

# BIANNUAL HIV SURVEILLANCE REPORT, SOUTHEAST MICHIGAN 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  $\geq 500$  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 SOUTHEAST MI 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 SOUTHEAST MICHIGAN<sup>#</sup> at Diagnosis**

	REPORTED PREVALENCE <sup>†</sup>									
	EST PREV*	HIV Infection Non-Stage 3		HIV Infection Stage 3 (AIDS)		Total		CENSUS 2010		
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000 <sup>‡§</sup>	Num	Percent
<b>RACE/ ETHNICITY<sup>¶</sup></b>										
White	3,320	1190	26%	1371	26%	2561	26%	88.8	2,884,240	68%
Black	8,540	3055	68%	3520	67%	6575	68%	674.3	975,057	23%
Hispanic	400	146	3%	163	3%	309	3%	182.5	169,272	4%
Asian/PI	60	19	(<1%)	24	(<1%)	43	(<1%)	30.6	140,727	3%
Am Indian/AN	20	9	(<1%)	3	**	12	(<1%)	98.0	12,250	<1%
Multi/Other/Unk	290	87	2%	134	3%	221	2%	N/A	85,758	2%
<b>SEX &amp; RACE</b>										
Male	9,650	3414	76%	4023	77%	7437	77%	359.9	2,066,529	48%
White Male	2,940	1023	23%	1244	24%	2267	23%	160.2	1,415,046	33%
Black Male	6,130	2191	49%	2531	49%	4722	49%	1050.3	449,599	11%
Hispanic Male	310	117	3%	122	2%	239	2%	279.3	85,575	2%
Other Male	270	83	2%	126	2%	209	2%	179.7	116,309	3%
Female	2,970	1092	24%	1192	23%	2284	23%	103.8	2,200,775	52%
White Female	380	167	4%	127	2%	294	3%	20.0	1,469,194	34%
Black Female	2,410	864	19%	989	19%	1853	19%	352.6	525,458	12%
Hispanic Female	90	29	1%	41	1%	70	1%	83.6	83,697	2%
Other Female	90	32	1%	35	1%	67	1%	54.7	122,426	3%
<b>RISK*</b>										
Male-Male Sex (MSM)	6,290	2216	49%	2630	50%	4846	50%	--	--	--
Injection Drug Use (IDU)	1,180	340	8%	568	11%	908	9%	--	--	--
MSM/IDU	430	128	3%	200	4%	328	3%	--	--	--
Blood Products	60	14	(<1%)	31	1%	45	(<1%)	--	--	--
Heterosexual Contact (HC)	2,190	769	17%	921	18%	1690	17%	--	--	--
HCFR (Males)	380	124	3%	170	3%	294	3%	--	--	--
HCM (Females)	1,810	645	14%	751	14%	1396	14%	--	--	--
Perinatal	150	68	2%	47	1%	115	1%	--	--	--
Undetermined	2,320	971	22%	818	16%	1789	18%	--	--	--
<b>AGE AT HIV DIAGNOSIS</b>										
0 - 12 years	160	72	2%	52	1%	124	1%	--	--	--
13 - 19 years	690	328	7%	205	4%	533	5%	--	--	--
20 - 24 years	1,770	811	18%	552	11%	1363	14%	--	--	--
25 - 29 years	2,050	802	18%	774	15%	1576	16%	--	--	--
30 - 39 years	4,160	1311	29%	1891	36%	3202	33%	--	--	--
40 - 49 years	2,630	791	18%	1233	24%	2024	21%	--	--	--
50 - 59 years	950	318	7%	412	8%	730	8%	--	--	--
60 years and over	220	70	2%	96	2%	166	2%	--	--	--
Unspecified	10	<5	**	0	0%	<5	**	--	--	--
<b>TOTAL</b>	<b>12,620</b>	<b>4,506</b>	<b>100%</b>	<b>5,215</b>	<b>100%</b>	<b>9,721</b>	<b>100%</b>	<b>228</b>	<b>4,267,304</b>	<b>100%</b>

<sup>#</sup> Southeast Michigan includes Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties

<sup>\*</sup> 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: 2,884,240 / 2,561 = 1,126. Thus, 1 out of every 1,126 non-Hispanic white persons in Southeast Michigan 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 3. Prevalent HIV Infection Cases in SOUTHEAST MICHIGAN  
According to Residence at Diagnosis**

<i>RESIDENCE AT DIAGNOSIS</i>	<i>EST PREV*</i>	<i>REPORTED PREVALENCE<sup>†</sup></i>			
		<i>HIV Infection Non-Stage 3</i>	<i>HIV Infection Stage 3</i>	<i>Total</i>	
				<i>Number</i>	<i>Percent</i>
Lapeer Co.	40	13	19	32	(<1%)
Macomb Co.	880	336	342	678	(7%)
Monroe Co.	90	32	37	69	(1%)
Oakland Co.	2,270	871	880	1,751	(18%)
St. Clair Co.	120	53	43	96	(1%)
Wayne Co.	9,210	3,201	3,894	7,095	(73%)
<i>Out-Wayne</i>	<i>1,900</i>	<i>638</i>	<i>824</i>	<i>1,462</i>	<i>(15%)</i>
<i>Detroit</i>	<i>7,310</i>	<i>2,563</i>	<i>3,070</i>	<i>5,633</i>	<i>(58%)</i>
<b><i>TOTAL</i></b>	<b><i>12,620</i></b>	<b><i>4,506</i></b>	<b><i>5,215</i></b>	<b><i>9,721 (100%)</i></b>	

\*See front matter page i for descriptions of prevalence estimate calculations.

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

**TABLE 4. New Diagnoses, Deaths, and Prevalence of HIV Infection in SOUTHEAST MICHIGAN 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	3	2	1	3	2	1
1982	2	0	3	2	0	3
1983	20	5	18	16	5	14
1984	38	14	42	35	14	35
1985	233	42	233	68	42	61
1986	288	73	448	113	70	104
1987	431	130	749	223	124	203
1988	555	178	1126	333	174	362
1989	809	277	1658	475	269	568
1990	937	317	2278	543	304	807
1991	955	368	2865	659	352	1114
1992	1052	469	3448	868	447	1535
1993	914	594	3768	779	561	1753
1994	882	634	4016	724	594	1883
1995	829	672	4173	737	622	1998
1996	754	433	4494	571	405	2164
1997	736	311	4919	495	273	2386
1998	635	292	5262	456	255	2587
1999	506	284	5484	409	250	2746
2000	632	283	5833	463	244	2965
2001	594	276	6151	388	230	3123
2002	510	269	6392	389	229	3283
2003	582	264	6710	421	220	3484
2004	589	250	7049	400	202	3682
2005	606	258	7397	492	215	3959
2006	545	245	7697	406	209	4156
2007	547	224	8020	374	197	4333
2008	542	252	8310	366	202	4497
2009	555	165	8700	322	142	4677
2010	535	104	9131	346	96	4927
2011	502	94	9539	299	82	5144
2012	196	14	<b>9,721</b>	80	9	<b>5,215</b>
<b>TOTAL</b>	<b>17,318</b>	<b>7,793</b>		<b>12,175</b>	<b>7,031</b>	

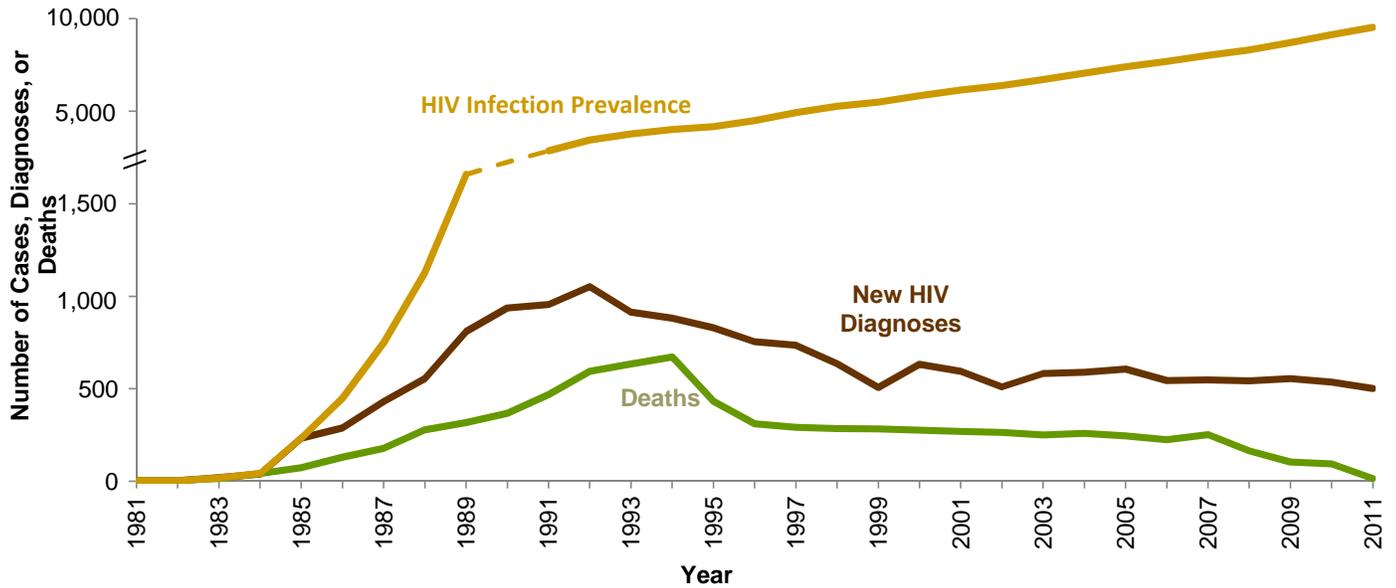
The prevalence of HIV in Michigan has steadily increased, since persons with HIV are living longer. This is largely due to improved anti-retroviral therapy.

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 SOUTHEAST MICHIGAN is 9,721. The prevalence of Stage 3 infection, which is a subset of the overall HIV infection prevalence, is 5,215.

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 SOUTHEAST MICHIGAN, by Year**



**TABLE 5. Comparison of HIV Infection Prevalence in SOUTHEAST MICHIGAN 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>	
Southeast Michigan	12,620	4,506	5,215	9,721	228	322
Michigan Total	19,300	7,057	7,966	15,023	152	17,891



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