27%
Asian/Pacific Islander	36	3%	8	2%
Other/Unknown	5	<1%	2	<1%
Total	1,342	100%	480	100%

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.

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); Data as of 1/1/11

Table 7. People living with HIV/AIDS on December 31, 2010 by gender and race/ethnicity: Massachusetts¹

Race/Ethnicity:	Male		Female	
	N	%	N	%
White (non-Hispanic)	6,448	51%	1,362	27%
Black (non-Hispanic)	2,935	23%	2,206	43%
Hispanic/Latino	2,921	23%	1,420	28%
Asian/Pacific Islander	192	2%	56	1%
Other/Unknown ²	53	<1%	28	1%
Total	12,549	100%	5,072	100%

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.

² Other/Unknown includes American Indian/Alaska Native and unknown race/ethnicity

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Explanation of age adjusted rates

A “rate” of a disease per 100,000 population is a useful way to compare groups that have substantially different population sizes rather than relying on the raw number of cases. For example, the number of people living with HIV/AIDS on December 31, 2010 who are Hispanic/Latino, is 4,341 whereas the number of people living with HIV/AIDS who are white (non-Hispanic) is 7,810. Although the *number* of people living with HIV/AIDS who are Hispanic/Latino in Massachusetts is smaller than the number of people living with HIV/AIDS who are white (non-Hispanic), we also need to consider that there are far fewer people of Hispanic/Latino heritage living in Massachusetts than white (non-Hispanic) individuals. Hispanic/Latino individuals represent 8% of the Massachusetts population compared to white (non-Hispanic) individuals who represent 81% of the population.¹ If HIV/AIDS had the same impact on the Hispanic/Latino population of the state as on the white (non-Hispanic), then there should be over 10 times as many cases in white (non-Hispanic) individuals, but there are less than twice as many. By calculating a rate which takes into consideration the differences in the population size, it is evident that the number of people living with HIV/AIDS for every 100,000 Hispanic/Latino individuals in Massachusetts is much higher than the rate for every 100,000 white (non-Hispanic) individuals. This is called a “crude rate” and is calculated by dividing the number of people living with HIV/AIDS by the population of interest (the total number of Hispanic/Latino individuals in Massachusetts, for example) and multiplying by 100,000. (See example 1.A below).

Example 1.A: Calculation of crude HIV/AIDS prevalence rate for white (non-Hispanic) individuals, Massachusetts (149.7 per 100,000)

$$\begin{aligned}
 \text{Crude HIV/AIDS prevalence rate for white (non-Hispanic) individuals} &= (\text{number of white (non-Hispanic) individuals living with HIV/AIDS} \div \text{population size of white (non-Hispanic) individuals}) \times 100,000 \\
 &= (7,810/5,215,472) \times 100,000 \\
 &= (.0014974675) \times 100,000 \\
 &= \mathbf{149.7}
 \end{aligned}$$

However, sometimes, in addition to the population size being different, the age composition of the populations is different. In Massachusetts, black (non-Hispanic) and Hispanic/Latino populations are generally younger than white (non-Hispanic). The median age of black (non-Hispanic) people (29.7 years) and Hispanic/Latino people (24.5 years) is younger than that of white (non-Hispanic) people (38.8 years). Therefore, it is necessary to “age-adjust” the HIV/AIDS prevalence rate to get a true comparison of the impact of the disease across racial/ethnic groups without an effect from the differences in age composition. Age-adjustment of rates minimizes the distortion created by differences in age composition.

¹ The denominators for prevalence calculations are based on Massachusetts Department of Public Health Modified Age, Race/Ethnicity, & Sex Estimates, 2005

Age-adjusted rates are calculated by weighting the age-specific rates for a given population by the age distribution of a standard population. The weighted age-specific rates are then added to produce the adjusted rate for all ages combined. (See example 1.B below).

Example 1.B: Calculation of age-adjusted HIV/AIDS prevalence rate for white (non-Hispanic) individuals, Massachusetts (136.1 per 100,000)

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>Age group (in years)</i>	<i># of prevalent HIV/AIDS cases</i>	<i>Population (2005)</i>	<i>2000 US standard population weight</i>	<i>Age-adjusted rate ((B÷CxD)×100,000)</i>
<1	0	57,670	0.013818	0.00
1-4	0	230,681	0.055317	0.00
5-14	10	614,485	0.145565	0.24
15-24	124	646,026	0.138646	2.66
25-34	549	636,970	0.135573	11.68
35-44	1927	823,238	0.162613	38.06
45-54	3494	818,844	0.134834	57.53
55-64	1400	601,053	0.087247	20.32
65-74	268	352,672	0.066037	5.02
75-84	37	299,510	0.044842	0.55
85+ years	1	134,323	0.015508	0.01
Total	7,810	5,215,472	1.000000	136.1

To see the effect of age-distribution on prevalence rates see Table 8 and 9 below for a comparison of crude and age-adjusted rates by race/ethnicity.

Table 8. Crude and age-adjusted rates of diagnosis of HIV infection per 100,000 population¹ by race/ethnicity and gender: Average annual rate 2007–2009², Massachusetts³		
State total:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic)	4.7	4.7
Black (non-Hispanic)	51.0	52.1
Hispanic/Latino	28.5	29.5
Asian/Pacific Islander	4.7	4.0
American Indian/Alaskan Native	9.1	8.3
Total rate	9.4	9.2
Males:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic) Males	8.5	8.3
Black (non-Hispanic) Males	62.6	64.8
Hispanic/Latino Males	40.1	42.3
Asian/Pacific Islander Males	7.8	6.8
American Indian/Alaskan Native Males	18.4	16.7
Total rate among males	14.3	13.9
Females:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic) Females	1.2	1.2
Black (non-Hispanic) Females	40.1	40.5
Hispanic/Latina Females	17.0	17.4
Asian/Pacific Islander Females	1.7	1.3
American Indian/Alaskan Native Females	0.0	0.0
Total rate among females	4.8	4.8
¹ The denominators are from the Massachusetts Department of Public Health Modified Age, Race/Ethnicity, & Sex Estimates 2005; all rates are age-adjusted using the 2000 US standard population. ² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999. ³ 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. Data Source: MDPH HIV/AIDS Surveillance Program; data as of 1/1/11		

Table 9. Crude and age-adjusted HIV/AIDS prevalence per 100,000 population¹ on December 31, 2010 by race/ethnicity and gender: Massachusetts²		
State Total:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic)	149.7	136.1
Black (non-Hispanic)	1,322.6	1,424.3
Hispanic/Latino	857.7	1,089.5
Asian/Pacific Islander	79.5	82.2
American Indian/Alaskan Native	163.0	149.6
Total prevalence	273.7	259.4
Males:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic) Males	256.0	229.9
Black (non-Hispanic) Males	1,556.6	1,747.2
Hispanic/Latino Males	1,155.2	1,560.8
Asian/Pacific Islander Males	125.2	130.2
American Indian/Alaskan Native Males	193.3	174.5
Total prevalence among males	402.1	378.0
Females:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic) Females	50.5	47.4
Black (non-Hispanic) Females	1,102.1	1,150.1
Hispanic/Latina Females	560.7	670.5
Asian/Pacific Islander Females	35.3	36.1
American Indian/Alaskan Native Females	133.6	125.2
Total prevalence among females	152.9	147.8
¹ The denominators are from the Massachusetts Department of Public Health Modified Age, Race/Ethnicity, & Sex Estimates 2005; all rates are age-adjusted using the 2000 US standard population. ² 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. Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 1/1/11		

Table 10. People diagnosed with HIV infection within the years 2007–2009¹ by gender and place of birth: Massachusetts²

Race/Ethnicity:	Male		Female	
	N	%	N	%
United States (US)	909	68%	205	43%
Puerto Rico/US Dependency ³	99	7%	52	11%
Non-US	334	25%	223	46%
Total	1,342	100%	480	100%

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

² 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 Ninety-nine percent of people diagnosed with HIV infection from 2007–2009 who were born in a US dependency were born in Puerto Rico, <1% were born in the US Virgin Islands and <1% were born in Guam.

Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 11. People living with HIV/AIDS on December 31, 2010 by gender and place of birth: Massachusetts¹

Place of Birth:	Male		Female	
	N	%	N	%
United States (US)	8,956	71%	2,812	55%
Puerto Rico/US Dependency ²	1,339	11%	652	13%
Non-US	2,254	18%	1,608	32%
Total	12,549	100%	5,072	100%

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.

² Ninety-six percent of people living with HIV/AIDS who were born in a US Dependency were born in Puerto Rico, <1% were born in the US Virgin Islands, and 3% were born in an unknown dependency.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 12. Females diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts¹ 2000–2009²

	US		Puerto Rico/ US Dependency ³		Non-US		Total
	N	%	N	%	N	%	
2000	189	53%	39	11%	132	37%	360
2001	161	54%	30	10%	108	36%	299
2002	156	46%	34	10%	151	44%	341
2003	131	43%	41	14%	130	43%	302
2004	114	42%	37	14%	121	44%	272
2005	98	42%	24	10%	111	48%	233
2006	104	49%	17	8%	90	43%	211
2007	80	45%	17	9%	82	46%	179
2008	65	40%	20	12%	76	47%	161
2009	60	43%	15	11%	65	46%	140

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.

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

³ Ninety-seven percent of all people diagnosed with HIV infection in MA who were born in a US dependency were born in Puerto Rico, 1% were born in the US Virgin Islands, <1% were born in American Samoa, <1% were born in Guam and 3% were born in an unknown dependency.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 13. People diagnosed with HIV infection by gender and exposure mode: Massachusetts¹, 2007–2009²				
Exposure Mode:	Male		Female	
	N	%	N	%
Male-to-male sex (MSM)	744	55%	N/A	N/A
Injection drug use (IDU)	108	8%	64	13%
MSM/IDU	58	4%	N/A	N/A
Heterosexual sex	70	5%	144	30%
Other	7	1%	3	1%
Total undetermined/other	355	26%	269	56%
• Presumed Heterosexual Sex ³	N/A	N/A	198	41%
• Undetermined ⁴	355	26%	71	15%
Total	1,342	100%	480	100%

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.

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

³ Includes female sex with male of unknown HIV status or risk. This category is limited to females.

⁴ Includes male sex with female of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

N/A = Not Applicable
Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Note: The category of “presumed heterosexual” is used in Massachusetts to re-assign females who are reported with an exposure of heterosexual sex, but only with a partner of unknown HIV status or behavioral risk. Massachusetts uses the category of presumed heterosexual to distinguish these female cases from other undetermined cases about which we know less. Prior to January 1, 2011, the presumed heterosexual category was also used to report HIV data in males. The rationale for the application of the presumed heterosexual exposure mode category to females only has been addressed in the MDPH OHA report “Intersecting Risks: HIV Infection among Heterosexual Women and Men in Massachusetts.” (2010) http://www.mass.gov/Eeohhs2/docs/dph/aids/intersecting_risks.pdf. Nationally, the Centers for Disease Control and Prevention categorize “presumed heterosexual” cases as “no identified risk” (NIR). As such, comparisons of the presumed heterosexual category cannot be made to national data. Caution should be used in interpreting data for presumed heterosexual, as it is still not clear what the exposure risk was for females in this category. Although a person may not report other risk behaviors, such as injection drug use to a health care provider, it does not exclude the possibility that an individual has experienced these other risks. There are many barriers to disclosing HIV risk behaviors in the health care setting such as a limited patient-provider relationship or stigma.

Table 14. People living with HIV/AIDS on December 31, 2010 by gender and exposure mode: Massachusetts¹

Exposure Mode:	Male		Female	
	N	%	N	%
Male-to-male sex (MSM)	6,252	50%	N/A	N/A
Injection drug use (IDU)	2,620	21%	1,300	26%
MSM/IDU	575	5%	N/A	N/A
Heterosexual sex	736	6%	1,741	34%
Other	231	2%	181	4%
Total undetermined/other	2,135	17%	1,850	36%
• Presumed heterosexual sex ²	N/A	N/A	1,490	29%
• Undetermined ³	2,135	17%	360	7%
Total	12,549	100%	5,072	100%

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.

² Includes female sex with male of unknown HIV status or risk. This category is limited to females.

³ Includes male sex with female of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

N/A=Not Applicable

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 15. Females diagnosed with HIV infection by race/ethnicity¹ and exposure mode: Massachusetts², 2007–2009³

Exposure Mode:	White NH		Black NH		Hispanic/Latina	
	N	%	N	%	N	%
Injection drug use	33	33%	7	3%	24	19%
Heterosexual sex	29	29%	66	27%	47	36%
Other	0	0%	3	1%	0	0%
Total undetermined/other	38	38%	165	68%	58	45%
• Presumed heterosexual sex ⁴	28	28%	127	53%	38	29%
• Undetermined ⁵	10	10%	38	16%	20	16%
Total	100	100%	241	100%	129	100%

¹ Data for Asian/Pacific Islander, American Indian/Alaska Native and Other/Unknown race/ethnicity are not presented due to small numbers.

² 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 Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

⁴ Includes female sex with male of unknown HIV status or risk. This category is limited to females.

⁵ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up.

NH = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 16. Females living with HIV/AIDS on December 31, 2010 by race/ethnicity¹ and exposure mode: Massachusetts²

Exposure Mode:	White NH		Black NH		Hispanic/ Latina		API	
	N	%	N	%	N	%	N	%
Injection drug use	612	45%	301	14%	379	27%	2	4%
Heterosexual sex	413	30%	701	32%	595	42%	21	38%
Other	47	3%	75	3%	55	4%	3	5%
Total undetermined/other	290	21%	1,129	51%	391	28%	30	54%
• Pres. HTSX ³	218	16%	949	43%	299	21%	18	32%
• Undetermined ⁴	72	5%	180	8%	92	6%	12	21%
Total	1,362	100%	2,206	100%	1,420	100%	56	100%

¹ Data for American Indian/Alaska Native and Other/Unknown race/ethnicity are not presented due to small numbers.

² 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 Includes female sex with male of unknown HIV status or risk. This category is limited to females.

⁴ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up.

NH = Non-Hispanic, API = Asian/Pacific Islander, Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/11

Table 17. People diagnosed with HIV infection by gender and age at HIV diagnosis: Massachusetts¹, 2007–2009²

Age (years):	Males		Females	
	N	%	N	%
Under 13	6	<1%	3	1%
13 to 19	22	2%	13	3%
20 to 24	131	10%	30	6%
25 to 29	165	12%	55	11%
30 to 34	159	12%	79	16%
35 to 39	188	14%	67	14%
40 to 44	211	16%	76	16%
45 to 49	219	16%	62	13%
50 to 54	125	9%	42	9%
55 to 59	58	4%	29	6%
60+	58	4%	24	5%
Total	1342	100%	480	100%

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.

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); data as of 1/1/11

Technical Notes:

Tables 18 includes data reported by Massachusetts residents through anonymous telephone interviews from 2008 to 2009. This ongoing random-digit-dial telephone survey, the Behavioral Risk Factor Surveillance System (BRFSS), covers a broad range of topic areas (including risk related to sexual activity) and is part of a CDC-funded national survey program.

Table 18. Number of sexual partners in the past year¹, female BRFSS respondents ages 18–64 Massachusetts, 2008–2009				
	0 Partners	1 Partner	2+ Partners	N²
Total Females	19%	77%	4%	4,537
Age in Years:	0 Partners	1 Partner	2+ Partners	N
18–24	26.3%	59.7%	14.0%	215
25–34	9.6%	85.6%	4.8%	610
35–44	6.9%	91.4%	1.7%	1,044
45–64	26.5%	72.1%	1.4%	2,617
Race/Ethnicity³:	0 Partners	1 Partner	2+ Partners	N
White (non-Hispanic)	17.6%	78.0%	4.4%	3,553
Black (non-Hispanic)	24.9%	68.8%	6.3%	268
Hispanic/Latina	25.1%	71.5%	3.3%	549
Sex of Partner⁴:	0 Partners	1 Partner	2+ Partners	N
Same sex	Not Applicable	92.1%	7.9%	89
Opposite sex	Not Applicable	95.3%	4.7%	3,164
¹ “Number of sexual partners in past year” is a state-added question administered to a sub-sample of BRFSS respondents and represents the number of people a respondent reports having sex with. Sex was defined by the interviewer as including oral, vaginal, or anal sex. ² Only respondents with known values are included in this table. Column sub-totals may not equal overall total due to missing values. ³ Data for Asian respondents is not presented due to small numbers. ⁴ Only asked of adults reporting sex (including oral, vaginal, or anal sex) in the past year Data source: Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 2008–2009				

Technical Notes:

Tables 19–21 include data reported by students in randomly selected Massachusetts public high schools every odd year from 1993 to 2009. This anonymous survey, the Youth Risk Behavior Survey (YRBS), is administered by the Massachusetts Department of Elementary and Secondary Education in collaboration with the Centers for Disease Control and Prevention and focuses on risk behaviors that may affect the health and/or safety of high school students.

Table 19. Sexual behavior as reported among female respondents to the Youth Risk Behavior Survey: Massachusetts, 2009		
By Behavior:	Percent of total responding yes to specified question	N¹ (total number of respondents for each question)
Ever had sexual intercourse	44.6%	1,251
Sexual intercourse before age 13	3.0%	1,253
4 or more lifetime sexual intercourse partners	10.6%	1,251
Sexual intercourse in last 3 months	36.0%	1,255
Condom used at last intercourse ²	50.6%	437
Alcohol/drugs used at last intercourse ²	20.0%	437
Ever been, gotten someone pregnant	5.1%	1,317
Ever had sexual contact against their will	15.5%	1,315

¹ The number of respondents for each question varies because some survey participants do not provide an answer
² Among females reporting sexual intercourse in the past three months
 Data Source: Massachusetts Department of Elementary and Secondary Education

Table 20. Percentage of Massachusetts Youth Risk Behavior Survey respondents reporting condom use at last sexual intercourse by year and gender: Massachusetts, 1993–2009¹

Year	Males		Females		<u>Total</u> Males + Females	
	%	Total N ²	%	Total N ²	%	Total N ²
1993	57.4%	409	46.7%	462	51.8%	872
1995	59.9%	623	52.0%	626	55.9%	1,253
1997	64.2%	517	50.4%	559	57.0%	1,079
1999	62.6%	589	52.0%	639	57.2%	1,237
2001	61.6%	553	54.9%	582	58.1%	1,139
2003	60.3%	424	57.4%	496	57.4%	922
2005	71.6%	442	59.2%	542	65.0%	986
2007	63.2%	422	59.2%	505	61.1%	929
2009	65.7%	409	50.6%	437	57.5%	849

¹ A random sample of high schools is selected for participation each year, data presented do not represent cohorts followed over time

² Total N = total number of respondents by sex. The number of respondents for each question varies from year to year

Data Source: Massachusetts Department of Elementary and Secondary Education

Table 21. Massachusetts Youth Risk Behavior Survey respondents reporting sexual intercourse (ever) by year and gender: Massachusetts, 1993–2009¹

Year	Males		Females		<u>Total</u> Males + Females	
	%	Total N ²	%	Total N ²	%	Total N ²
1993	51.4%	1,326	46.0%	1,435	48.7%	2,763
1995	50.3%	1,870	42.8%	1,930	46.5%	3,806
1997	46.8%	1,800	42.4%	1,858	44.7%	3,664
1999	46.4%	1,922	41.8%	2,017	44.1%	3,954
2001	46.3%	1,886	42.3%	1,892	44.3%	3,786
2003	40.8%	1,581	41.1%	1,676	41.0%	3,261
2005	47.9%	1,512	42.9%	1,669	45.4%	3,185
2007	45.2%	1,344	43.7%	1,495	44.4%	2,844
2009	48.0%	1,225	44.6%	1,251	46.4%	2,480

¹ A random sample of high schools is selected for participation each year, data presented do not represent cohorts followed over time

² Total N = total number of respondents by sex (unweighted). The number of respondents for each question varies from year to year

Data Source: Massachusetts Department of Elementary and Secondary Education

Table 22. Total reported AIDS cases by gender and year of diagnosis: Massachusetts¹, selected years, 1985–2009

Year of diagnosis:	Male		Female		Total
	N	%	N	%	
1985	202	90%	23	10%	225
1990	859	82%	191	18%	1,050
1995	1001	76%	323	24%	1,324
2000	532	71%	222	29%	754
2001	465	68%	221	32%	686
2002	458	68%	212	32%	670
2003	382	66%	193	34%	575
2004	441	69%	200	31%	641
2005	455	72%	181	28%	636
2006	418	71%	174	29%	592
2007	324	67%	160	33%	484
2008	275	72%	106	28%	381
2009	243	71%	97	29%	340

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.

Data Source MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); data as of 1/1/11

Table 23. Deaths among persons reported with AIDS by gender and year of death: Massachusetts¹, selected years, 1985–2009

Year of death	Male		Female		Total
	N	%	N	%	N
1985	106	90%	12	10%	118
1990	543	88%	74	12%	617
1995	903	80%	230	20%	1,133
2000	232	74%	80	26%	312
2001	253	71%	103	29%	356
2002	221	71%	89	29%	310
2003	218	69%	100	31%	318
2004	221	74%	76	26%	297
2005	189	70%	80	30%	269
2006	196	72%	77	28%	273
2007	166	71%	68	29%	234
2008	150	72%	57	28%	207
2009	119	68%	56	32%	175

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.

Data Source MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); data as of 1/1/11