

BIANNUAL HIV SURVEILLANCE REPORT, CITY OF DETROIT July 2012

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General HIV

AIDS (Acquired Immune Deficiency Syndrome)

Now referred to as stage 3 HIV infection (see "HIV Infection Stages" below).

HIV (Human Immunodeficiency Virus)

Diagnosis with HIV requires both a positive HIV screening and positive supplemental antibody test or detectable quantity on a virologic test. A standard case definition for HIV infection is used by all states for surveillance. Specific information is required in order to count a case of HIV infection, including a method to uniquely identify an individual. Each case is classified in a HIV infection stage (see below). Once a case reaches stage 3 (AIDS), the case is always considered stage 3 for surveillance purposes, even if his/her health improves (MMWR; December 5, 2008 / Vol. 57 / No. RR--10 / Pg. 1 - 12).

HIV Infection Stages

Stage 1: A case does not have any of the conditions associated with severe HIV infection (called an AIDS-defining condition) and has ≥ 500 CD4 cells/ μ l.

Stage 2: A case has no AIDS-defining condition, but the level of CD4 cells has fallen to 200-499 cells/ μ l.

Stage 3: Diagnosis with any one of 26 AIDS-defining conditions which are indicative of a severe immune deficiency, or a laboratory test demonstrating severe immune deficiency: CD4 count <200 cells/ μ l or CD4 percent $<14\%$. **Previously referred to as AIDS.**

Stage unknown: A case of HIV without information available on CD4 levels or AIDS-defining conditions.

Prevalence Estimate Calculations

HIV prevalence estimates include all persons living in DETROIT at diagnosis of HIV Infection (any stage) and incorporates an approximation of those not reported or not yet diagnosed. All estimates are rounded to the nearest ten, and the minimum estimate given is 10. Prevalence estimates were most recently revised in January 2012, so the estimates in this report may vary in comparison to reports published before the revision.

Risk Transmission Categories - Definitions

Blood Recipients

Hemophiliacs, blood transfusion recipients, and organ recipients who received blood products prior to 1985 & persons documented to have ever received an infected organ or unit of blood.

Heterosexual Contact (HC):

Heterosexual Contact w/ Female Risk (HCFR): Males whose female sexual partners are known to be HIV-infected or at high risk for HIV. These partners meet one of the following criteria: IDU, hemophiliac, HIV infected transfusion recipient, or other HIV infected person of unknown risk.

Heterosexual Contact w/ Male (HCM): Females who have had sex with a male regardless of what is known about the male's HIV status or behaviors.

Please note:

-Males whose only documented risk is sex with a female, and their female partner's risk and HIV status is unknown fall into the undetermined risk category.

-Exposure categories are only calculated at the state level due to small numbers at the county and city level. For more information regarding exposure categories, and how they differ from transmission categories, please refer to the statewide statistics.

Injection Drug Users (IDU)

Persons who have a history of injection drug use.

Men who have sex with men (MSM)

Males who have a history of sexual contact with other men.

MSM/IDU

MSM who also have a history of injection drug use.

Perinatal

HIV transmission from mother to child during birth or through breastfeeding.

Undetermined

Males and females with no identified risk.

TABLE 1. Demographic Information on Prevalent HIV Infection Cases Living in DETROIT at Diagnosis

	REPORTED PREVALENCE[†]								CENSUS 2010	
	EST PREV*	HIV Infection Non-Stage 3		HIV Infection Stage 3 (AIDS)		Total		Rate per 100,000[§]	Num	Percent
	Num	Num	Percent	Num	Percent	Num	Percent			
RACE/ ETHNICITY*										
White	470	171	7%	192	6%	363	6%	652.8	55,604	8%
Black	6,460	2,256	88%	2,716	88%	4,972	88%	847.6	586,573	82%
Hispanic	220	75	3%	94	3%	169	3%	347.2	48,679	7%
Asian/PI	10	<5	**	7	(<1%)	11	(<1%)	146.3	7,518	1%
Am Indian/AN	10	6	(<1%)	<5	**	7	(<1%)	---	1,927	<1%
Multi/Other/Unk	140	51	2%	60	2%	111	2%	N/A	13,476	2%
SEX & RACE										
Male	5,310	1,840	72%	2,244	73%	4,084	73%	1,209.4	337,679	47%
White Male	380	132	5%	159	5%	291	5%	1,002.3	29,034	4%
Black Male	4,640	1,606	63%	1,967	64%	3,573	63%	1,310.8	272,577	38%
Hispanic Male	160	56	2%	69	2%	125	2%	493.8	25,314	4%
Other Male	120	46	2%	49	2%	95	2%	883.4	10,754	2%
Female	2,010	723	28%	826	27%	1,549	27%	411.9	376,098	53%
White Female	90	39	2%	33	1%	72	1%	271.0	26,570	4%
Black Female	1,820	650	25%	749	24%	1,399	25%	445.5	313,996	44%
Hispanic Female	60	19	1%	25	1%	44	1%	188.3	23,365	3%
Other Female	40	15	1%	19	1%	34	1%	279.4	12,167	2%
RISK*										
Male-Male Sex (MSM)	3,210	1,086	42%	1,385	45%	2,471	44%	--	--	--
Injection Drug Use (IDU)	870	241	9%	429	14%	670	12%	--	--	--
MSM/IDU	230	68	3%	110	4%	178	3%	--	--	--
Blood Products	20	0	0%	12	(<1%)	12	(<1%)	--	--	--
Heterosexual Contact (HC)	1,480	519	20%	618	20%	1,137	20%	--	--	--
HCFR (Males)	270	92	4%	115	4%	207	4%	--	--	--
HCM (Females)	1,210	427	17%	503	16%	930	17%	--	--	--
Perinatal	100	52	2%	28	1%	80	1%	--	--	--
Undetermined	1,410	597	23%	488	16%	1,085	19%	--	--	--
AGE AT HIV DIAGNOSIS										
0 - 12 years	110	54	2%	28	1%	82	1%	--	--	--
13 - 19 years	470	213	8%	146	5%	359	6%	--	--	--
20 - 24 years	1,100	488	19%	361	12%	849	15%	--	--	--
25 - 29 years	1,130	434	17%	434	14%	868	15%	--	--	--
30 - 39 years	2,330	701	27%	1,092	36%	1,793	32%	--	--	--
40 - 49 years	1,510	438	17%	722	24%	1,160	21%	--	--	--
50 - 59 years	540	190	7%	228	7%	418	7%	--	--	--
60 years and over	140	45	2%	59	2%	104	2%	--	--	--
Unspecified	0	0	0%	0	0%	0	0%	--	--	--
TOTAL	7,320	2,563	100%	3,070	100%	5,633	100%	789	713,777	100%

*See front matter page i for descriptions of prevalence estimate calculations and risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCFR). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).

[†] Includes reports that contain patient name or are otherwise unduplicated. <5 and "**" = 1, 2, 3, or 4 cases.

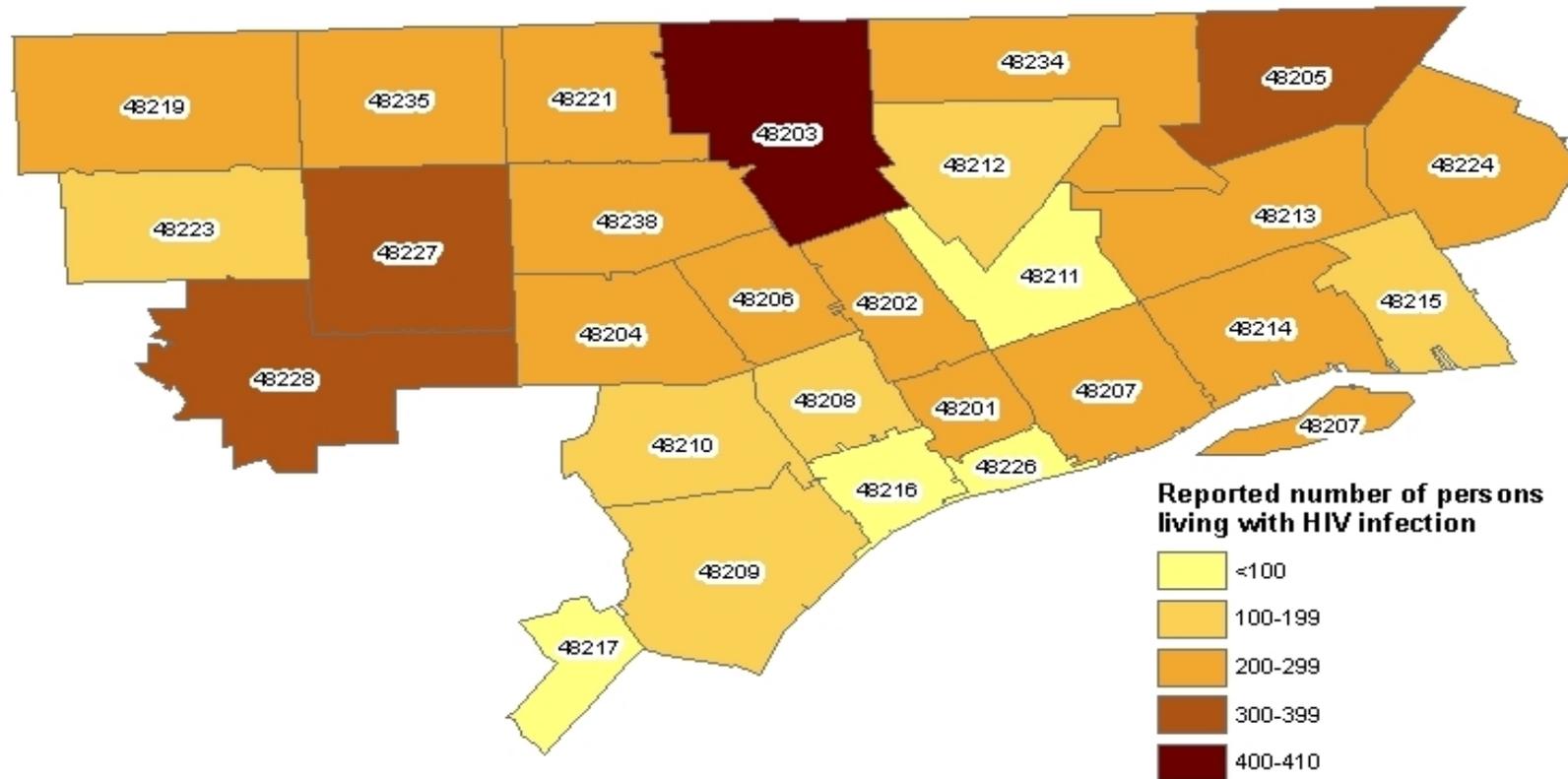
[‡] To calculate "1 out of x" statements, divide the census number by total reported prevalence. For example, for non-Hispanic whites: 55,604 / 363 = 153. Thus, 1 out of every 153 non-Hispanic white persons in DETROIT are living with HIV. Rates and "1 out of x" statements are not reliable for <10 cases. Thus, rates for <10 cases are shown as "----".

[§] Rates are not reported for risk categories and age at diagnosis because no reliable denominator data exist for these groups.

* In this report, persons described as white, black, Asian/Pacific Islander (PI), or American Indian/Alaska Native (AN) are all non-Hispanic; persons described as Hispanic might be of any race.

TABLE 2. Sex, Race, and Risk Among Prevalent HIV Infection Cases Living in DETROIT at Diagnosis

	White		Black		Hispanic		Other or Unknown		All Male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
MALE										
Male-Male sex	228	78%	2122	59%	62	50%	59	62%	2471	61%
Injection Drug Use	13	4%	317	9%	17	14%	5	5%	352	9%
MSM/IDU	13	4%	159	4%	<5	**	<5	**	178	4%
Blood Products	<5	**	6	(<1%)	0	0%	0	0%	9	(<1%)
Heterosexual Contact (HCFR)	9	3%	188	5%	8	6%	<5	**	207	5%
Perinatal	<5	**	40	1%	<5	**	<5	**	45	1%
Undetermined	23	8%	741	21%	35	28%	23	24%	822	20%
Male Subtotal	291	7%	3573	87%	125	3%	95	2%	4084	100%
FEMALE										
Injection Drug Use	23	32%	276	20%	7	16%	12	35%	318	21%
Blood Products	0	0%	<5	**	0	0%	0	0%	<5	**
Heterosexual Contact (HCM)	36	50%	847	61%	29	66%	18	53%	930	60%
Perinatal	<5	**	32	2%	<5	**	<5	**	35	2%
Undetermined	12	17%	241	17%	7	16%	<5	**	263	17%
Female Subtotal	72	5%	1399	90%	44	3%	34	2%	1549	100%
ALL										
Male-Male sex	228	63%	2122	43%	62	37%	59	46%	2471	44%
Injection Drug Use	36	10%	593	12%	24	14%	17	13%	670	12%
MSM/IDU	13	4%	159	3%	<5	**	<5	**	178	3%
Blood Products	<5	**	9	(<1%)	0	0%	0	0%	12	(<1%)
Heterosexual Contact (HC)	45	12%	1035	21%	37	22%	20	16%	1137	20%
HCFR (Males)	9	2%	188	4%	8	5%	<5	**	207	4%
HCM (Females)	36	10%	847	17%	29	17%	18	14%	930	17%
Perinatal	<5	**	72	1%	<5	**	<5	**	80	1%
Undetermined	35	10%	982	20%	42	25%	26	20%	1085	19%
RACE ALL	363	6%	4972	88%	169	3%	129	2%	5633	100%

FIGURE 1. Reported number of persons living with HIV infection by zip code at HIV diagnosis

The above map includes 5,817 reported persons living with HIV by residence at diagnosis: 5,633 were residents of the City of Detroit and 222 were residents of Highland Park or Hamtramck at time of diagnosis (this excludes 38 cases with an unknown or unmappable zip code). Highland Park and Hamtramck are included in this map for completeness, because these cities share zip codes with the City of Detroit. Thus, this map should not be compared with Detroit maps that exclude Highland Park and Hamtramck.

The darker shading indicates a higher number of cases residing in the zip code at HIV diagnosis. Since raw numbers of cases do not adjust for the size of the general population living in each zip code, a high number of cases does not directly translate to a high rate (concentration) of disease but instead may reflect a larger number of people living in that zip code. Large changes in the Detroit population have occurred over the past decade and these changes vary by zip code, thus there is no reliable count of the general population with which to calculate the percent of persons in each zip code living with HIV infection. We are currently working on a method to calculate these percentages that adjusts for this population change.

TABLE 3. New Diagnoses, Deaths, and Prevalence of HIV Infection in DETROIT by Year

Year	<i>HIV Infection (all stages)</i>			<i>HIV Infection Stage 3 (AIDS)</i>		
	New HIV Diagnoses	Deaths	Prevalence	New Stage 3 Diagnoses	Deaths	Prevalence
1981	2	1	1	2	1	1
1982	2	0	3	2	0	3
1983	12	4	11	10	4	9
1984	21	11	21	21	11	19
1985	119	25	115	40	25	34
1986	164	44	235	74	41	67
1987	253	79	409	140	74	133
1988	331	124	616	213	122	224
1989	502	175	943	302	167	359
1990	578	212	1,309	346	203	502
1991	619	235	1,693	417	222	697
1992	723	311	2,105	584	294	987
1993	647	401	2,351	514	377	1,124
1994	593	422	2,522	482	392	1,214
1995	547	441	2,628	470	404	1,280
1996	519	292	2,855	378	273	1,385
1997	501	219	3,137	335	194	1,526
1998	437	221	3,353	314	194	1,646
1999	332	202	3,483	293	177	1,762
2000	408	213	3,678	324	182	1,904
2001	373	202	3,849	248	171	1,981
2002	314	202	3,961	258	175	2,064
2003	357	194	4,124	267	159	2,172
2004	359	182	4,301	260	153	2,279
2005	364	186	4,479	300	153	2,426
2006	305	170	4,614	220	139	2,507
2007	318	143	4,789	217	126	2,598
2008	322	172	4,939	219	135	2,682
2009	293	105	5,127	191	90	2,783
2010	278	71	5,334	197	69	2,911
2011	272	63	5,543	179	55	3,035
2012	101	11	5,633	41	6	3,070
TOTAL	10,865	5,322		7,817	4,782	

The prevalence of HIV in Michigan has steadily increased, since persons with HIV are living longer. This is largely due to improved anti-retroviral therapy.

The increase in HIV prevalence is also reflected in Figure 1 on page 5, which shows that the number of persons diagnosed, while stable for the last several years, is greater than the number of deaths each year. This directly contributes to the increase in prevalence. The current reported prevalence of HIV infection in DETROIT is 5,633. The prevalence of Stage 3 infection, which is a subset of the overall HIV infection prevalence, is 3,070.

As implied, the HIV infection section displays data on all persons with HIV, including those with Stage 3 infection, as well as those who have not progressed to Stage 3. Thus, persons represented in the Stage 3 section are also represented in the HIV infection section. The number of reported deaths includes deaths directly attributable to presence of HIV infection as well as deaths due to other causes.

NOTE: Reporting for recent years may not be complete. Data are not adjusted to account for reporting delays.

FIGURE 2. New Diagnoses, Deaths, and Prevalence of HIV Infection in DETROIT, by Year

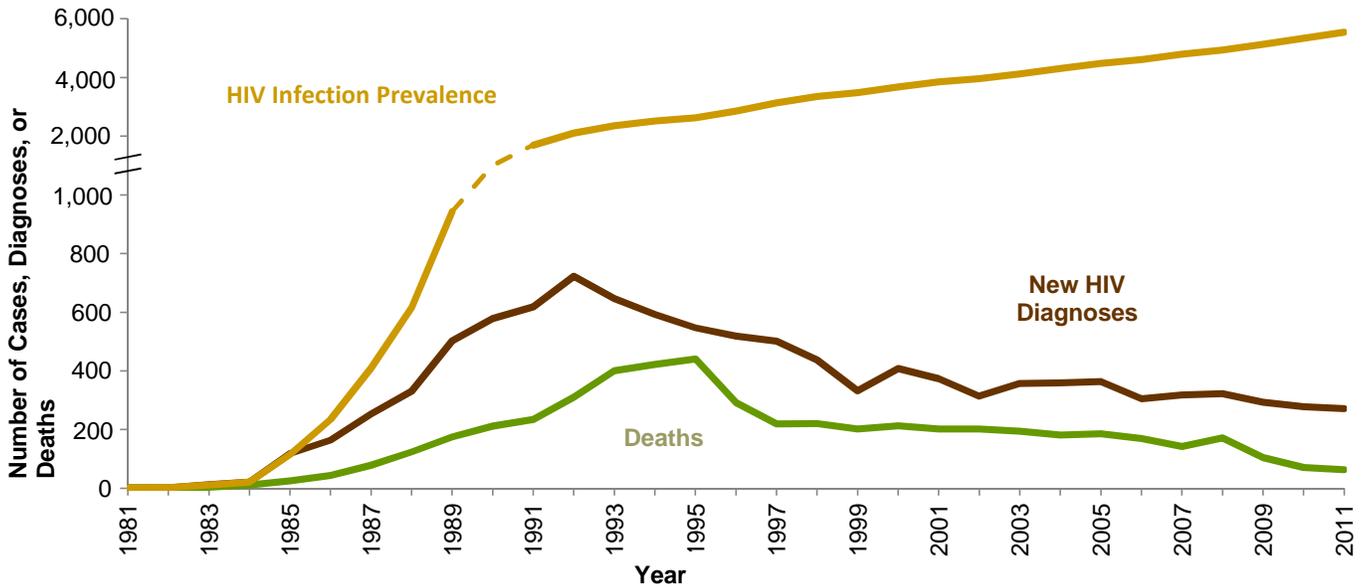


TABLE 4. Comparison of HIV Infection Prevalence in DETROIT to State

<i>Residence at Diagnosis</i>	<i>Estimated Prevalence</i>	<i>Reported Prevalence</i>				<i>Cumulative Stage 3</i>
		<i>HIV Infection Non-Stage 3</i>	<i>HIV Infection Stage 3 (AIDS)</i>	<i>Total</i>	<i>Rate</i>	
Detroit	7,320	2,563	3,070	5,633	789	191
Michigan Total	19,300	7,057	7,966	15,023	152	17,891



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