



# ANNUAL HIV SURVEILLANCE REPORT CITY OF DETROIT July 2014

## Table of Contents: HIV Surveillance Statistics of Persons Diagnosed in the City of Detroit by January 1, 2014

	Page
<b>Front Matter</b>	
Acronyms and Definitions	i
Prevalence Estimate Calculations	i
Risk Transmission Categories	i
<b>Section 1: Data on Prevalent Cases</b>	
Table 1. Demographic Information on Prevalent HIV Infection Cases	1
Table 2. Sex, Race, and Risk Among Prevalent HIV Infection Cases	2
Figure 1. Prevalent HIV Infection Cases According to Zip Code of Residence at Diagnosis	3
<b>Section 2: New Diagnoses, Deaths, and Prevalence</b>	
Table 3. New Diagnoses, Deaths, and Prevalence of HIV Infection, by Year	4
Figure 2. New Diagnoses, Deaths, and Prevalence of HIV Infection, by Year	5
Table 4. Comparison of HIV Infection Prevalence to Michigan	5

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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  $\geq 500$  CD4 cells/ $\mu$ l.

*Stage 2:* A case has no AIDS-defining condition, but the level of CD4 cells has fallen to 200-499 cells/ $\mu$ 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/ $\mu$ 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 HIV diagnosis (any stage) who were diagnosed by January 1, 2014, and incorporates an approximation of those 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 July 2014.

## 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.

Michigan Department  
of Community Health



Rick Snyder, Governor  
James K. Haveman, Director

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

	REPORTED PREVALENCE <sup>†</sup>								CENSUS 2012 ESTIMATES	
	EST PREV*	HIV Infection Non-Stage 3		HIV Infection Stage 3 (AIDS)		Total		Rate per 100,000 <sup>§</sup>	Num	Percent
	Num	Num	Percent	Num	Percent	Num	Percent			
<b>RACE/ ETHNICITY<sup>‡</sup></b>										
White	420	163	6%	178	6%	341	6%	581	58,662	8%
Black	6,240	2,267	88%	2,808	89%	5,075	89%	856	592,761	79%
Hispanic	200	70	3%	93	3%	163	3%	329	49,490	7%
Asian/PI	10	<5	**	6	<1%	10	<1%	114	8,783	1%
Am Indian/AN	10	6	<1%	<5	**	7	<1%	---	2,430	<1%
Multi/Other/Unk	160	57	2%	75	2%	132	2%	388	34,021	5%
<b>SEX &amp; RACE</b>										
Male	5,170	1,886	73%	2,317	73%	4,203	73%	1,191	353,019	47%
White Male	340	126	5%	149	5%	275	5%	910	30,218	4%
Black Male	4,540	1,654	64%	2,039	65%	3,693	64%	1,344	274,706	37%
Hispanic Male	150	52	2%	70	2%	122	2%	478	25,503	3%
Other Male	140	54	2%	59	2%	113	2%	500	22,592	3%
Female	1,870	681	27%	844	27%	1,525	27%	388	393,128	53%
White Female	80	37	1%	29	1%	66	1%	232	28,444	4%
Black Female	1,700	613	24%	769	24%	1,382	24%	435	318,055	43%
Hispanic Female	50	18	1%	23	1%	41	1%	171	23,987	3%
Other Female	40	13	1%	23	1%	36	1%	159	22,642	3%
<b>RISK*</b>										
Male-Male Sex (MSM)	3,260	1,193	46%	1,460	46%	2,653	46%	--	--	--
Injection Drug Use (IDU)	750	204	8%	403	13%	607	11%	--	--	--
MSM/IDU	200	60	2%	103	3%	163	3%	--	--	--
Blood Products	10	0	0%	10	<1%	10	<1%	--	--	--
Heterosexual Contact (HC)	1,440	503	20%	667	21%	1,170	20%	--	--	--
HCFR (Males)	270	90	4%	133	4%	223	4%	--	--	--
HCM (Females)	1,160	413	16%	534	17%	947	17%	--	--	--
Perinatal	100	49	2%	32	1%	81	1%	--	--	--
Undetermined	1,280	558	22%	486	15%	1,044	18%	--	--	--
<b>AGE AT HIV DIAGNOSIS</b>										
0 - 12 years	100	51	2%	32	1%	83	1%	--	--	--
13 - 19 years	500	237	9%	169	5%	406	7%	--	--	--
20 - 24 years	1,170	532	21%	421	13%	953	17%	--	--	--
25 - 29 years	1,100	435	17%	463	15%	898	16%	--	--	--
30 - 39 years	2,130	672	26%	1,062	34%	1,734	30%	--	--	--
40 - 49 years	1,390	417	16%	714	23%	1,131	20%	--	--	--
50 - 59 years	520	181	7%	241	8%	422	7%	--	--	--
60 years and over	120	42	2%	59	2%	101	2%	--	--	--
Unspecified	0	0	0%	0	0%	0	0%	--	--	--
<b>TOTAL</b>	<b>7,040</b>	<b>2,567</b>	<b>100%</b>	<b>3,161</b>	<b>100%</b>	<b>5,728</b>	<b>100%</b>	<b>768</b>	<b>746,147</b>	<b>100%</b>

\*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).

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

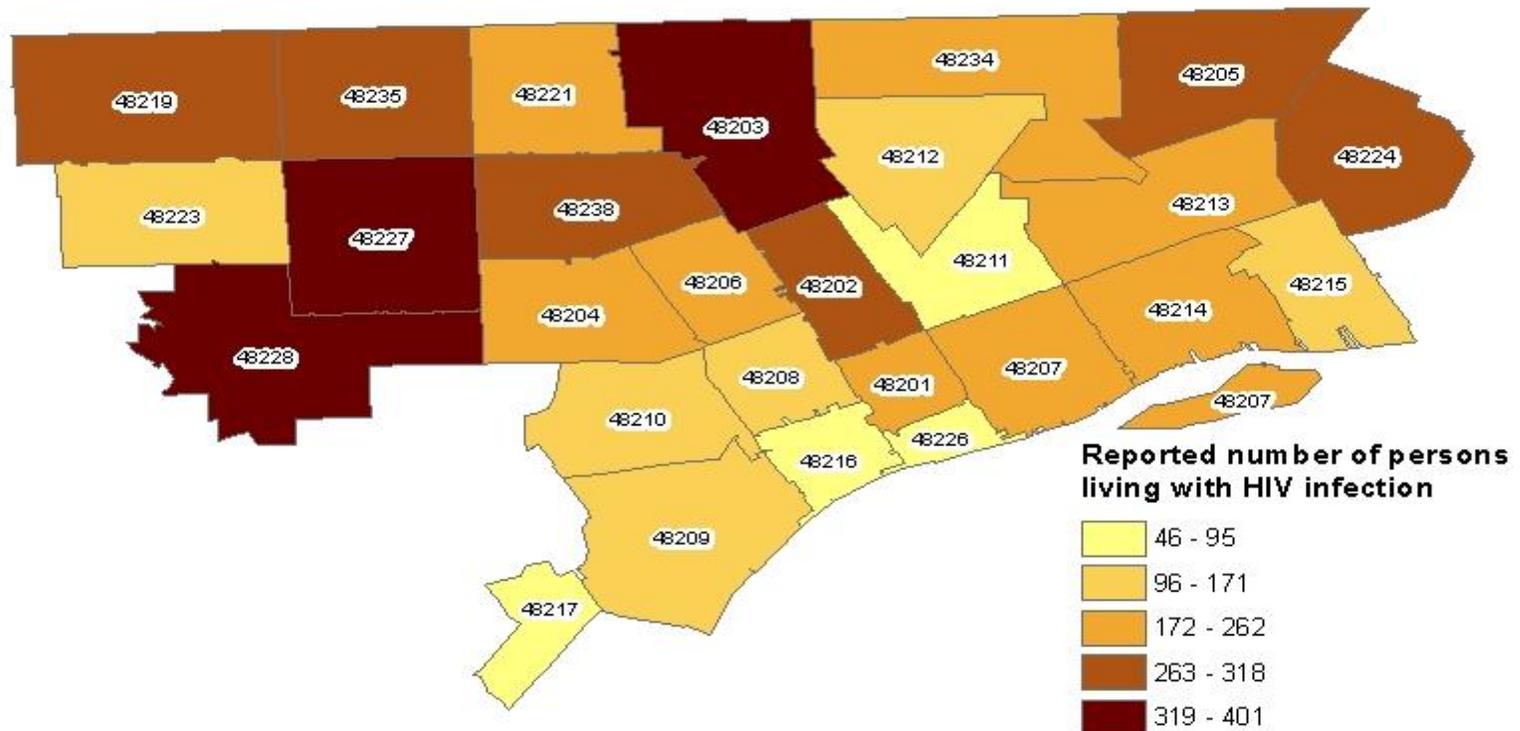
<sup>‡</sup> To calculate "1 out of x" statements, divide the census number by total reported prevalence. For example, for non-Hispanic whites: 58,662 / 341 = 172. Thus, 1 out of every 172 non-Hispanic white persons in DETROIT are living with HIV. Rates and "1 out of x" statements are not reliable for <10 cases. Thus, rates for <10 cases are shown as "----".

<sup>§</sup> Rates are not reported for risk categories and age at diagnosis because no reliable denominator data exist for these groups.

<sup>¶</sup> 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**

<b>MALE</b>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>All Male</b>	
	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>
Male-Male sex	220	80%	2,297	62%	62	51%	74	65%	2,653	63%
Injection Drug Use	10	4%	284	8%	14	11%	<5	**	312	7%
MSM/IDU	10	4%	147	4%	<5	**	5	4%	163	4%
Blood Products	<5	**	5	<1%	0	0%	0	0%	8	<1%
Heterosexual Contact (HCFR)	7	3%	203	5%	9	7%	<5	**	223	5%
Perinatal	<5	**	39	1%	<5	**	<5	**	46	1%
Undetermined	24	9%	718	19%	33	27%	23	20%	798	19%
<b>Male Subtotal</b>	<b>275</b>	<b>7%</b>	<b>3,693</b>	<b>88%</b>	<b>122</b>	<b>3%</b>	<b>113</b>	<b>3%</b>	<b>4,203</b>	<b>100%</b>
<b>FEMALE</b>										
	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>All Female</b>	
	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>
Injection Drug Use	25	38%	253	18%	8	20%	9	25%	295	19%
Blood Products	0	0%	<5	**	0	0%	0	0%	<5	**
Heterosexual Contact (HCM)	32	48%	864	63%	26	63%	25	69%	947	62%
Perinatal	<5	**	32	2%	<5	**	<5	**	35	2%
Undetermined	8	12%	231	17%	6	15%	<5	**	246	16%
<b>Female Subtotal</b>	<b>66</b>	<b>4%</b>	<b>1,382</b>	<b>91%</b>	<b>41</b>	<b>3%</b>	<b>36</b>	<b>2%</b>	<b>1,525</b>	<b>100%</b>
<b>ALL</b>										
	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Risk All</b>	
	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>	<b>Num</b>	<b>Percent</b>
Male-Male sex	220	65%	2,297	45%	62	38%	74	50%	2,653	46%
Injection Drug Use	35	10%	537	11%	22	13%	13	9%	607	11%
MSM/IDU	10	3%	147	3%	<5	**	5	3%	163	3%
Blood Products	<5	**	7	<1%	0	0%	0	0%	10	<1%
Heterosexual Contact (HC)	39	11%	1,067	21%	35	21%	29	19%	1,170	20%
HCFR (Males)	7	2%	203	4%	9	6%	<5	**	223	4%
HCM (Females)	32	9%	864	17%	26	16%	25	17%	947	17%
Perinatal	<5	**	71	1%	<5	**	<5	**	81	1%
Undetermined	32	9%	949	19%	39	24%	24	16%	1,044	18%
<b>RACE ALL</b>	<b>341</b>	<b>6%</b>	<b>5,075</b>	<b>89%</b>	<b>163</b>	<b>3%</b>	<b>149</b>	<b>3%</b>	<b>5,728</b>	<b>100%</b>

**FIGURE 1. Prevalent HIV Infection Cases According to Zip Code of Residence at Diagnosis**

The above map includes 5,941 reported persons living with HIV by residence at diagnosis: 5,728 were residents of the City of Detroit and 213 were residents of Highland Park or Hamtramck at time of diagnosis (the map excludes 66 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. 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 percentages that adjust for this population change.

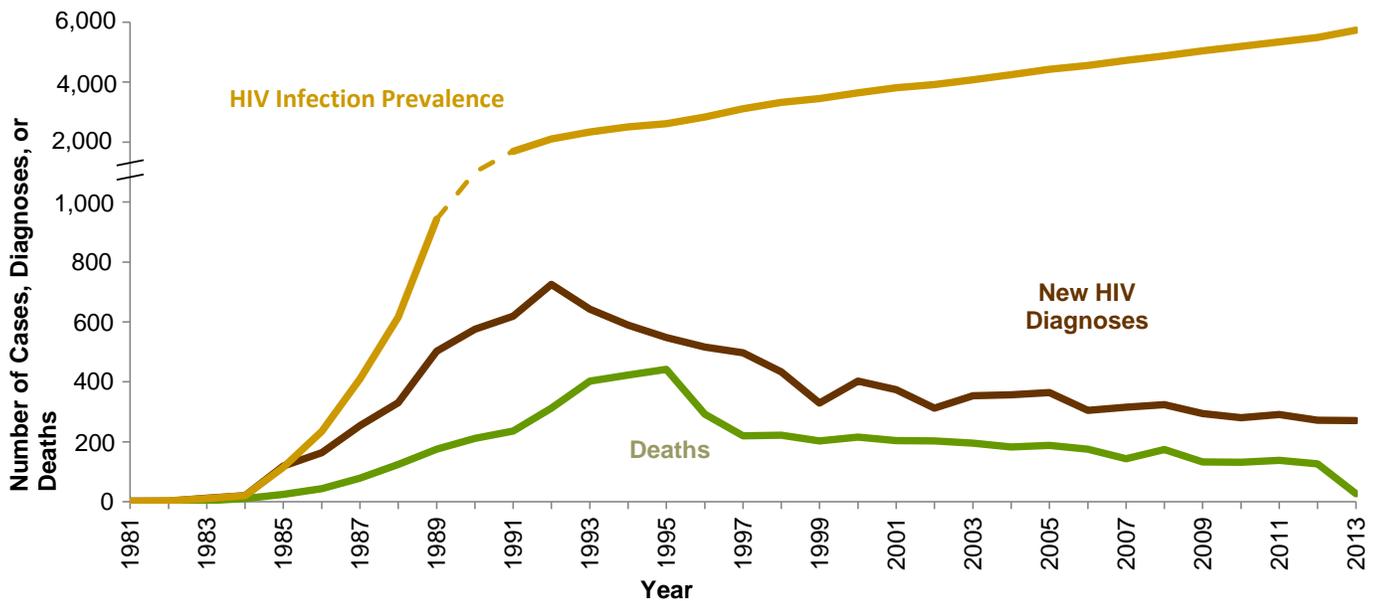
**TABLE 3. New Diagnoses, Deaths, and Prevalence of HIV Infection in DETROIT by Year**

Year	<i>HIV Infection (all stages)</i>			<i>HIV Infection Stage 3 (AIDS)</i>		
	<b>New HIV Diagnoses</b>	<b>Deaths</b>	<b>Prevalence</b>	<b>New Stage 3 Diagnoses</b>	<b>Deaths</b>	<b>Prevalence</b>
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	254	79	410	140	74	133
1988	330	124	616	213	122	224
1989	502	175	943	302	167	359
1990	576	212	1,307	345	203	501
1991	619	236	1,690	416	223	694
1992	725	312	2,103	583	295	982
1993	643	403	2,343	514	378	1,118
1994	589	423	2,509	482	393	1,207
1995	548	442	2,615	470	405	1,272
1996	516	292	2,839	378	273	1,377
1997	497	220	3,116	333	195	1,515
1998	433	222	3,327	311	193	1,633
1999	329	203	3,453	292	178	1,747
2000	403	216	3,640	324	183	1,888
2001	374	204	3,810	248	172	1,964
2002	312	203	3,919	255	176	2,043
2003	354	196	4,077	268	160	2,151
2004	357	183	4,251	260	153	2,258
2005	364	188	4,427	301	155	2,404
2006	305	175	4,557	220	143	2,481
2007	316	144	4,729	217	126	2,572
2008	324	174	4,879	221	136	2,657
2009	294	133	5,040	192	106	2,743
2010	281	132	5,189	200	116	2,827
2011	291	138	5,342	192	108	2,911
2012	272	127	5,487	149	102	2,958
2013	271	27	<b>5,731</b>	183	23	<b>3,118</b>
<b>TOTAL</b>	<b>11,399</b>	<b>5,668</b>		<b>8,158</b>	<b>5,040</b>	

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 5,731. The prevalence of Stage 3 infection, which is a subset of the overall HIV infection prevalence, is 3,118.

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.

**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>
		<b>HIV Infection Non-Stage 3</b>	<b>HIV Infection Stage 3 (AIDS)</b>	<b>Total</b>	<b>Rate</b>	
<b>Detroit</b>	7,040	2,567	3,161	5,728	768	8,158
<b>Michigan Total</b>	19,100	7,319	8,337	15,656	158	18,690

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