

# BIANNUAL HIV SURVEILLANCE REPORT INGHAM COUNTY January 2013

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HIV/STD/VH/TB Epidemiology Section  
Division of Communicable Disease  
Bureau of Disease Control, Prevention and Epidemiology  
Michigan Department of Community Health

Lansing - HIV Surveillance Office  
201 Townsend St., 5th Floor  
Lansing, MI 48913  
517-335-8165

MDCH-South Oakland Health  
Center  
27725 Greenfield Rd, Office 57A  
Southfield, MI 48076  
248-424-7910

**\*\*WEBSITE\*\***

<http://www.michigan.gov/hivstd>

**\*\*WEBSITE\*\***



## 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 Ingham County 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 2013, 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.

### 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 INGHAM CO. at Diagnosis****REPORTED PREVALENCE<sup>†</sup>**

	<b>EST PREV*</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>CENSUS ESTIMATES 2011</b>	
	<b>Num</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>RACE/ ETHNICITY<sup>‡</sup></b>										
White	280	115	45%	92	43%	207	45%	101.8	203,412	72%
Black	190	84	33%	61	29%	145	31%	444.8	32,599	12%
Hispanic	40	11	4%	17	8%	28	6%	135.3	20,696	7%
Asian/PI	10	6	2%	5	2%	11	2%	73.2	15,035	5%
Am Indian/AN	10	<5	**	<5	**	5	1%	---	1,291	<1%
Multi/Other/Unk	90	33	13%	36	17%	69	15%	N/A	8,580	3%
<b>SEX &amp; RACE</b>										
Male	480	184	73%	177	83%	361	78%	264.3	136,612	49%
White Male	250	100	40%	85	40%	185	40%	188.1	98,339	35%
Black Male	120	45	18%	46	22%	91	20%	572.5	15,895	6%
Hispanic Male	30	8	3%	15	7%	23	5%	224.4	10,251	4%
Other Male	80	31	12%	31	15%	62	13%	511.3	12,127	4%
Female	140	69	27%	35	17%	104	22%	71.7	145,001	51%
White Female	30	15	6%	7	3%	22	5%	20.9	105,073	37%
Black Female	70	39	15%	15	7%	54	12%	323.3	16,704	6%
Hispanic Female	10	<5	**	<5	**	5	1%	---	10,445	4%
Other Female	30	12	5%	11	5%	23	5%	180.0	12,779	5%
<b>RISK*</b>										
Male-Male Sex (MSM)	340	138	55%	116	55%	254	55%	--	--	--
Injection Drug Use (IDU)	40	17	7%	12	6%	29	6%	--	--	--
MSM/IDU	30	10	4%	10	5%	20	4%	--	--	--
Blood Products	10	<5	**	5	2%	6	1%	--	--	--
Heterosexual Contact (HC)	120	57	23%	32	15%	89	19%	--	--	--
HCFR (Males)	10	6	2%	5	2%	11	2%	--	--	--
HCM (Females)	100	51	20%	27	13%	78	17%	--	--	--
Perinatal	10	<5	**	<5	**	5	1%	--	--	--
Undetermined	80	28	11%	34	16%	62	13%	--	--	--
<b>AGE AT HIV DIAGNOSIS</b>										
0 - 12 years	10	<5	**	<5	**	6	1%	--	--	--
13 - 19 years	30	14	6%	10	5%	24	5%	--	--	--
20 - 24 years	80	41	16%	22	10%	63	14%	--	--	--
25 - 29 years	120	52	21%	41	19%	93	20%	--	--	--
30 - 39 years	210	79	31%	80	38%	159	34%	--	--	--
40 - 49 years	110	47	19%	37	17%	84	18%	--	--	--
50 - 59 years	40	14	6%	16	8%	30	6%	--	--	--
60 years and over	10	<5	**	<5	**	6	1%	--	--	--
Unspecified	0	0	0%	0	0%	0	0%	--	--	--
<b>TOTAL</b>	<b>620</b>	<b>253</b>	<b>100%</b>	<b>212</b>	<b>100%</b>	<b>465</b>	<b>100%</b>	<b>165</b>	<b>281,613</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: 203,412/ 207 = 983. Thus, 1 out of every 983 non-Hispanic white persons in INGHAM CO. 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 INGHAM CO. 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	151	82%	46	51%	15	65%	42	68%	254	70%
Injection Drug Use	5	3%	<5	**	<5	**	<5	**	16	4%
MSM/IDU	15	8%	<5	**	<5	**	<5	**	20	6%
Blood Products	<5	**	<5	**	0	0%	<5	**	6	2%
Heterosexual Contact (HCFR)	<5	**	8	9%	0	0%	<5	**	11	3%
Perinatal	<5	**	<5	**	0	0%	0	0%	<5	**
Undetermined	9	5%	29	32%	<5	**	10	16%	51	14%
<b>Male Subtotal</b>	<b>185</b>	<b>51%</b>	<b>91</b>	<b>25%</b>	<b>23</b>	<b>6%</b>	<b>62</b>	<b>17%</b>	<b>361</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	5	23%	5	9%	<5	**	<5	**	13	13%
Blood Products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual Contact (HCM)	16	73%	39	72%	<5	**	20	87%	78	75%
Perinatal	<5	**	<5	**	0	0%	0	0%	<5	**
Undetermined	0	0%	9	17%	0	0%	<5	**	11	11%
<b>Female Subtotal</b>	<b>22</b>	<b>21%</b>	<b>54</b>	<b>52%</b>	<b>5</b>	<b>5%</b>	<b>23</b>	<b>22%</b>	<b>104</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	151	73%	46	32%	15	54%	42	49%	254	55%
Injection Drug Use	10	5%	8	6%	6	21%	5	6%	29	6%
MSM/IDU	15	7%	<5	**	<5	**	<5	**	20	4%
Blood Products	<5	**	<5	**	0	0%	<5	**	6	1%
Heterosexual Contact (HC)	17	8%	47	32%	<5	**	22	26%	89	19%
<i>HCFR (Males)</i>	<5	**	8	6%	0	0%	<5	**	11	2%
<i>HCM (Females)</i>	16	8%	39	27%	<5	**	20	24%	78	17%
Perinatal	<5	**	<5	**	0	0%	0	0%	5	1%
Undetermined	9	4%	38	26%	<5	**	12	14%	62	13%
<b>RACE ALL</b>	<b>207</b>	<b>45%</b>	<b>145</b>	<b>31%</b>	<b>28</b>	<b>6%</b>	<b>85</b>	<b>18%</b>	<b>465</b>	<b>100%</b>

**TABLE 3. New Diagnoses, Deaths, and Prevalence of HIV Infection in INGHAM CO. 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
1983	1	0	1	1	0	1
1984	5	0	6	2	0	3
1985	17	4	19	1	4	0
1986	20	4	35	8	4	4
1987	32	6	61	11	6	9
1988	41	8	94	14	8	15
1989	40	7	127	16	7	24
1990	49	20	156	24	17	31
1991	28	17	167	19	16	34
1992	32	13	186	27	12	49
1993	39	20	205	36	18	67
1994	28	19	214	25	17	75
1995	17	23	208	18	22	71
1996	27	22	213	30	19	82
1997	19	16	216	17	14	85
1998	26	8	234	20	8	97
1999	11	9	236	13	7	103
2000	26	6	256	19	6	116
2001	17	12	261	18	9	125
2002	13	9	265	5	6	124
2003	25	6	284	9	6	127
2004	36	4	316	14	4	137
2005	29	4	341	12	2	147
2006	21	10	352	15	4	158
2007	22	9	365	18	8	168
2008	22	5	382	12	5	175
2009	17	2	397	11	2	184
2010	33	7	423	16	5	195
2011	27	7	443	11	6	200
2012	22	0	<b>465</b>	12	0	<b>212</b>
<b>TOTAL</b>	<b>742</b>	<b>277</b>		<b>454</b>	<b>242</b>	

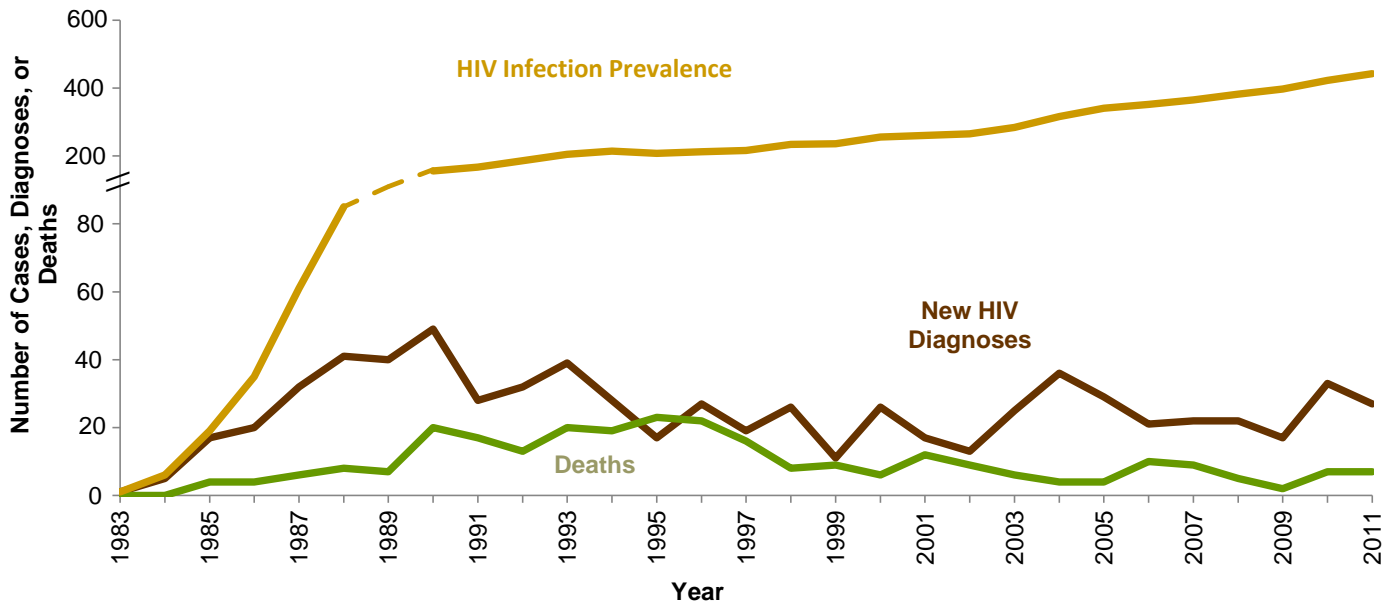
The prevalence of HIV in Michigan has steadily increased, since persons with HIV are living longer. This is largely due to improved anti-retroviral therapy.

The increase in HIV prevalence is also reflected in Figure 1 on page 4, 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 INGHAM CO. is 465. The prevalence of Stage 3 infection, which is a subset of the overall HIV infection prevalence, is 212.

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 INGHAM CO., by Year**



**TABLE 4. Comparison of HIV Infection Prevalence in INGHAM CO. 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>	
<b>Ingham Co.</b>	620	253	212	465	165	454
<b>Michigan Total</b>	19,800	7,169	7,912	15,081	153	18,130



Michigan Department of Community Health  
 HIV/STD/VH/TB Epidemiology Section  
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<http://www.michigan.gov/hivstd>

Lansing Office 201 Townsend St., 5th Floor  
 Lansing, MI 48913  
 517-335-8165

Detroit Office 1151 Taylor St., Room 211B  
 Detroit, MI 48202  
 313-876-0353