

# BIANNUAL HIV SURVEILLANCE REPORT, DETROIT January 2012

## Table of Contents: HIV Surveillance Statistics of Persons Diagnosed in Detroit

Front Matter	Page
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
Table 3. Prevalent HIV Infection Cases According to Zip Code of Residence at Diagnosis	3
<b>Section 2: New Diagnoses, Deaths, and Prevalence</b>	
Table 4. New Diagnoses, Deaths, and Prevalence of HIV Infection, by Year	4
Figure 1. New Diagnoses, Deaths, and Prevalence of HIV Infection, by Year	5
Table 5. 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 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 2011, 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.

### 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.

### 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.

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

	<b>REPORTED PREVALENCE<sup>†</sup></b>								<b>CENSUS 2010</b>	
	<b>EST PREV<sup>*</sup></b>	<b>HIV Infection Non-Stage 3</b>		<b>HIV Infection Stage 3 (AIDS)</b>		<b>Total</b>		<b>Rate per 100,000<sup>‡§</sup></b>	<b>Num</b>	<b>(Percent)</b>
	<b>Num</b>	<b>Num</b>	<b>(Percent)</b>	<b>Num</b>	<b>(Percent)</b>	<b>Num</b>	<b>(Percent)</b>			
<b>RACE/ ETHNICITY<sup>¶</sup></b>										
White	480	168	(7%)	199	(7%)	367	(7%)	660	55,604	(8%)
Black	6,400	2210	(88%)	2677	(88%)	4887	(88%)	833	586,573	(82%)
Hispanic	220	75	(3%)	92	(3%)	167	(3%)	343	48,679	(7%)
Asian/PI	10	<5	**	7	(<1%)	11	(<1%)	146	7,518	(1%)
Am Indian/AN	10	6	(<1%)	<5	**	7	(<1%)	---	1,927	<1%
Multi/Other/Unk	120	40	(2%)	52	(2%)	92	(2%)	N/A	13,476	(2%)
<b>SEX &amp; RACE</b>										
Male	5,260	1794	(72%)	2225	(73%)	4019	(73%)	1190	337,679	(47%)
White Male	380	130	(5%)	164	(5%)	294	(5%)	1013	29,034	(4%)
Black Male	4,600	1567	(63%)	1949	(64%)	3516	(64%)	1290	272,577	(38%)
Hispanic Male	170	58	(2%)	69	(2%)	127	(2%)	502	25,314	(4%)
Other Male	110	39	(2%)	43	(1%)	82	(1%)	763	10,754	(2%)
Female	1,980	709	(28%)	803	(27%)	1512	(27%)	402	376,098	(53%)
White Female	100	38	(2%)	35	(1%)	73	(1%)	275	26,570	(4%)
Black Female	1,790	643	(26%)	728	(24%)	1371	(25%)	437	313,996	(44%)
Hispanic Female	50	17	(1%)	23	(1%)	40	(1%)	171	23,365	(3%)
Other Female	40	11	(<1%)	17	(1%)	28	(1%)	230	12,167	(2%)
<b>RISK<sup>*</sup></b>										
Male-Male Sex (MSM)	3,170	1055	(42%)	1366	(45%)	2421	(44%)	--	--	--
Injection Drug Use (IDU)	890	250	(10%)	432	(14%)	682	(12%)	--	--	--
MSM/IDU	240	70	(3%)	114	(4%)	184	(3%)	--	--	--
Blood Products	10	0	(0%)	11	(<1%)	11	(<1%)	--	--	--
Heterosexual Contact (HC)	1,470	523	(21%)	600	(20%)	1123	(20%)	--	--	--
HCFR (Males)	270	95	(4%)	115	(4%)	210	(4%)	--	--	--
HCM (Females)	1,200	428	(17%)	485	(16%)	913	(17%)	--	--	--
Perinatal	100	51	(2%)	27	(1%)	78	(1%)	--	--	--
Undetermined	1,350	554	(22%)	478	(16%)	1032	(19%)	--	--	--
<b>AGE AT HIV DIAGNOSIS</b>										
0 - 12 years	110	54	(2%)	27	(1%)	81	(1%)	--	--	--
13 - 19 years	450	209	(8%)	138	(5%)	347	(6%)	--	--	--
20 - 24 years	1,080	470	(19%)	352	(12%)	822	(15%)	--	--	--
25 - 29 years	1,090	410	(16%)	426	(14%)	836	(15%)	--	--	--
30 - 39 years	2,340	704	(28%)	1083	(36%)	1787	(32%)	--	--	--
40 - 49 years	1,520	435	(17%)	723	(24%)	1158	(21%)	--	--	--
50 - 59 years	520	180	(7%)	221	(7%)	401	(7%)	--	--	--
60 years and over	130	41	(2%)	58	(2%)	99	(2%)	--	--	--
Unspecified	0	0	(0%)	0	(0%)	0	(0%)	--	--	--
<b>TOTAL</b>	<b>7,240</b>	<b>2,503</b>	<b>(100%)</b>	<b>3,028</b>	<b>(100%)</b>	<b>5,531</b>	<b>(100%)</b>	<b>775</b>	<b>713,777</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: 55,604 / 367 = 152. Thus, 1 out of every 152 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 "---".

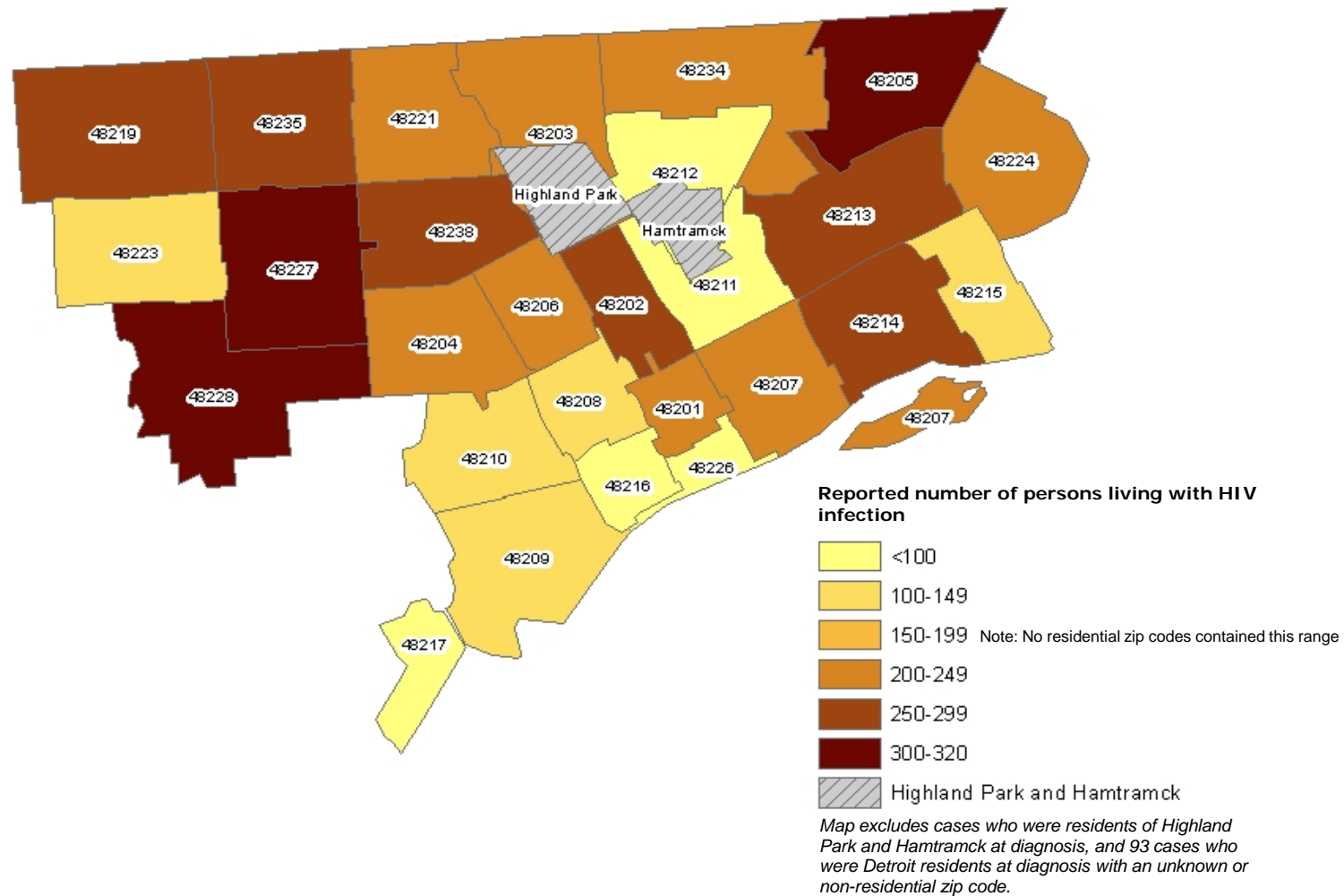
<sup>§</sup> Rates are not reported for risk categories and age at diagnosis because no reliable denominator data exist for these groups.

<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	228	(78%)	2079	(59%)	63	(50%)	51	(62%)	2421	(60%)
Injection Drug Use	12	(4%)	328	(9%)	18	(14%)	<5	**	362	(9%)
MSM/IDU	13	(4%)	166	(5%)	<5	**	<5	**	184	(5%)
Blood Products	<5	**	5	(<1%)	0	(0%)	0	(0%)	8	(<1%)
Heterosexual Contact (HCFR)	9	(3%)	190	(5%)	9	(7%)	<5	**	210	(5%)
Perinatal	<5	**	38	(1%)	<5	**	<5	**	43	(1%)
Undetermined	26	(9%)	710	(20%)	34	(27%)	21	(26%)	791	(20%)
<b>Male Subtotal</b>	<b>294</b>	<b>(7%)</b>	<b>3516</b>	<b>(87%)</b>	<b>127</b>	<b>(3%)</b>	<b>82</b>	<b>(2%)</b>	<b>4019</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	(34%)	280	(20%)	7	(18%)	8	(29%)	320	(21%)
Blood Products	0	(0%)	<5	**	0	(0%)	0	(0%)	<5	**
Heterosexual Contact (HCM)	35	(48%)	834	(61%)	26	(65%)	18	(64%)	913	(60%)
Perinatal	<5	**	32	(2%)	<5	**	<5	**	35	(2%)
Undetermined	12	(16%)	222	(16%)	6	(15%)	<5	**	241	(16%)
<b>Female Subtotal</b>	<b>73</b>	<b>(5%)</b>	<b>1371</b>	<b>(91%)</b>	<b>40</b>	<b>(3%)</b>	<b>28</b>	<b>(2%)</b>	<b>1512</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	228	(62%)	2079	(43%)	63	(38%)	51	(46%)	2421	(44%)
Injection Drug Use	37	(10%)	608	(12%)	25	(15%)	12	(11%)	682	(12%)
MSM/IDU	13	(4%)	166	(3%)	<5	**	<5	**	184	(3%)
Blood Products	<5	**	8	(<1%)	0	(0%)	0	(0%)	11	(<1%)
Heterosexual Contact (HC)	44	(12%)	1024	(21%)	35	(21%)	20	(18%)	1123	(20%)
HCFR (Males)	9	(2%)	190	(4%)	9	(5%)	<5	**	210	(4%)
HCM (Females)	35	(10%)	834	(17%)	26	(16%)	18	(16%)	913	(17%)
Perinatal	<5	**	70	(1%)	<5	**	<5	**	78	(1%)
Undetermined	38	(10%)	932	(19%)	40	(24%)	22	(20%)	1032	(19%)
<b>RACE ALL</b>	<b>367</b>	<b>(7%)</b>	<b>4887</b>	<b>(88%)</b>	<b>167</b>	<b>(3%)</b>	<b>110</b>	<b>(2%)</b>	<b>5531</b>	<b>(100%)</b>

Figure 1. Reported number of persons living with HIV infection as of January 2012 by zip code at HIV diagnosis



There are 5,531 reported persons living with HIV who were residents of Detroit at time of diagnosis (0.7% of the population). The darker the shading, the higher the number of cases that resided in the zip code at HIV diagnosis. However, a higher number of cases does not necessarily mean there is a higher rate (concentration) of disease; it may reflect a larger overall population residing in that zip code. Because large changes in the Detroit population have occurred over the past decade, we do not have reliable denominators with which to calculate the percent of the population in each zip code living with HIV infection.

**TABLE 4. New Diagnoses, Deaths, and Prevalence of HIV Infection in DETROIT by Year**

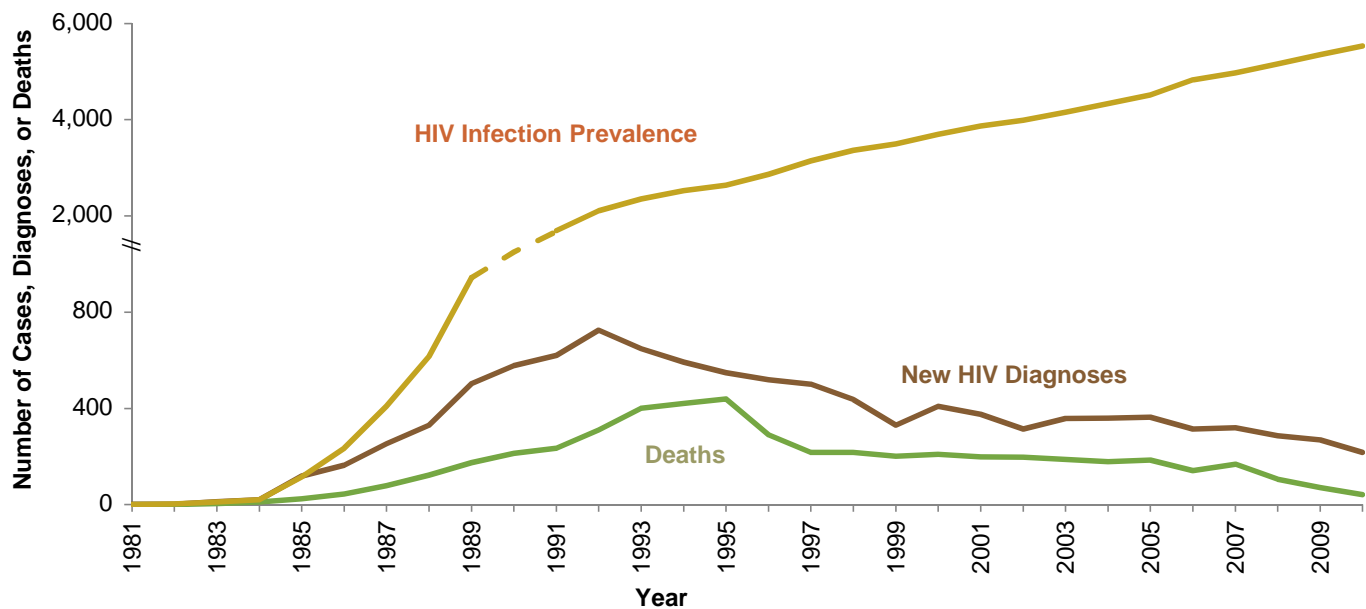
Year	<i>HIV Infection (all stages)</i>			<i>HIV Infection Stage 3 (AIDS)</i>		
	New HIV Diagnoses	Deaths	Prevalence	New Stage 3 Diagnoses	Deaths	Prevalence
1981	2	1	1	2	1	1
1982	2	0	3	2	0	3
1983	12	4	11	10	4	9
1984	21	11	21	21	11	19
1985	119	25	115	40	25	34
1986	164	44	235	74	41	67
1987	253	79	409	140	74	133
1988	330	123	616	213	121	225
1989	503	175	944	302	167	360
1990	578	213	1,309	346	204	502
1991	620	235	1,694	417	222	697
1992	725	311	2,108	584	294	987
1993	648	401	2,355	514	377	1,124
1994	593	421	2,527	482	391	1,215
1995	549	440	2,636	469	403	1,281
1996	519	290	2,865	378	270	1,389
1997	500	218	3,147	335	193	1,531
1998	437	218	3,366	314	193	1,652
1999	330	202	3,494	293	177	1,768
2000	409	210	3,693	323	180	1,911
2001	375	199	3,869	248	169	1,990
2002	315	198	3,986	258	173	2,075
2003	358	188	4,156	267	154	2,188
2004	360	179	4,337	260	152	2,296
2005	364	185	4,516	302	153	2,445
2006	303	169	4,650	221	138	2,528
2007	315	141	4,824	218	124	2,622
2008	320	168	4,976	219	133	2,708
2009	286	105	5,157	190	90	2,808
2010	269	71	5,355	191	69	2,930
2011	218	42	5,531	136	38	3,028
<b>TOTAL</b>	<b>10,797</b>	<b>5,266</b>		<b>7,769</b>	<b>4,741</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 5,531. The prevalence of Stage 3 infection, which is a subset of the overall HIV infection prevalence, is 3,028.

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 1. New Diagnoses, Deaths, and Prevalence of HIV Infection in DETROIT, by Year****TABLE 5. 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	7,240	2,503	3,028	5,531	775	190
Michigan Total	19,300	6,860	7,855	14,715	149	17,669