

The Massachusetts HIV/AIDS Epidemic at a Glance – Detailed Data Tables and Technical Notes:

Technical Notes:

Estimated Total Number of People Living with HIV/AIDS:

The U.S. Centers for Disease Control and Prevention (CDC) estimates that 21% of HIV infected persons nationwide do not know they are infected¹ (previous editions of the Epidemiologic Profile estimated that about one-third of HIV-infected persons either did not know they were infected or were not in care). Applying the national estimate to the number of people living with HIV/AIDS in Massachusetts reported to the HIV/AIDS Surveillance Program (N = 18,045 as of December 31, 2009), and adjusting for completeness of reporting, would yield an estimated 5,643 people who are infected with HIV and do not know it, and 3,184 who know their status but have not been reported. Therefore, the estimated total number of people currently living with HIV/AIDS in Massachusetts, including people known to the surveillance system as well as those yet to be identified, is in the range of 25,000–27,000 people.

Please note that previous editions of the Epidemiologic Profile presented people living with HIV/AIDS as of December 31 whereas this edition presents people living with HIV/AIDS as of November 1 due to the timing of this release. Future editions will return to presenting people living with HIV/AIDS as of December 31.

Caveats of the data

While trends in diagnosis of HIV infection are our best indicator for those who are most at risk of HIV infection, HIV surveillance reflects the incidence of diagnoses among people who are in care and not the actual incidence of new infections. Like AIDS diagnoses, HIV infection diagnoses are not a direct measure of incidence of infection itself. People may be living with HIV infection for many years prior to being tested and seeking care, at which point the case is considered a “diagnosis” and reported to the MDPH HIV/AIDS Surveillance Program. Furthermore, as with early data for AIDS cases, the data from the first few years of a new reporting system can be unstable, and caution should be used in interpretation. During the time a reporting system is in its infancy, there is a greater likelihood that fluctuations in data are attributable to reporting patterns and clinician education efforts rather than actual changes in disease incidence.

Additionally, one must consider the effects of reporting lag when reviewing the 2008 HIV infection diagnoses. As Massachusetts providers who report HIV diagnoses are still transitioning as of January 1, 2007 from code to name-based reporting requirements, the 2008 HIV diagnosis data are less complete than one would typically expect by December 31, 2009. Although Massachusetts regulations require providers to submit HIV case reports in a timely fashion, many 2008 HIV infection diagnoses will be

¹ Centers for Disease Control and Prevention. HIV Prevalence Estimates — United States, 2006. MMWR 2008;57:1073-1076.

reported to the surveillance program after the release of this Epidemiologic Profile. Thus, the 2008 HIV data presented in this report may represent an undercount. Therefore, although the data that follow report a substantial decline in the number of HIV infection diagnoses in the past year, it is possible that the true incidence of HIV infection diagnosis has declined only slightly. Studies have suggested that the distribution of HIV infection diagnoses by race/ethnicity, gender and exposure mode for cases reported more than 6 months after diagnosis was not substantially different than the distribution of HIV cases reported within 6 months. However, implementation of the new reporting system in 2007 may have led to differential reporting within these categories as providers serving various populations reported at different rates at the beginning of the new reporting system.

Table 1. People living with HIV/AIDS¹, deaths among people reported with HIV/AIDS, and newly diagnosed HIV infections by year²: 1999–2008³, Massachusetts

Year	HIV/AIDS Prevalence	Deaths among those with HIV/AIDS	Diagnosis of HIV Infection
1999	12,532	398	1,369
2000	13,393	376	1,237
2001	14,008	423	1,038
2002	14,736	379	1,107
2003	15,342	397	1,003
2004	15,999	330	987
2005	16,596	303	900
2006	17,085	294	784
2007	17,441	261	617
2008	17,754	250	563

¹ Number of People living with HIV/AIDS on 12/31 of each year

² Reflects year of diagnosis for HIV infection among all individuals reported with HIV infection, with or without an AIDS diagnosis

Data source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/10

Table 2. Total number of people reported with HIV infection or AIDS¹ by mortality status on December 31, 2009: Massachusetts

	N	%
People Living with HIV/AIDS	18,045	59%
People Reported with HIV or AIDS Who Are Deceased	12,492	41%
Total Number of People Reported with HIV Infection or AIDS	30,537	100%

¹ Does not include individuals diagnosed with HIV infection (non-AIDS) who died prior to January 1, 1999 or who were not in care on January 1, 1999

Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/10

Who is currently living with HIV/AIDS in Massachusetts?

Table 3. People living with HIV/AIDS on December 31, 2009 by gender, race/ethnicity, place of birth and health service region: Massachusetts		
People Living with HIV/AIDS on 12/31/09		
Gender:	N	%
Male	12,878	71%
Female	5,167	29%
Race/Ethnicity:	N	%
White (non-Hispanic)	8,024	44%
Black (non-Hispanic)	5,143	29%
Hispanic	4,544	25%
Asian/Pacific Islander	246	1%
Other/Unknown	88	<1%
Place of Birth:	N	%
US	12,132	67%
Puerto Rico/US Dependency ¹	2,170	12%
Non-US	3,743	21%
Health Service Region (HSR)²:	N	%
Boston HSR	5,786	32%
Central HSR	1,621	9%
Metro West HSR	2,428	13%
Northeast HSR	2,659	15%
Southeast HSR	2,470	14%
Western HSR	2,118	12%
Prison ³	953	5%
Total⁴	18,045	100%
¹ 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 ² 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 ³ HSRs are regions defined geographically to facilitate targeted health service planning. While prisons are not an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. The prisons category represents persons who were diagnosed with HIV/AIDS while in a correctional facility ⁴ Total includes 10 people living with HIV/AIDS with unknown HSR; Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10		

Table 4. People living with HIV/AIDS on December 31, 2009 by exposure mode: Massachusetts

People Living with HIV/AIDS on 12/31/09		
Exposure Mode:	N	%
Male-to-male sex (MSM)	6,316	35%
Injection Drug Use (IDU)	4,285	24%
MSM/IDU	608	3%
Receipt of Blood/Blood products	99	1%
Pediatric	334	2%
Total Heterosexual Sex (HTSX)	2,478	14%
• HTSX w/ an Injection Drug User	954	5%
• HTSX w/ Bisexual male	48	<1%
• HTSX w/ a person w/ HIV or AIDS	1,450	8%
• Other HTSX ¹	26	<1%
Total Undetermined/Other	3,925	22%
• Presumed Heterosexual Sex ²	2,815	16%
• Undetermined/Other ³	1,110	6%
Total	18,045	100%

¹ Includes heterosexual sex with a person who received blood/blood products

² Heterosexual sex with a partner of unknown HIV status or risk

³ Includes those still being followed up for risk information, those who have died with no determined risk, those lost to follow-up, and those with confirmed occupational exposure

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Note: The category of “presumed heterosexual sex” is used in Massachusetts to re-assign people who are reported with no identified risk, but do report heterosexual sex with a partner of unknown HIV status or risk. Massachusetts uses this category to distinguish these cases from other undetermined cases about which we know less. (It should also be noted that, to be classified in the risk category male-to-male sex (MSM), all that is required is one or more sexual contacts with a man since 1977 regardless of that partner(s) infection or risk status.) Nationally, the Centers for Disease Control and Prevention categorizes “presumed heterosexual sex” 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 is for people in this category. Although a person may not report other risk behaviors such as injection drug use or male-to-male sex to his/her health care provider, it does not necessarily mean that he/she has not engaged in these behaviors. There are many barriers to disclosing HIV risk behaviors in the health care setting such as a limited patient-provider relationship or stigma.

Table 5. People living with HIV/AIDS on December 31, 2009 by gender and race/ethnicity: Massachusetts

Race/Ethnicity:	Male		Female	
	N	%	N	%
White Non-Hispanic	6,595	51%	1,429	28%
Black Non-Hispanic	2,962	23%	2,181	42%
Hispanic	3,077	24%	1,467	28%
Asian/Pacific Islander	188	1%	58	1%
Other/Unknown	56	<1%	32	1%
Total	12,878	100%	5,167	100%

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Who is experiencing differential impact from HIV/AIDS?

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, 2009 who are Hispanic, is 4,544 whereas the number of people living with HIV/AIDS who are white (non-Hispanic) is 8,024. Although the *number* of people living with HIV/AIDS who are Hispanic 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 heritage living in Massachusetts than white (non-Hispanic) individuals. Hispanic individuals represent 6% of the Massachusetts population compared to white (non-Hispanic) individuals who represent 82% of the population². So, if HIV/AIDS had the same impact on the Hispanic population of the state as on the white (non-Hispanic), then there should be almost 12 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 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 individuals in Massachusetts, for example) and multiplying by 100,000. (See example 1.A below).

² The denominators for prevalence calculations are based on year 2000 population estimates from the MDPH Bureau of Health Statistics, Research and Evaluation

Example 1.A: Calculation of crude HIV/AIDS prevalence rate for white (non-Hispanic) individuals, Massachusetts (150.6 per 100,000)

$$\begin{aligned} \text{Crude HIV/AIDS prevalence rate for white (non-Hispanic) individuals} &= (\text{number of white (non-Hispanic) individuals living with HIV/AIDS} \div \text{population size of white (non-Hispanic) individuals}) \times 100,000 \\ &= (8,024/5,326,585) \times 100,000 \\ &= (.001506406) \times 100,000 \\ &= \mathbf{150.6} \end{aligned}$$

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 populations are generally younger than white (non-Hispanic). The median age of black (non-Hispanic) people (29.7 years) and Hispanic 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.

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 (142.3 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 (2000)</i>	<i>2000 US standard population weight</i>	<i>Age-adjusted rate ((B÷CxD)×100,000)</i>
<1	0	61,381	0.013818	0.00
1-4	0	245,562	0.055317	0.00
5-14	13	675,388	0.145565	0.28
15-24	98	634,387	0.138646	2.14
25-34	523	734,417	0.135573	9.65
35-44	2045	902,498	0.162613	36.85
45-54	3633	771,970	0.134834	63.45
55-64	1403	491,985	0.087247	24.88
65-74	268	396,458	0.066037	4.46
75-84	39	300,442	0.044842	0.58
85+ years	2	112,097	0.015508	0.03
Total				142.3

To see the effect of age-distribution on prevalence rates see Table 6 below for a comparison of crude and age-adjusted rates by race/ethnicity.

Table 6. Crude and age-adjusted HIV/AIDS prevalence per 100,000 population on December 31, 2009 by race/ethnicity and gender: Massachusetts		
State Total:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic)	150.6	142.3
Black (non-Hispanic)	1,528.1	1,718.0
Hispanic	1,059.9	1,511.7
Asian/Pacific Islander	100.1	111.6
American Indian/Alaskan Native	235.0	222.6
Total prevalence	281.6	278.7
Males:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic) Males	257.8	240.8
Black (non-Hispanic) Males	1,826.2	2,176.5
Hispanic Males	1,453.5	2,214.2
Asian/Pacific Islander Males	155.8	175.9
American Indian/Alaskan Native Males	262.4	248.5
Total prevalence among males	416.7	411.1
Females:	Crude rate per 100,000	Age-adjusted rate per 100,000
White (non-Hispanic) Females	51.6	49.8
Black (non-Hispanic) Females	1,250.9	1,337.7
Hispanic Females	675.9	901.7
Asian/Pacific Islander Females	46.4	49.9
American Indian/Alaskan Native Females	207.8	197.2
Total prevalence among females	156.0	155.2
¹ The denominators for prevalence calculations are based on year 2000 population estimates from the MDPH Bureau of Health Statistics, Research and Evaluation Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 1/1/10		

Who is most at risk of HIV infection and how has this changed over time?

Table 7. People diagnosed with HIV infection by gender and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	Male		Female		Total
	N	%	N	%	
< 1999	15,905	77%	4,721	23%	20,626
1999	948	69%	421	31%	1,369
2000	863	70%	374	30%	1,237
2001	732	71%	306	29%	1,038
2002	753	68%	354	32%	1,107
2003	685	68%	318	32%	1,003
2004	692	70%	295	30%	987
2005	658	73%	242	27%	900
2006	563	72%	221	28%	784
2007	447	72%	170	28%	617
2008	417	74%	146	26%	563

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis
Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 8. People diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	White NH		Black NH		Hispanic		API		Other/Und.		Total N
	N	%	N	%	N	%	N	%	N	%	
< 1999	11347	55%	4824	23%	4295	21%	102	<1%	58	<1%	20,626
1999	579	42%	408	30%	353	26%	20	1%	9	1%	1,369
2000	477	39%	428	35%	298	24%	28	2%	6	<1%	1,237
2001	429	41%	330	32%	251	24%	25	2%	3	<1%	1,038
2002	426	38%	388	35%	261	24%	24	2%	8	1%	1,107
2003	400	40%	337	34%	243	24%	15	1%	8	1%	1,003
2004	376	38%	326	33%	261	26%	15	2%	9	1%	987
2005	351	39%	299	33%	231	26%	16	2%	3	<1%	900
2006	328	42%	237	30%	202	26%	14	2%	3	<1%	784
2007	253	41%	191	31%	161	26%	12	2%	0	0%	617
2008	235	42%	179	32%	127	23%	19	3%	3	1%	563

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis
NH = Non-Hispanic, API = Asian/Pacific Islander, Other/Und. = Other/Undetermined
Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 9. Males diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	White NH		Black NH		Hispanic		API		Other/Und.		Total
	N	%	N	%	N	%	N	%	N	%	N
< 1999	9,549	60%	3,211	20%	3,021	19%	85	1%	39	<1%	15,905
1999	455	48%	242	26%	236	25%	12	1%	3	<1%	948
2000	392	45%	240	28%	200	23%	26	3%	5	1%	863
2001	352	48%	181	25%	176	24%	20	3%	3	<1%	732
2002	351	47%	206	27%	175	23%	16	2%	5	1%	753
2003	337	49%	178	26%	154	22%	11	2%	5	1%	685
2004	330	48%	176	25%	169	24%	11	2%	6	1%	692
2005	309	47%	169	26%	165	25%	13	2%	2	<1%	658
2006	282	50%	121	21%	147	26%	11	2%	2	<1%	563
2007	211	47%	112	25%	116	26%	8	2%	0	0%	447
2008	208	50%	102	24%	88	21%	16	4%	3	1%	417

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis
 NH = Non-Hispanic, API = Asian/Pacific Islander, Other/Und. = Other/Undetermined
 Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 10. Females diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	White NH		Black NH		Hispanic		API		Other/Und.		Total
	N	%	N	%	N	%	N	%	N	%	N
< 1999	1,798	38%	1,613	34%	1,274	27%	17	<1%	19	<1%	4,721
1999	124	29%	166	39%	117	28%	8	2%	6	1%	421
2000	85	23%	188	50%	98	26%	2	1%	1	<1%	374
2001	77	25%	149	49%	75	25%	5	2%	0	0%	306
2002	75	21%	182	51%	86	24%	8	2%	3	1%	354
2003	63	20%	159	50%	89	28%	4	1%	3	1%	318
2004	46	16%	150	51%	92	31%	4	1%	3	1%	295
2005	42	17%	130	54%	66	27%	3	1%	1	<1%	242
2006	46	21%	116	52%	55	25%	3	1%	1	<1%	221
2007	42	25%	79	46%	45	26%	4	2%	0	0%	170
2008	27	18%	77	53%	39	27%	3	2%	0	0%	146

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis
 NH = Non-Hispanic, API = Asian/Pacific Islander, Other/Und. = Other/Undetermined
 Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 11. People diagnosed with HIV infection by exposure mode and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	MSM		IDU		MSM/ IDU		HTSX		Other		Pres. HTSX ²		Undeter- mined ³		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	7,676	37%	7,235	35%	893	4%	2,082	10%	775	4%	1,228	6%	737	4%	20,626
1999	385	28%	402	29%	48	4%	211	15%	22	2%	239	17%	62	5%	1,369
2000	369	30%	271	22%	30	2%	205	17%	21	2%	260	21%	81	7%	1,237
2001	322	31%	211	20%	32	3%	176	17%	14	1%	203	20%	80	8%	1,038
2002	346	31%	202	18%	25	2%	189	17%	7	1%	251	23%	87	8%	1,107
2003	340	34%	160	16%	28	3%	128	13%	14	1%	226	23%	107	11%	1,003
2004	321	33%	160	16%	22	2%	129	13%	12	1%	235	24%	108	11%	987
2005	336	37%	131	15%	23	3%	101	11%	4	<1%	204	23%	101	11%	900
2006	322	41%	96	12%	13	2%	81	10%	5	1%	188	24%	79	10%	784
2007	225	36%	87	14%	20	3%	54	9%	4	1%	140	23%	87	14%	617
2008	239	42%	54	10%	23	4%	61	11%	1	<1%	120	21%	65	12%	563

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² Heterosexual sex with partners with unknown risk and HIV status

³ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; 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 1/1/10

Table 12. Males diagnosed with HIV infection by exposure mode and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	MSM		IDU		MSM/ IDU		HTSX		Other		Pres. HTSX ²		Undeter- mined ³		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	7,676	48%	5,062	32%	893	6%	563	4%	488	3%	655	4%	568	4%	15,905
1999	385	41%	274	29%	48	5%	71	7%	14	1%	113	12%	43	5%	948
2000	369	43%	188	22%	30	3%	68	8%	13	2%	129	15%	66	8%	863
2001	322	44%	150	20%	32	4%	74	10%	5	1%	101	14%	48	7%	732
2002	346	46%	145	19%	25	3%	58	8%	5	1%	125	17%	49	7%	753
2003	340	50%	110	16%	28	4%	46	7%	10	1%	88	13%	63	9%	685
2004	321	46%	109	16%	22	3%	48	7%	4	1%	112	16%	76	11%	692
2005	336	51%	97	15%	23	3%	32	5%	0	0%	104	16%	66	10%	658
2006	322	57%	57	10%	13	2%	35	6%	2	<1%	80	14%	54	10%	563
2007	225	50%	58	13%	20	4%	18	4%	2	<1%	64	14%	60	13%	447
2008	239	57%	35	8%	23	6%	20	5%	1	<1%	54	13%	45	11%	417

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² Heterosexual sex with partners with unknown risk and HIV status

³ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; 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 1/1/10

Table 13. Females diagnosed with HIV infection by exposure mode and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	IDU		HTSX		Other		Pres. HTSX ²		Undeter- mined ³		Total N
	N	%	N	%	N	%	N	%	N	%	
<1999	2,173	46%	1,519	32%	287	6%	573	12%	169	4%	4,721
1999	128	30%	140	33%	8	2%	126	30%	19	5%	421
2000	83	22%	137	37%	8	2%	131	35%	15	4%	374
2001	61	20%	102	33%	9	3%	102	33%	32	10%	306
2002	57	16%	131	37%	2	1%	126	36%	38	11%	354
2003	50	16%	82	26%	4	1%	138	43%	44	14%	318
2004	51	17%	81	27%	8	3%	123	42%	32	11%	295
2005	34	14%	69	29%	4	2%	100	41%	35	14%	242
2006	39	18%	46	21%	3	1%	108	49%	25	11%	221
2007	29	17%	36	21%	2	1%	76	45%	27	16%	170
2008	19	13%	41	28%	0	0%	66	45%	20	14%	146

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² Heterosexual sex with partners with unknown risk and HIV status

³ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up

IDU = Injection Drug Use; HTSX = Heterosexual Sex; 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 1/1/10

Table 14. People diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	US		Puerto Rico/ US Dependency ²		Non-US		Total
	N	%	N	%	N	%	
< 1999	15,908	77%	2,605	13%	2,113	10%	20,626
1999	935	68%	185	14%	249	18%	1,369
2000	783	63%	140	11%	314	25%	1,237
2001	639	62%	119	11%	280	27%	1,038
2002	655	59%	105	9%	347	31%	1,107
2003	625	62%	97	10%	281	28%	1,003
2004	611	62%	107	11%	269	27%	987
2005	531	59%	90	10%	279	31%	900
2006	490	63%	65	8%	229	29%	784
2007	372	60%	56	9%	189	31%	617
2008	349	62%	51	9%	163	29%	563

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² 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 1/1/10

Table 15. Males diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	US		Puerto Rico/ US Dependency ²		Non-US		Total
	N	%	N	%	N	%	
< 1999	12,584	79%	1,858	12%	1,463	9%	15,905
1999	685	72%	129	14%	134	14%	948
2000	583	68%	99	11%	181	21%	863
2001	477	65%	84	11%	171	23%	732
2002	491	65%	69	9%	193	26%	753
2003	484	71%	55	8%	146	21%	685
2004	487	70%	65	9%	140	20%	692
2005	431	66%	64	10%	163	25%	658
2006	382	68%	47	8%	134	24%	563
2007	294	66%	39	9%	114	26%	447
2008	292	70%	30	7%	95	23%	417

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² 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 1/1/10

Table 16. Females diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts, before 1999, 1999–2008¹

	US		Puerto Rico/ US Dependency ²		Non-US		Total
	N	%	N	%	N	%	
< 1999	3,324	70%	747	16%	650	14%	4,721
1999	250	59%	56	13%	115	27%	421
2000	200	53%	41	11%	133	36%	374
2001	162	53%	35	11%	109	36%	306
2002	164	46%	36	10%	154	44%	354
2003	141	44%	42	13%	135	42%	318
2004	124	42%	42	14%	129	44%	295
2005	100	41%	26	11%	116	48%	242
2006	108	49%	18	8%	95	43%	221
2007	78	46%	17	10%	75	44%	170
2008	57	39%	21	14%	68	47%	146

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² 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 1/1/10

Table 17. People diagnosed with HIV infection by race/ethnicity¹ and place of birth: Massachusetts, 2006–2008²

Race/Ethnicity:	US		Puerto Rico/ US Dependency ³		Non-US		Total
	N	%	N	%	N	%	N
White NH	760	93%	1	<1%	55	7%	816
Black NH	280	46%	2	<1%	325	54%	607
Hispanic	153	31%	169	34%	168	34%	490
API	12	27%	0	0%	33	73%	45

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

² Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

³ Ninety-nine percent of people diagnosed with HIV infection from 2006–2008 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

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 1/1/10

Table 18. People diagnosed with HIV infection by gender and race/ethnicity: Massachusetts, 2006–2008¹

Race/Ethnicity:	Male		Female		State Total	
	N	%	N	%	N	%
White NH	701	49%	115	21%	816	42%
Black NH	335	23%	272	51%	607	31%
Hispanic	351	25%	139	26%	490	25%
API	35	2%	10	2%	45	2%
Other/Unknown	5	<1%	1	<1%	6	<1%
Total	1,427	100%	537	100%	1,964	100%

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

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 1/1/10

Table 19. People diagnosed with HIV infection by gender and exposure mode: Massachusetts, 2006–2008¹

Exposure Mode:	Male		Female		State Total	
	N	%	N	%	N	%
MSM	786	55%	N/A	N/A	786	40%
IDU	150	11%	87	16%	237	12%
MSM/IDU	56	4%	N/A	N/A	56	3%
HTSX	73	5%	123	23%	196	10%
Other	5	<1%	5	1%	10	1%
Total Undetermined	357	25%	322	60%	679	35%
- Pres. HTSX ²	198	14%	250	47%	448	23%
- Undetermined ³	159	11%	72	13%	231	12%
Total	1,427	100%	537	100%	1,964	100%

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² Heterosexual sex with partners with unknown risk and HIV status

³ Includes those still being followed up for risk information, those who have died with no determined risk, those lost to follow-up
 MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex; N/A = Not Applicable

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

**Who is infected with HIV but does not yet know?
(Concurrent Diagnoses)**

Table 20. People diagnosed with HIV infection and AIDS within two months and all people diagnosed with HIV infection by place of birth: Massachusetts, 2006–2008¹

	HIV and AIDS Diagnosed within 2 Months	All HIV Infection Diagnoses	% Diagnosed with HIV and AIDS within 2 Months
Place of Birth:	N	N	%
US	319	1,211	26%
Puerto Rico/US Dependency ²	50	172	29%
Non-US	223	581	38%
Total	592	1,964	30%

¹ Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis
² Ninety-nine percent of people diagnosed with HIV infection from 2006–2008 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
 Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

How have patterns of AIDS diagnoses changed over time?

Table 21. Reported AIDS cases, by race/ethnicity and year of diagnosis: Massachusetts, 1985–2008

	White NH		Black NH		Hispanic		API		Other/Und.		Total
	N	%	N	%	N	%	N	%	N	%	N
1985	153	67%	51	22%	23	10%	1	<1%	0	0%	228
1990	654	61%	237	22%	181	17%	4	<1%	3	<1%	1,079
1995	765	54%	315	22%	335	23%	5	<1%	7	<1%	1,427
1999	427	45%	248	26%	259	27%	13	1%	2	<1%	949
2000	307	38%	256	32%	224	28%	18	2%	1	<1%	806
2001	303	42%	229	31%	186	26%	9	1%	1	<1%	728
2002	272	38%	234	33%	191	27%	14	2%	2	<1%	713
2003	243	40%	201	33%	160	26%	8	1%	0	0%	612
2004	282	42%	201	30%	189	28%	5	1%	1	<1%	678
2005	245	38%	220	34%	172	26%	14	2%	0	0%	651
2006	237	40%	181	31%	157	27%	10	2%	1	<1%	586
2007	179	38%	146	31%	132	28%	8	2%	2	<1%	467
2008	116	36%	110	34%	88	27%	9	3%	1	<1%	324

NH = Non-Hispanic, API = Asian/Pacific Islander, Other/Und/ = Other/Undetermined

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 22. Reported AIDS cases by exposure mode and year of diagnosis: Massachusetts, 1985–2008

	MSM		IDU		MSM/ IDU		HTSX		Other		Pres. HTSX ¹		Undeter- mined ²		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
1985	141	62%	34	15%	12	5%	8	4%	12	5%	18	8%	3	1%	228
1990	477	44%	344	32%	45	4%	75	7%	56	5%	43	4%	39	4%	1,079
1995	451	32%	585	41%	68	5%	166	12%	34	2%	71	5%	52	4%	1,427
1999	239	25%	378	40%	34	4%	114	12%	5	1%	153	16%	26	3%	949
2000	183	23%	280	35%	20	2%	134	17%	10	1%	146	18%	33	4%	806
2001	179	25%	216	30%	33	5%	112	15%	13	2%	134	18%	41	6%	728
2002	182	26%	199	28%	26	4%	116	16%	10	1%	136	19%	44	6%	713
2003	153	25%	175	29%	20	3%	89	15%	9	1%	111	18%	55	9%	612
2004	172	25%	171	25%	24	4%	90	13%	11	2%	148	22%	62	9%	678
2005	179	27%	171	26%	20	3%	95	15%	4	1%	124	19%	58	9%	651
2006	194	33%	107	18%	16	3%	87	15%	6	1%	130	22%	46	8%	586
2007	135	29%	104	22%	12	3%	63	13%	11	2%	100	21%	42	9%	467
2008	117	36%	57	18%	10	3%	33	10%	3	1%	67	21%	37	11%	324

¹ Heterosexual sex with partners with unknown risk and HIV status

² Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up
 MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; 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 1/1/10

Who is dying with HIV/AIDS and how has this changed over time?

The death data presented in this analysis includes all deaths among people reported with HIV infection and those with AIDS in Massachusetts to present a full description of trends in mortality among this population. This includes a small number of deaths from non-HIV/AIDS related causes such as drug overdoses, suicides, motor vehicle accidents and other causes. Therefore, the total number of annual deaths reported here will vary from the number of HIV/AIDS-related deaths reported in *Massachusetts Deaths* by the Massachusetts Department of Public Health, Registry of Vital Records and Statistics, Bureau of Health Information, Statistics, Research and Evaluation.

Table 23. Deaths among persons reported with HIV infection (non-AIDS) and AIDS by year of death: Massachusetts, 1985–2008			
	HIV	AIDS	Total HIV + AIDS
Year of death	N	N	
1985	-- ¹	120	120
1990	-- ¹	632	632
1995	-- ¹	1,186	1,186
1999	49	349	398
2000	39	337	376
2001	53	370	423
2002	60	319	379
2003	63	334	397
2004	55	275	330
2005	54	249	303
2006	39	255	294
2007	53	208	261
2008	62	188	250

¹ HIV Reporting was implemented in 1999; therefore there are no data for deaths among people with HIV that did not progress to AIDS during this time period
 Data Source MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 24. Deaths among persons reported with HIV/AIDS by gender and year of death: Massachusetts, 1999–2008

Year of death	Male		Female		Total
	N	%	N	%	N
1999	304	76%	94	24%	398
2000	272	72%	104	28%	376
2001	304	72%	119	28%	423
2002	272	72%	107	28%	379
2003	265	67%	132	33%	397
2004	243	74%	87	26%	330
2005	210	69%	93	31%	303
2006	210	71%	84	29%	294
2007	179	69%	82	31%	261
2008	187	75%	63	25%	250

Data Source MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 25. Deaths among persons reported with HIV/AIDS by race/ethnicity and year of death: Massachusetts, 1999–2008

Year of Death	White NH		Black NH		Hispanic		API		Other/Und.		Total
	N	%	N	%	N	%	N	%	N	%	N
1999	193	48%	94	24%	106	27%	2	1%	3	1%	398
2000	187	50%	91	24%	95	25%	2	1%	1	<1%	376
2001	229	54%	116	27%	77	18%	0	0%	1	<1%	423
2002	177	47%	111	29%	87	23%	3	1%	1	<1%	379
2003	190	48%	112	28%	90	23%	2	1%	3	1%	397
2004	168	51%	75	23%	82	25%	5	2%	0	0%	330
2005	148	49%	78	26%	74	24%	2	1%	1	<1%	303
2006	163	55%	65	22%	64	22%	2	1%	0	0%	294
2007	128	49%	75	29%	56	21%	1	<1%	1	<1%	261
2008	127	51%	67	27%	53	21%	3	1%	0	0%	250

NH=Non-Hispanic, API=Asian/Pacific Islander, Other/Und. = Other/Undetermined

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 26. Deaths among *males* reported with HIV/AIDS by race/ethnicity and year of death: Massachusetts, 1999–2008

Year of Death	White NH		Black NH		Hispanic		API		Other/Und.		Total
	N	%	N	%	N	%	N	%	N	%	N
1999	154	51%	71	23%	75	25%	2	1%	2	1%	304
2000	147	54%	57	21%	65	24%	2	1%	1	<1%	272
2001	169	56%	77	25%	57	19%	0	0%	1	<1%	304
2002	135	50%	73	27%	60	22%	3	1%	1	<1%	272
2003	125	47%	68	26%	68	26%	2	1%	2	1%	265
2004	132	54%	52	21%	54	22%	5	2%	0	0%	243
2005	107	51%	47	22%	54	26%	2	1%	0	0%	210
2006	127	60%	36	17%	45	21%	2	1%	0	0%	210
2007	100	56%	36	20%	41	23%	1	1%	1	1%	179
2008	101	54%	49	26%	34	18%	3	2%	0	0%	187

NH=Non-Hispanic, API=Asian/Pacific Islander, Other/Und. = Other/Undetermined

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 27. Deaths among *females* reported with HIV/AIDS by race/ethnicity and year of death: Massachusetts, 1999–2008

Year of Death	White NH		Black NH		Hispanic		API		Other/Und.		Total
	N	%	N	%	N	%	N	%	N	%	N
1999	39	41%	23	24%	31	33%	0	0%	1	1%	94
2000	40	38%	34	33%	30	29%	0	0%	0	0%	104
2001	60	50%	39	33%	20	17%	0	0%	0	0%	119
2002	42	39%	38	36%	27	25%	0	0%	0	0%	107
2003	65	49%	44	33%	22	17%	0	0%	1	1%	132
2004	36	41%	23	26%	28	32%	0	0%	0	0%	87
2005	41	44%	31	33%	20	22%	0	0%	1	1%	93
2006	36	43%	29	35%	19	23%	0	0%	0	0%	84
2007	28	34%	39	48%	15	18%	0	0%	0	0%	82
2008	26	41%	18	29%	19	30%	0	0%	0	0%	63

NH=Non-Hispanic, API=Asian/Pacific Islander, Other/Und. = Other/Undetermined

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/10

Table 28. Deaths among persons reported with HIV/AIDS by exposure mode and year of death: Massachusetts, 1999–2008

	MSM		IDU		MSM/ IDU		HTSX		Other		Pres. HTSX ¹		Undeter- mined ²		Total N
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
1999	72	18%	214	54%	18	5%	33	8%	13	3%	28	7%	20	5%	398
2000	76	20%	203	54%	16	4%	25	7%	12	3%	28	7%	16	4%	376
2001	91	22%	218	52%	20	5%	29	7%	6	1%	30	7%	29	7%	423
2002	77	20%	205	54%	17	4%	36	9%	9	2%	22	6%	13	3%	379
2003	74	19%	198	50%	17	4%	48	12%	8	2%	29	7%	23	6%	397
2004	60	18%	168	51%	20	6%	28	8%	8	2%	26	8%	20	6%	330
2005	47	16%	164	54%	14	5%	33	11%	3	1%	25	8%	17	6%	303
2006	60	20%	147	50%	16	5%	26	9%	3	1%	24	8%	18	6%	294
2007	50	19%	120	46%	19	7%	28	11%	6	2%	24	9%	14	5%	261
2008	47	19%	123	49%	12	5%	22	9%	3	1%	26	10%	17	7%	250

¹ Heterosexual sex with partners with unknown risk and HIV status

² Includes those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; 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 1/1/10

Table 29. Deaths among males reported with HIV/AIDS by exposure mode and year of death: Massachusetts, 1999–2008

	MSM		IDU		MSM/ IDU		HTSX		Other		Pres. HTSX ¹		Undeter- mined ²		Total N
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
1999	72	24%	160	53%	18	6%	10	3%	10	3%	16	5%	18	6%	304
2000	76	28%	135	50%	16	6%	4	1%	9	3%	16	6%	16	6%	272
2001	91	30%	138	45%	20	7%	12	4%	1	0%	16	5%	26	9%	304
2002	77	28%	136	50%	17	6%	10	4%	6	2%	14	5%	12	4%	272
2003	74	28%	124	47%	17	6%	19	7%	4	2%	18	7%	9	3%	265
2004	60	25%	112	46%	20	8%	15	6%	7	3%	14	6%	15	6%	243
2005	47	22%	112	53%	14	7%	12	6%	2	1%	12	6%	11	5%	210
2006	60	29%	96	46%	16	8%	9	4%	3	1%	11	5%	15	7%	210
2007	50	28%	76	42%	19	11%	9	5%	3	2%	13	7%	9	5%	179
2008	47	25%	84	45%	12	6%	12	6%	3	2%	16	9%	13	7%	187

¹ Heterosexual sex with partners with unknown risk and HIV status

² Includes those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; 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 1/1/10

Table 30. Deaths among *females* reported with HIV/AIDS by exposure mode and year of death: Massachusetts, 1999–2008

	IDU		HTSX		Other		Pres. HTSX ¹		Undeter-mined ²		Total N
	N	%	N	%	N	%	N	%	N	%	
1999	54	57%	23	24%	3	3%	12	13%	2	2%	94
2000	68	65%	21	20%	3	3%	12	12%	0	0%	104
2001	80	67%	17	14%	5	4%	14	12%	3	3%	119
2002	69	64%	26	24%	3	3%	8	7%	1	1%	107
2003	74	56%	29	22%	4	3%	11	8%	14	11%	132
2004	56	64%	13	15%	1	1%	12	14%	5	6%	87
2005	52	56%	21	23%	1	1%	13	14%	6	6%	93
2006	51	61%	17	20%	0	0%	13	15%	3	4%	84
2007	44	54%	19	23%	3	4%	11	13%	5	6%	82
2008	39	62%	10	16%	0	0%	10	16%	4	6%	63

¹ Heterosexual sex with partners with unknown risk and HIV status

² Includes those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up
 IDU = Injection Drug Use; HTSX = Heterosexual Sex; 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 1/1/10