

### Table of Contents: HIV/AIDS Statistics of Persons Diagnosed in Michigan

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## General HIV

### AIDS (Acquired Immune Deficiency Syndrome)

Diagnosis with any one of 26 different opportunistic illnesses which are indicative of a severe immune deficiency, or a laboratory test demonstrating severe immune deficiency (i.e. CD4 count <200 or CD4 percent <14%)

### Case Definitions for HIV and AIDS

Standard definitions used by all states. Specific information is required in order to count a case of HIV infection or AIDS, including a method to uniquely identify an individual. Each person is counted as either HIV infected without AIDS or HIV infected with AIDS. Once a person meets the AIDS case definition, this person is always counted as an AIDS case, even if his/her health improves.

### HAART

Highly Active Antiretroviral Therapy

### HIV (Human Immunodeficiency Virus)

Diagnosis with HIV by positive HIV screening and confirmatory test or positive result or detectable quantity on virologic test

### Pediatric Cases

Children < 13 years at the time of diagnosis

## Epidemiology Terms

### Epidemiology

The study of the distribution, determinates, and frequency of disease in humans.

### GIS (Geographic Information System)

The display and analysis of geographic data in map format.

### Incidence

Number of persons who become infected with a disease in a certain period of time, usually a year.

### New Diagnoses

Number of cases newly diagnosed over a given period of time, usually a year. In HIV surveillance, new diagnoses do not necessarily represent new infections, as newly diagnosed cases may have been infected for many years. Thus, only some newly diagnosed cases are also incident cases.

### Prevalence

Total number of persons currently living with a disease at one point in time. See page iii for a description of estimated prevalence in Michigan.

### Public Health Surveillance

The ongoing collection, analysis, interpretation, dissemination, and evaluation of population-based information about persons with a condition or risk factor of public health concern.

### Rate

Count of infected cases divided by the number of persons in the population (infected and uninfected). This calculation is multiplied by a multiple of 10, usually 1,000 or 100,000. Allows one to weigh the relationship between prevalence or number of new diagnoses and population.

## Administrative Info

### CDC

U.S. Centers for Disease Control and Prevention

### eHARS (HIV/AIDS Reporting System)

A standardized database developed by CDC for national reporting of HIV/AIDS

### HAPIS

HIV/AIDS Prevention and Intervention Section

### MDCH

Michigan Department of Community Health

## Michigan HIV Surveillance Activities

### Core HIV Surveillance

Population-based surveillance system of diagnosed adult, adolescent, and pediatric HIV/AIDS cases.

### MMP (Medical Monitoring Project)

Project providing information on needs, risk behaviors, barriers to utilization of services, and quality of care, as well as other data, among HIV-positive persons in care in Michigan.

*Michigan MMP Coordinator, Meosia Lee-Turner. Call (313) 876-0117*

### NHBS (National HIV Behavioral Surveillance)

Surveillance system to monitor selected behaviors and access to prevention services among groups of uninfected persons at highest risk for HIV infection: MSM, IDU, and Heterosexuals Living in High Risk Areas.

*Michigan NHBS Coordinator, Emily Higgins (313) 876-0176*

### STARHS (Serologic Testing Algorithm for Recent HIV Seroconversion)

HIV Incidence Surveillance that will enable estimation of new HIV infections in Michigan.

*Michigan STARHS Coordinator, Marianne O'Connor (313) 876-0854*

### VARHS (Variant, Atypical, and Resistant HIV Surveillance)

Surveillance of drug-resistant and sub-type HIV strains using viral genotyping of remnant sera.

*Michigan VARHS Coordinator, Mary-Grace Brandt (313) 876-4115*

## Risk & Exposure Categories

### Blood Recipient

All hemophiliacs, blood transfusion recipients, and organ recipients who received blood products prior to 1985 and all persons documented to have ever received an infected organ or unit of blood

### Heterosexual

#### *HRH (High Risk Heterosexuals)*

Males and females whose sexual partners are known to be HIV-infected or at high risk for HIV. The partners meet one of the following criteria: a history of sexual contact with bisexual males (for females), IDU, hemophiliacs, HIV+ transfusion recipients, or other HIV+ persons of unknown risk

#### *PH (Presumed Heterosexual)-Female*

Females whose only documented risk is heterosexual contact, and their male partners' risk and HIV status is unknown

### IDU (Injection Drug User)

Persons who have a history of injecting drugs

### Perinatal

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

### MSM (Men who have sex with men)

Males who have a history of sexual contact with other men or with both men and women

#### *MSM & Sex with Female (not HRH)*

Males who have a history of sexual contact with other men and women, however, they do not know the risk of their female partner.

### MSM/IDU

MSM who also have a history of injecting drugs

### Behaviorally Bisexual Men

MSM who also have a history of sexual contact with a woman.

### Undetermined

#### *PH (Presumed Heterosexual)-Male*

Males whose only documented risk is heterosexual contact, and their female partners' risk and HIV status is unknown

#### *Unknown*

Males and females with no identified risk

## Risk Transmission and Exposure Categories

### Risk Transmission Categories

Risk transmission categories are the hierarchical risk categories that have been used for displaying HIV transmission risk in the Michigan and national HIV/AIDS statistics since the 1980's. When the transmission categories were created, the order from top to bottom was meant to represent the most likely route through which HIV was transmitted, and thus implies that some modes of transmission are more efficient than others. The hierarchy was established based on what was known at the beginning of the epidemic about how HIV was transmitted, when almost all cases were among men and there was little documented heterosexual transmission. Since then, the hierarchy has not changed appreciably even though our understanding of the most efficient HIV transmission routes has changed.

### Background on Hierarchy

The hierarchy algorithm is calculated using data provided on the case report form on the individual risk factor questions. In this hierarchy, all cases are assigned a single mode of transmission, with the exception of men who have reported sex with other men as well as injection of drugs. These men are categorized as Men who Have Sex with Men/Injection Drug Users (MSM/IDU). Over time, concerns have been raised that use of hierarchical categories masks the identification of cases with multiple risks. For example, consider a woman whose risk is documented as both injecting drugs and sex with a male partner who has injected drugs. This case would be assigned a risk of injecting drug use (IDU), rather than both IDU + HRH category, because the IDU category is ranked higher in the risk hierarchy than the high-risk heterosexual (HRH) category. Therefore, this woman's risk of HRH would not be represented.

There is a national effort toward representing mode of HIV transmission more comprehensively. However, the use of "multiple risk" or "combination risk" categories has not yet been implemented nationally, partly because many organizations that use HIV surveillance data still rely on the traditional transmission categories. Beginning in January 2009, Michigan will present data on mode of transmission in two ways. The traditional risk categories will continue to be used in the same tables in which they previously appeared. In addition, a new table (Table 2 on page 2) will display Exposure Categories, which will present mode of transmission in a manner that allows more complete presentation of the reported risk factor information.

### Exposure Categories

The 'Exposure Categories' shown on page 2 convey all risks that a person is documented to have engaged in that could have exposed him or her to HIV. Like the traditional risk hierarchy categories, the Exposure Categories are mutually exclusive, meaning that each person is only included in one category. However, the categories, as presented, allow readers to see all the ways in which a person may have been infected with HIV and, with the exception of undetermined risk, are displayed in decreasing order of frequency. In order to display the most accurate information possible, we request that persons who fill out case report forms complete a 'Yes', 'No' or 'Unknown' answer to all the risk factor questions in Section VII Patient History.

# HIV Surveillance in Michigan

## Background

Reports of HIV infection and AIDS are submitted to state and local health departments under Michigan law by providers making the diagnoses or treating previously diagnosed persons. In addition, MDCH implemented PA 514 in April 2005, requiring laboratories to report HIV test results. The addition of laboratory reporting to the HIV surveillance system increased the case reports received and improved reporting completeness. Anonymous HIV reports (without name or other identifier) are excluded from this report because we cannot estimate duplication, update status, or obtain missing data. A total of 1,989 complete anonymous reports have been reported in Michigan.

## HIV Prevalence Estimates for Michigan

HIV prevalence estimates in this report are based on adding the following three components and rounding: 1) the number of reported cases living with HIV/AIDS, 2) the number of known HIV+ cases not yet reported, estimated at 10 percent of the reported living HIV/AIDS cases, and 3) the number of HIV+ cases that have not yet been tested, estimated at 21 percent of the total cases living with HIV/AIDS (identical to the CDC estimate).

Categorical estimates of HIV infection are calculated from the distribution of reported cases among each group of confidentially-reported persons living with HIV or AIDS. The proportion of total cases is multiplied by 18,800. For example, 77 percent of combined HIV and AIDS reports are among men. Therefore, the number of HIV-infected men in Michigan is estimated to be 14,540 (77.31% X 18,800). Since the estimates are rounded to the nearest 10, totals may not equal 18,800. The minimum estimate is 10.

Prison estimates of HIV infection are calculated differently than the above mentioned categorical estimates. Because all prisoners are tested for HIV upon entry to prison, there is no need to apply estimates to account for unreported and untested cases to the reported prison cases. Therefore, the prison prevalence estimate is calculated by rounding the reported number of persons living with HIV/AIDS who were diagnosed in prison to the nearest 10.

County estimates of HIV infection are calculated similarly to the categorical estimates; however, for county calculations the proportion of cases in a particular county is multiplied by the statewide estimate minus the prison estimate (18,800 - 790 = 18,010). For example, 12 percent of HIV/AIDS cases (not including prison and cases with unknown residence) were living in Oakland county at diagnosis. Therefore, the number of HIV-infected persons who were living in Oakland county at the time of diagnosis is estimated to be 2,130 (11.81% x 18,010). Since the estimates are rounded to the nearest 10, the county totals may not equal 18,010. The method of calculating prevalence estimates for county of residence was revised as of April 2008, and thus county estimates presented prior to this date may differ from current and future estimates.

## HIV Surveillance Staff Contacts

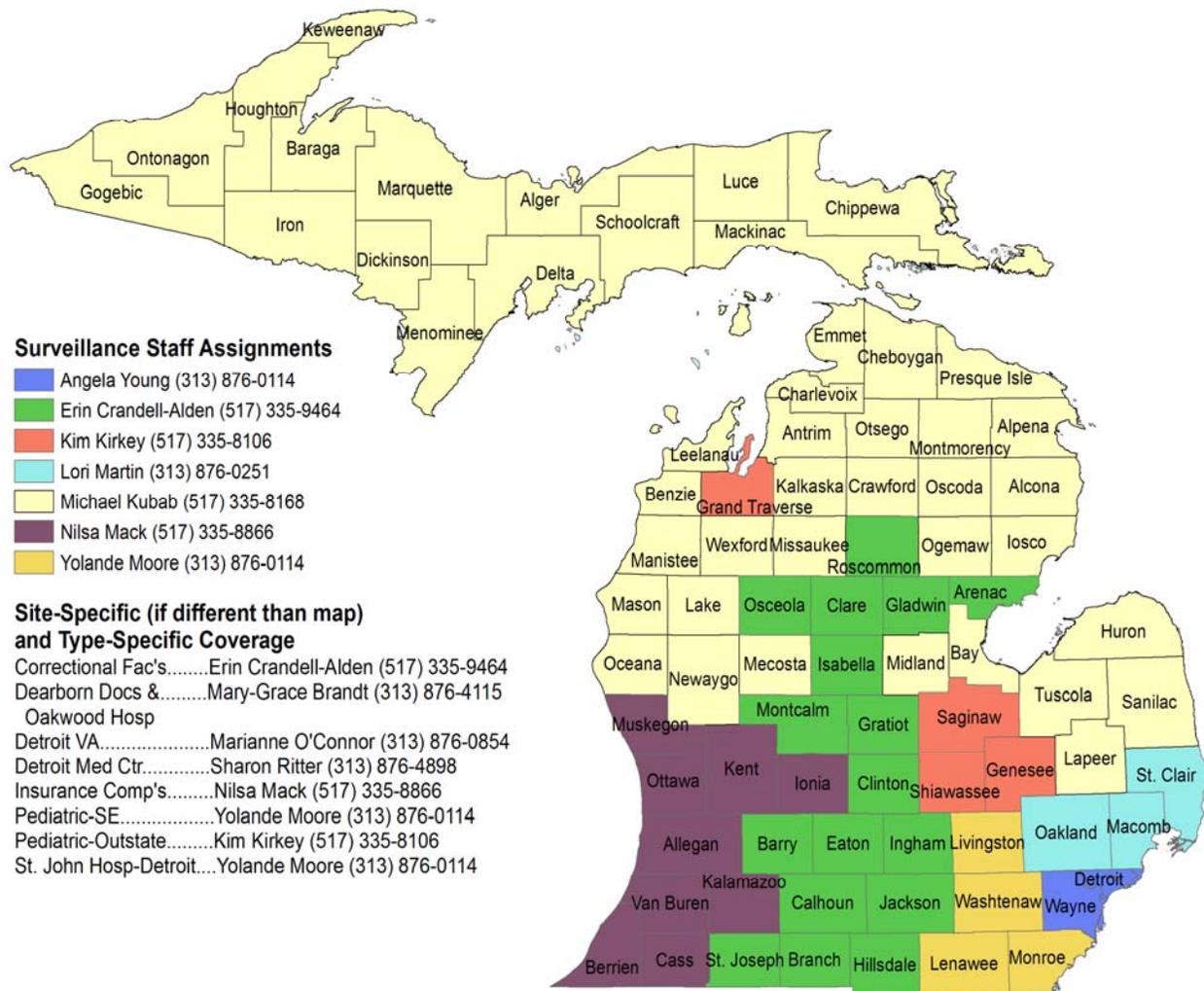


TABLE 1. Demographic Information on Prevalent HIV/AIDS Cases

	EST PREV*	REPORTED PREVALENCE						CENSUS 2008 ESTIMATES		
		HIV, not AIDS		AIDS		Total		Rate per 100,000†	Number Percent	
	Number	Number	Percent	Number	Percent	Number	Percent			
<b>RACE/ ETHNICITY<sup>§</sup></b>										
White	6,490	2,346	35%	2,725	34%	5,071	35%	65	7,750,818	77%
Black	11,120	4,016	59%	4,669	59%	8,685	59%	619	1,403,051	14%
Hispanic	770	262	4%	342	4%	604	4%	146	413,827	4%
Asian/PI	90	35	1%	38	0%	73	0%	31	236,236	2%
Am Indian/AN	50	21	0%	20	0%	41	0%	75	54,714	1%
Multi/Unk/Other	270	96	1%	116	1%	212	1%	N/A	144,776	1%
<b>SEX &amp; RACE</b>										
Males	14,540	5,098	75%	6,257	79%	11,355	77%	231	4,923,929	49%
White Males	5,670	1,991	29%	2,440	31%	4,431	30%	116	3,825,990	38%
Black Males	7,960	2,806	41%	3,412	43%	6,218	42%	938	662,992	7%
Hispanic Males	600	197	3%	272	3%	469	3%	215	217,942	2%
Other Males	300	104	2%	133	2%	237	2%	109	217,005	2%
Females	4,260	1,678	25%	1,653	21%	3,331	23%	66	5,079,493	51%
White Females	820	355	5%	285	4%	640	4%	16	3,924,828	39%
Black Females	3,160	1,210	18%	1,257	16%	2,467	17%	333	740,059	7%
Hispanic Fms	170	65	1%	70	1%	135	1%	69	195,885	2%
Other Females	110	48	1%	41	1%	89	1%	41	218,721	2%
<b>RISK*</b>										
Male-Male Sex	9,020	3,155	47%	3,894	49%	7,049	48%	N/A	N/A	N/A
Injection Drug Use	2,070	634	9%	981	12%	1,615	11%	N/A	N/A	N/A
MSM/IDU	820	262	4%	381	5%	643	4%	N/A	N/A	N/A
Blood Products	120	34	1%	62	1%	96	1%	N/A	N/A	N/A
Heterosexual	3,340	1,270	19%	1,343	17%	2,613	18%	N/A	N/A	N/A
HRH	2,340	830	12%	1,000	13%	1,830	12%	N/A	N/A	N/A
PH-Female	1,000	440	6%	343	4%	783	5%	N/A	N/A	N/A
Perinatal	200	106	2%	54	1%	160	1%	N/A	N/A	N/A
Undetermined	3,210	1,315	19%	1,195	15%	2,510	17%	N/A	N/A	N/A
PH-Male	1,720	600	9%	742	9%	1,342	9%	N/A	N/A	N/A
Unknown	1,500	715	11%	453	6%	1,168	8%	N/A	N/A	N/A
<b>AGE AT HIV DIAGNOSIS</b>										
0 - 12 years	240	121	2%	64	1%	185	1%	N/A	N/A	N/A
13 - 19 years	860	411	6%	262	3%	673	5%	N/A	N/A	N/A
20 - 24 years	2,430	1,080	16%	820	10%	1,900	13%	N/A	N/A	N/A
25 - 29 years	3,090	1,181	17%	1,234	16%	2,415	16%	N/A	N/A	N/A
30 - 39 years	6,590	2,173	32%	2,973	38%	5,146	35%	N/A	N/A	N/A
40 - 49 years	3,970	1,290	19%	1,815	23%	3,105	21%	N/A	N/A	N/A
50 - 59 years	1,310	425	6%	601	8%	1,026	7%	N/A	N/A	N/A
60 years and over	300	92	1%	141	2%	233	2%	N/A	N/A	N/A
Unspecified	10	3	0%	0	0%	3	0%	N/A	N/A	N/A
<b>AREA OF RESIDENCE AT DIAGNOSIS*</b>										
Detroit Metro	12,370	4,323	64%	5,230	66%	9,553	65%	217	4,395,484	44%
Out-State	5,630	2,067	31%	2,280	29%	4,347	30%	78	5,607,938	56%
Prison/Unknown	800	386	6%	400	5%	786	5%	N/A	N/A	N/A
<b>TOTAL</b>	<b>18,800</b>	<b>6,776</b>	<b>100%</b>	<b>7,910</b>	<b>100%</b>	<b>14,686</b>	<b>100%</b>	<b>147</b>	<b>10,003,422</b>	<b>100%</b>

\*See pages i and ii for descriptions of prevalence estimate calculations and risk category groupings. Risk categories used in Michigan are newly defined as of the July 2007 quarter.

† To calculate "1 out of x" statements for rate, divide the census number by the total reported prevalence. For example, for non-Hispanic whites: 7,750,818 / 5,071 = 1,528. Thus, 1 out of every 1,528 non-Hispanic white persons in Michigan are living with HIV.

§ 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.

\* Detroit Metro Area consists of Oakland, Monroe, Lapeer, Macomb, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State area.

**TABLE 2. Risk Transmission\* and Exposure Categories\* for HIV on Prevalent HIV/AIDS Cases, by Sex**

	<i>REPORTED HIV/AIDS PREVALENCE</i>					
	Males		Females		Total	
	Number	Percent	Number	Percent	Number	Percent
<b><i>RISK TRANSMISSION CATEGORIES (CDC Hierarchy)<sup>§</sup></i></b>						
<i>(Mutually Exclusive: one case is represented in ONLY one category)</i>						
Male-Male Sex	7,049	62%	N/A	--	7,049	48%
Injection Drug Use	960	8%	655	20%	1,615	11%
MSM/IDU	643	6%	N/A	--	643	4%
Blood Products	82	1%	14	0%	96	1%
Heterosexual	530	5%	2,083	63%	2,613	18%
<i>HRH</i>	530	5%	1,300	39%	1,830	12%
<i>PH-Female</i>	N/A	--	783	24%	783	5%
Perinatal	91	1%	69	2%	160	1%
Undetermined	2,000	18%	510	15%	2,510	17%
<i>PH-Male</i>	1,342	12%	N/A	--	1,342	9%
<i>Unknown</i>	658	6%	510	15%	1,168	8%
<b><i>EXPOSURE CATEGORIES<sup>†</sup></i></b>						
<i>(Mutually Exclusive: one case is represented in ONLY one category)</i>						
Male-Male Sex	6,545	58%	N/A	--	6,545	45%
<i>MSM - ONLY</i>	4,467	39%	N/A	--	4,467	30%
<i>MSM &amp; Sex with Female (not HRH)</i>	2,078	18%	N/A	--	2,078	14%
MSM & HRH	500	4%	N/A	--	500	3%
MSM & IDU	445	4%	N/A	--	445	3%
MSM & IDU & HRH	198	2%	N/A	--	198	1%
MSM & Blood Products	4	0%	N/A	--	4	0%
Heterosexual - ONLY	530	5%	2,083	63%	2,613	18%
<i>HRH</i>	530	5%	1,300	39%	1,830	12%
<i>PH-Female</i>	N/A	--	783	24%	783	5%
HRH & IDU	377	3%	360	11%	737	5%
Injection Drug Use - ONLY	578	5%	291	9%	869	6%
IDU & Blood Products	5	0%	4	0%	9	0%
Perinatal Exposure	91	1%	70	2%	161	1%
Exposure to Blood Products - ONLY	82	1%	14	0%	96	1%
Undetermined	2,000	18%	509	15%	2,509	17%
<i>PH-Male Only</i>	1,342	12%	N/A	--	1,342	9%
<i>Unknown</i>	658	6%	509	15%	1,167	8%
<b>TOTAL</b>	<b>11,355</b>	<b>100%</b>	<b>3,331</b>	<b>100%</b>	<b>14,686</b>	<b>100%</b>
<b><i>SUMMARIZED EXPOSURE CATEGORIES*</i></b>						
<i>(NOT Mutually Exclusive: one case can be represented in multiple categories)</i>						
Any MSM	7,692	68%	N/A	--	7,692	52%
Behaviorally Bisexual Men	2,776	24%	N/A	--	2,776	19%
Any Heterosexual	3,683	32%	2,443	73%	6,126	42%
Any HRH	1,605	14%	1,660	50%	3,265	22%
Any IDU	1,603	14%	655	20%	2,258	15%

\*See page ii for descriptions of risk category groupings.

<sup>§</sup> Risk categories are grouped based on hierarchical categories as set by the CDC. Any one person with multiple risks may only be represented in the highest category (based on the hierarchical algorithm).

<sup>†</sup> Exposure Categories are mutually exclusive and grouped by allowing all possible combinations of risks that any one person may have. Any one person may have any combination of risks and is not assigned to a single risk category, as in the hierarchical groupings.

\*These groups presented are NOT mutually exclusive, meaning a case can be represented in multiple groupings. These summarized categories are meant to give a broader picture of the exposure categories and will NOT add up to the overall total number of persons living with HIV/AIDS.

**TABLE 3. Sex, Race, and Risk Among Prevalent HIV/AIDS Cases**

<b>MALES</b>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Male Subtotal</b>	
Male-Male sex	3,324	75%	3,335	54%	258	55%	132	56%	7,049	62%
Injecting Drug Use	181	4%	715	11%	50	11%	14	6%	960	8%
Male-Male Sex/IDU	250	6%	360	6%	15	3%	18	8%	643	6%
Blood Products	64	1%	15	0%	1	0%	2	1%	82	1%
Heterosexual*	102	2%	387	6%	36	8%	5	2%	530	5%
Perinatal	16	0%	68	1%	2	0%	5	2%	91	1%
Undetermined	494	11%	1,338	22%	107	23%	61	26%	2,000	18%
<i>PH-Male</i>	297	7%	926	15%	79	17%	40	17%	1,342	12%
<i>Unknown</i>	197	4%	412	7%	28	6%	21	9%	658	6%
<b>Male Subtotal</b>	<b>4,431</b>	<b>39%</b>	<b>6,218</b>	<b>55%</b>	<b>469</b>	<b>4%</b>	<b>237</b>	<b>2%</b>	<b>11,355</b>	<b>100%</b>

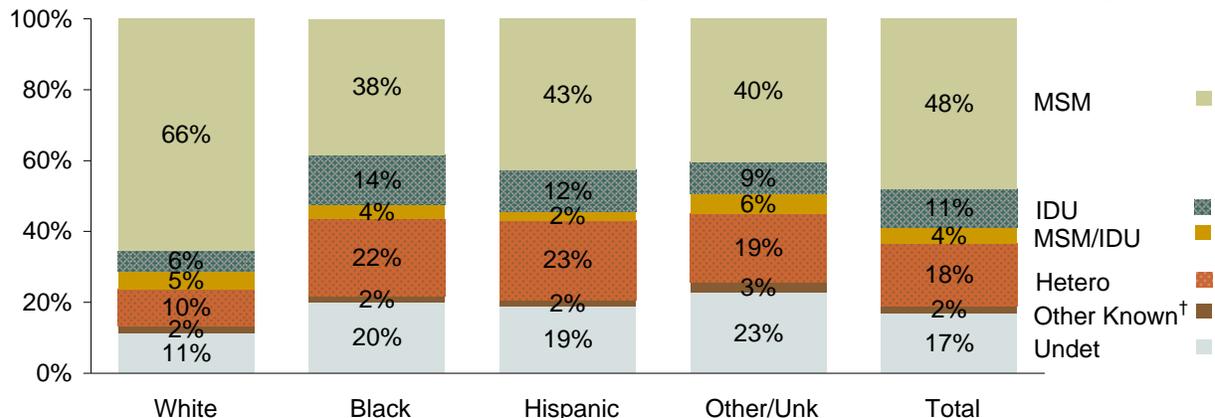
<b>FEMALES</b>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Female Subtotal</b>	
Injecting Drug Use	114	18%	505	20%	21	16%	15	17%	655	20%
Blood Products	9	1%	4	0%	1	1%	0	0%	14	0%
Heterosexual	424	66%	1,501	61%	100	74%	58	65%	2,083	63%
<i>HRH</i>	314	49%	880	36%	74	55%	32	36%	1,300	39%
<i>PH-Female</i>	110	17%	621	25%	26	19%	26	29%	783	24%
Perinatal	12	2%	48	2%	6	4%	3	3%	69	2%
Undetermined*	81	13%	409	17%	7	5%	13	15%	510	15%
<b>Female Subtotal</b>	<b>640</b>	<b>19%</b>	<b>2,467</b>	<b>74%</b>	<b>135</b>	<b>4%</b>	<b>89</b>	<b>3%</b>	<b>3,331</b>	<b>100%</b>

<b>TOTAL</b>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Risk Total</b>	
Male-Male sex	3,324	66%	3,335	38%	258	43%	132	40%	7,049	48%
Injecting Drug Use	295	6%	1,220	14%	71	12%	29	9%	1,615	11%
Male-Male Sex/IDU	250	5%	360	4%	15	2%	18	6%	643	4%
Blood Products	73	1%	19	0%	2	0%	2	1%	96	1%
Heterosexual	526	10%	1,888	22%	136	23%	63	19%	2,613	18%
<i>HRH</i>	416	8%	1,267	15%	110	18%	37	11%	1,830	12%
<i>PH-Female</i>	110	2%	621	7%	26	4%	26	8%	783	5%
Perinatal	28	1%	116	1%	8	1%	8	2%	160	1%
Undetermined	575	11%	1,747	20%	114	19%	74	23%	2,510	17%
<i>PH-Male</i>	297	6%	926	11%	79	13%	40	12%	1,342	9%
<i>Unknown</i>	278	5%	821	9%	35	6%	34	10%	1,168	8%
<b>RACE TOTAL</b>	<b>5,071</b>	<b>35%</b>	<b>8,685</b>	<b>59%</b>	<b>604</b>	<b>4%</b>	<b>326</b>	<b>2%</b>	<b>14,686</b>	<b>100%</b>

\*In the male subset all cases in the heterosexual category are HRH because the PH-Female category is not applicable to males and, likewise, in the female subset, all cases in the undetermined category are of unknown risk because the PH-Male category is not applicable to females.

**FIGURE 1. Mode of HIV Transmission Among Prevalent HIV/AIDS Cases by Race**



†The 'Other Known' category in Figure 1 is a combination of 'Blood Products' and 'Perinatal' from Table 3

**TABLE 4. Sex, Race, and Age at HIV Diagnosis Among Prevalent HIV/AIDS Cases**

<b>MALES</b>	White		Black		Hispanic		Other or Unknown		Male Subtotal	
0 - 12 years	25	1%	76	1%	2	0%	6	3%	109	1%
13 - 19 years	70	2%	398	6%	16	3%	8	3%	492	4%
20 - 24 years	416	9%	947	15%	52	11%	31	13%	1,446	13%
25 - 29 years	723	16%	994	16%	91	19%	50	21%	1,858	16%
30 - 39 years	1,736	39%	2,020	32%	190	41%	91	38%	4,037	36%
40 - 49 years	1,046	24%	1,274	20%	79	17%	36	15%	2,435	21%
50 - 59 years	328	7%	422	7%	28	6%	13	5%	791	7%
60 years and over	87	2%	85	1%	11	2%	2	1%	185	2%
<b>Total*</b>	<b>4,431</b>	<b>39%</b>	<b>6,216</b>	<b>55%</b>	<b>469</b>	<b>4%</b>	<b>237</b>	<b>2%</b>	<b>11,353</b>	<b>100%</b>

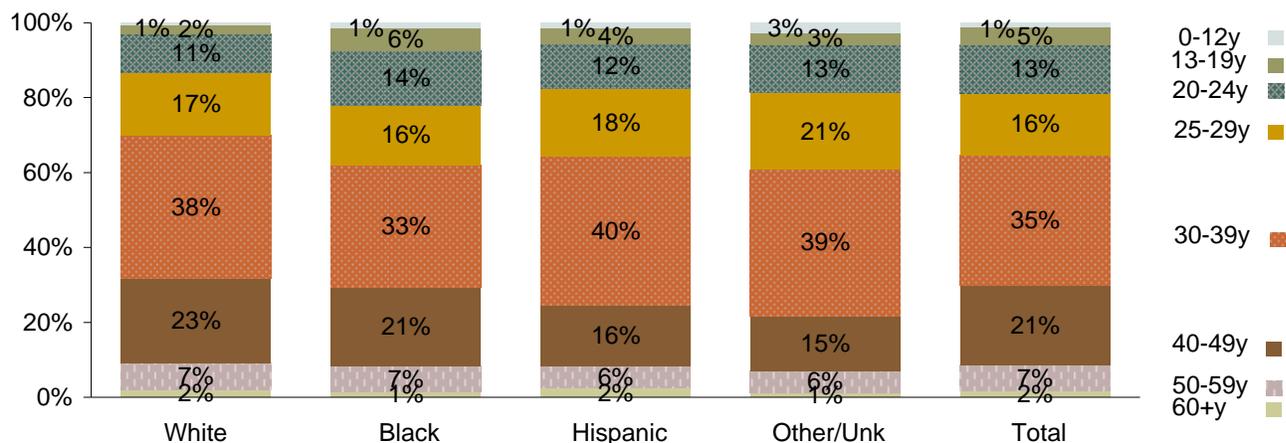
  

<b>FEMALES</b>	White		Black		Hispanic		Other or Unknown		Female Subtotal	
0 - 12 years	13	2%	54	2%	6	4%	3	3%	76	2%
13 - 19 years	41	6%	127	5%	11	8%	2	2%	181	5%
20 - 24 years	117	18%	307	12%	19	14%	11	12%	454	14%
25 - 29 years	126	20%	395	16%	19	14%	17	19%	557	17%
30 - 39 years	202	32%	821	33%	50	37%	36	40%	1,109	33%
40 - 49 years	95	15%	544	22%	19	14%	12	13%	670	20%
50 - 59 years	38	6%	184	7%	7	5%	6	7%	235	7%
60 years and over	7	1%	35	1%	4	3%	2	2%	48	1%
<b>Total*</b>	<b>639</b>	<b>19%</b>	<b>2,467</b>	<b>74%</b>	<b>135</b>	<b>4%</b>	<b>89</b>	<b>3%</b>	<b>3,330</b>	<b>100%</b>

<b>TOTAL</b>	White		Black		Hispanic		Other or Unknown		Age Total	
0 - 12 years	38	1%	130	1%	8	1%	9	3%	185	1%
13 - 19 years	111	2%	525	6%	27	4%	10	3%	673	5%
20 - 24 years	533	11%	1,254	14%	71	12%	42	13%	1,900	13%
25 - 29 years	849	17%	1,389	16%	110	18%	67	21%	2,415	16%
30 - 39 years	1,938	38%	2,841	33%	240	40%	127	39%	5,146	35%
40 - 49 years	1,141	23%	1,818	21%	98	16%	48	15%	3,105	21%
50 - 59 years	366	7%	606	7%	35	6%	19	6%	1,026	7%
60 years and over	94	2%	120	1%	15	2%	4	1%	233	2%
<b>RACE TOTAL *</b>	<b>5,070</b>	<b>35%</b>	<b>8,683</b>	<b>59%</b>	<b>604</b>	<b>4%</b>	<b>326</b>	<b>2%</b>	<b>14,683</b>	<b>100%</b>

\*Not included in this table are one white female and two black male cases of unknown age at diagnosis

**FIGURE 2. Age at HIV Diagnosis Among Prevalent HIV/AIDS Cases by Race**

**TABLE 5. New Diagnoses, Deaths, and Prevalence of HIV/AIDS by Year**

Year	<i>HIV/AIDS</i>			<i>AIDS</i>		
	New HIV Diagnoses	Deaths	Prevalence	New AIDS Diagnoses	Deaths	Prevalence
1981	4	2	2	3	2	1
1982	3	0	5	2	0	3
1983	28	5	28	22	5	20
1984	70	17	81	50	17	53
1985	382	63	400	98	63	88
1986	489	102	787	168	99	157
1987	718	182	1,323	318	174	301
1988	903	263	1,963	493	254	540
1989	1,301	380	2,884	689	370	859
1990	1,441	453	3,872	795	433	1,221
1991	1,446	536	4,782	962	515	1,668
1992	1,489	662	5,609	1,231	630	2,269
1993	1,303	822	6,090	1,126	776	2,619
1994	1,212	899	6,403	1,013	842	2,790
1995	1,192	911	6,684	1,063	843	3,010
1996	1,121	632	7,173	857	583	3,284
1997	1,048	469	7,752	736	419	3,601
1998	903	398	8,257	649	350	3,900
1999	751	363	8,645	574	317	4,157
2000	924	379	9,190	650	328	4,479
2001	883	382	9,691	573	315	4,737
2002	764	299	10,156	577	270	5,044
2003	877	278	10,755	599	240	5,403
2004	893	270	11,378	559	224	5,738
2005	900	284	11,994	680	242	6,176
2006	819	251	12,562	628	209	6,595
2007	801	231	13,132	599	199	6,995
2008	782	199	13,715	553	180	7,368
2009	820	120	14,415	465	109	7,724
2010	311	40	<b>14,686</b>	222	36	<b>7,910</b>
<b>TOTAL</b>	<b>24,578</b>	<b>9,892</b>		<b>16,954</b>	<b>9,044</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 3 on page 6, 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/AIDS in Michigan is 14,686. The prevalence of AIDS, which is a subset of HIV/AIDS prevalence, is 7,910.

As implied, the HIV/AIDS section displays data on all persons with HIV, including those with AIDS, as well as those who have not been diagnosed with AIDS. Thus, persons represented in the AIDS section are also represented in the HIV/AIDS section. The number of reported deaths includes deaths directly attributable to presence of HIV/AIDS 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 3. New Diagnoses, Deaths, and Prevalence of HIV/AIDS by Year**

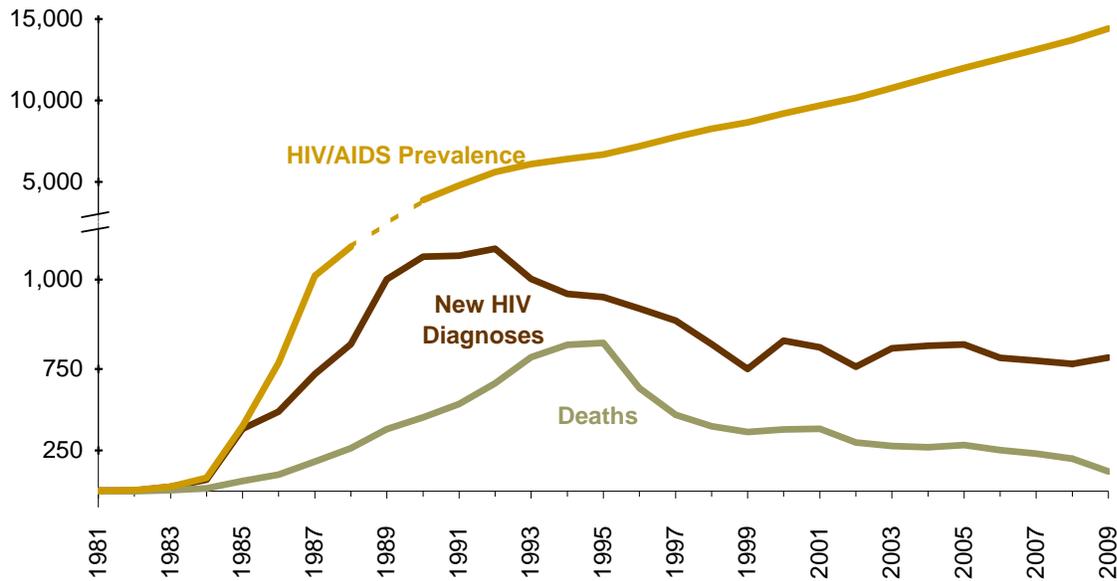


Figure 4 (below) shows the number of HIV-infected Michigan residents who have been reported as deceased by a local health department, the department of vital records via a data match or death certificate, or an alternate source. The number of deaths increased in all race/sex groups from the beginning of the epidemic through approximately 1994-1995. The number of deaths decreased markedly between 1995 and 1998 and then were relatively stable until 2001. It should be noted that the percent decrease in deaths among white males (73%) between 1995 and 2001 was more pronounced than the percent decrease among black males (57%), and the percent decrease among white females (55%) was larger than the percent decrease among black females (38%). Encouragingly, the number of deaths in black males has fallen substantially from 2001 to 2008 (50%), as have the number of deaths in white males (52%) and black females (46%). Compared to the other groups, the number of deaths in white females fell by a smaller amount between 2001 and 2008 (11%).

**FIGURE 4. HIV/AIDS Deaths by Race/Sex**

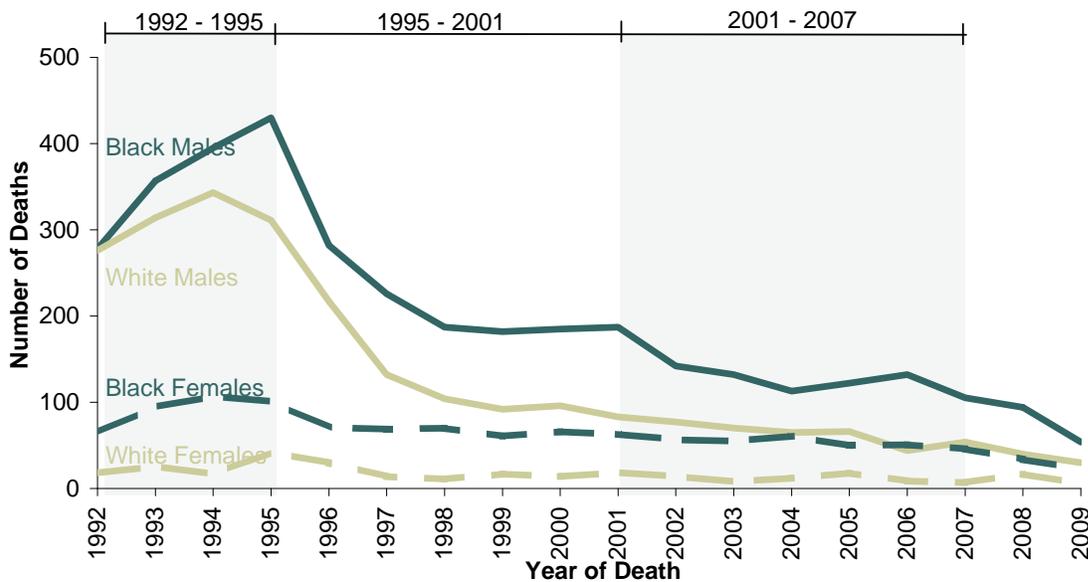


TABLE 6. Demographic Information on Persons Ever Diagnosed\* with HIV

	2010 <sup>†</sup>						CUMULATIVE (through 2010)					
	Male		Female		Total		Male		Female		Total	
<b>RACE/ETHNICITY</b>												
White	91	(35%)	7	(14%)	98	(32%)	7,784	(40%)	978	(19%)	8,762	(36%)
Black	152	(58%)	39	(78%)	191	(61%)	10,637	(55%)	3,805	(75%)	14,442	(59%)
Hispanic	15	(6%)	3	(6%)	18	(6%)	713	(4%)	185	(4%)	898	(4%)
Asian/HI/PI	0	(0%)	0	(0%)	0	(0%)	64	(0%)	24	(0%)	88	(0%)
Am In/AK Nat	0	(0%)	0	(0%)	0	(0%)	47	(0%)	14	(0%)	61	(0%)
Multi/Unk	3	(1%)	1	(2%)	4	(1%)	244	(1%)	83	(2%)	327	(1%)
<b>RISK<sup>§</sup></b>												
Male-Male Sex	158	(61%)	N/A	--	158	(51%)	11,494	(59%)	N/A	--	11,494	(47%)
Injection Drug Use	7	(3%)	10	(20%)	17	(5%)	2,678	(14%)	1,565	(31%)	4,243	(17%)
MSM/IDU	0	(0%)	N/A	--	0	(0%)	1,336	(7%)	N/A	--	1,336	(5%)
Blood Products	0	(0%)	0	(0%)	0	(0%)	305	(2%)	38	(1%)	343	(1%)
Heterosexual	5	(2%)	30	(60%)	35	(11%)	786	(4%)	2,732	(54%)	3,518	(14%)
HRH	5	(2%)	8	(16%)	13	(4%)	786	(4%)	1,804	(35%)	2,590	(11%)
PH-Female	N/A	--	22	(44%)	22	(7%)	N/A	--	928	(18%)	928	(4%)
Perinatal	3	(1%)	1	(2%)	4	(1%)	132	(1%)	101	(2%)	233	(1%)
Undetermined	88	(34%)	9	(18%)	97	(31%)	2,758	(14%)	653	(13%)	3,411	(14%)
PH-Male	49	(19%)	N/A	--	49	(16%)	1,796	(9%)	N/A	--	1,796	(7%)
Unknown	39	(15%)	9	(18%)	48	(15%)	962	(5%)	653	(13%)	1,615	(7%)
<b>AGE AT HIV DIAGNOSIS</b>												
0 - 12 years	3	(1%)	1	(2%)	4	(1%)	177	(1%)	107	(2%)	284	(1%)
13 - 19 years	19	(7%)	1	(2%)	20	(6%)	577	(3%)	214	(4%)	791	(3%)
20 - 24 years	56	(21%)	8	(16%)	64	(21%)	1,879	(10%)	558	(11%)	2,437	(10%)
25 - 29 years	36	(14%)	10	(20%)	46	(15%)	3,103	(16%)	780	(15%)	3,883	(16%)
30 - 39 years	70	(27%)	9	(18%)	79	(25%)	7,255	(37%)	1,778	(35%)	9,033	(37%)
40 - 49 years	40	(15%)	15	(30%)	55	(18%)	4,522	(23%)	1,143	(22%)	5,665	(23%)
50 - 59 years	30	(11%)	3	(6%)	33	(11%)	1,530	(8%)	392	(8%)	1,922	(8%)
60 years and over	7	(3%)	3	(6%)	10	(3%)	444	(2%)	116	(2%)	560	(2%)
Unspecified	0	(0%)	0	(0%)	0	(0%)	2	(0%)	1	(0%)	3	(0%)
<b>DISEASE STATUS<sup>¶</sup></b>												
HIV, not AIDS	192	(74%)	36	(72%)	228	(73%)	5,720	(29%)	1,904	(37%)	7,624	(31%)
AIDS - Same time	55	(21%)	10	(20%)	65	(21%)	7,456	(38%)	1,451	(29%)	8,907	(36%)
AIDS - Short lag	14	(5%)	4	(8%)	18	(6%)	1,478	(8%)	409	(8%)	1,887	(8%)
AIDS - Long lag	0	(0%)	0	(0%)	0	(0%)	4,835	(25%)	1,325	(26%)	6,160	(25%)
<b>AREA OF RESIDENCE AT DIAGNOSIS<sup>‡</sup></b>												
Detroit Metro	173	(66%)	36	(72%)	209	(67%)	12,837	(66%)	3,687	(72%)	16,524	(67%)
Out-State	85	(33%)	14	(28%)	99	(32%)	5,555	(29%)	1,297	(25%)	6,852	(28%)
Prison/Unknown	3	(1%)	0	(0%)	3	(1%)	1,097	(6%)	105	(2%)	1,202	(5%)
<b>TOTAL</b>	<b>261</b>	<b>(84%)</b>	<b>50</b>	<b>(16%)</b>	<b>311</b>	<b>(100%)</b>	<b>19,489</b>	<b>(79%)</b>	<b>5,089</b>	<b>(21%)</b>	<b>24,578</b>	<b>(100%)</b>

\*Includes deceased cases

†Data for cases diagnosed in 2010 may be incomplete at this time

§ See page ii for description of risk category groupings. Risk categories used in Michigan are newly defined as of the July 2007 quarter.

¶ The definitions of disease status are as follows:

HIV, not AIDS = Has not been diagnosed with AIDS

AIDS - Same time = Concurrent HIV and AIDS diagnoses (diagnoses within the same month)

AIDS - Short lag = AIDS diagnosed 1 month to 12 months after HIV diagnosis

AIDS - Long lag = AIDS diagnosed more than 12 months after HIV diagnosis

‡ Detroit Metro Area consists of Oakland, Monroe, Lapeer, Macomb, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State area.

NOTE: &lt;5 and \*\* = 1, 2, 3, or 4 cases

TABLE 7. Prevalent HIV/AIDS Cases According to County of Residence at Diagnosis

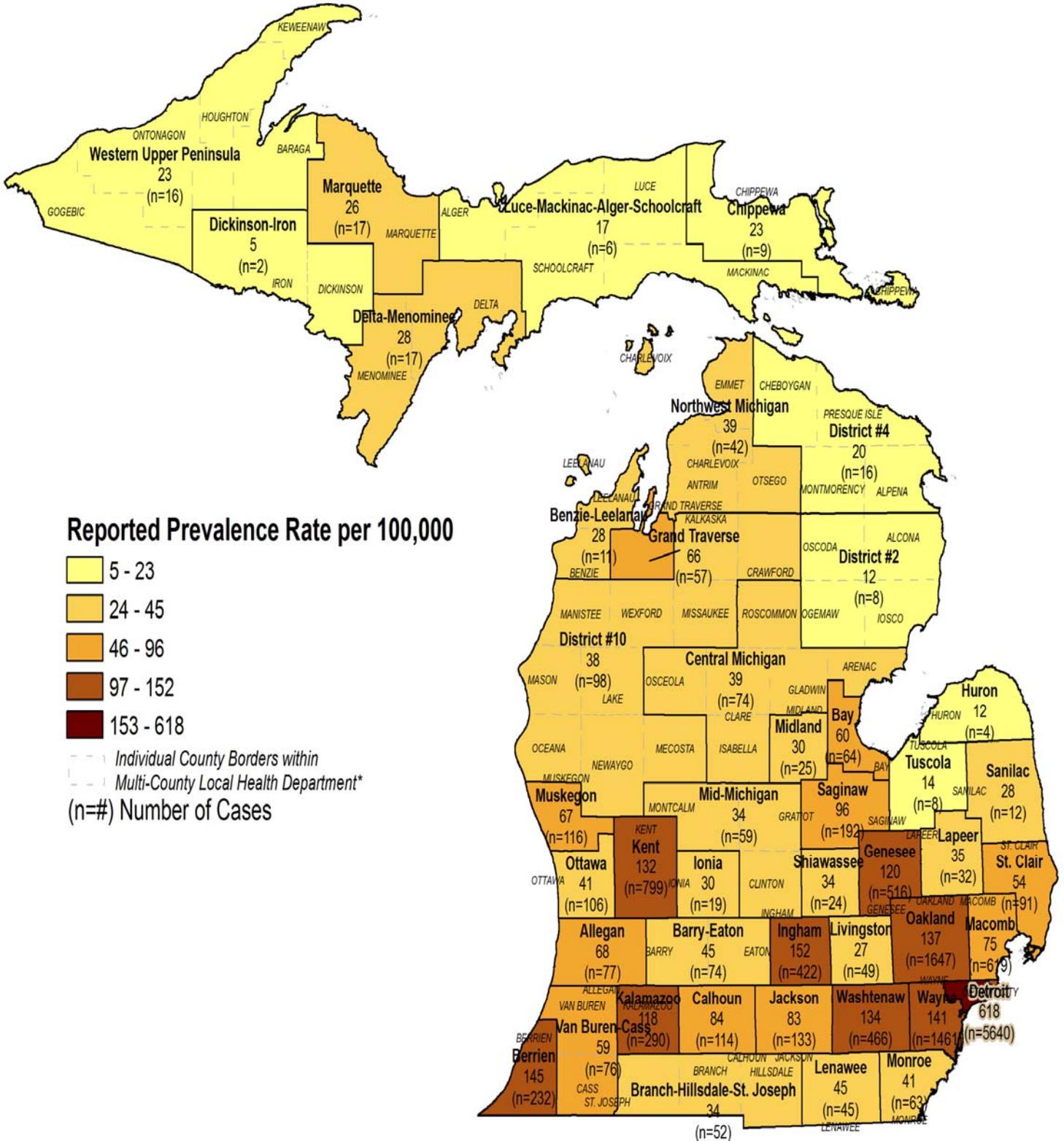
COUNTY	EST PREV Number	REPORTED PREVALENCE				CENSUS 2008 EST	COUNTY	EST PREV Number	REPORTED PREVALENCE				CENSUS 2008 EST
		HIV, Not AIDS	AIDS	Total	Rate*				HIV, Not AIDS	AIDS	Total	Rate*	
Alcona	10	0	0	0	0	11,556	Livingston	60	21	28	49	27	182,575
Alger	10	0	1	1	11	9,438	Luce	10	0	0	0	0	6,614
Allegan	100	29	48	77	68	112,975	Mackinac	10	3	1	4	38	10,624
Alpena	10	1	3	4	14	29,520	Macomb	800	297	322	619	75	830,663
Antrim	10	4	6	10	41	24,109	Manistee	20	6	7	13	53	24,640
Arenac	10	1	1	2	12	16,361	Marquette	20	8	9	17	26	65,492
Baraga	10	2	4	6	70	8,528	Mason	10	3	6	9	31	28,782
Barry	30	8	14	22	37	58,890	Mecosta	20	10	5	15	36	41,562
Bay	80	35	29	64	60	107,495	Menominee	10	3	1	4	17	24,202
Benzie	10	2	3	5	29	17,396	Midland	30	11	14	25	30	82,605
Berrien	300	94	138	232	145	159,481	Missaukee	10	4	2	6	40	15,001
Branch	20	12	3	15	33	45,726	Monroe	80	23	40	63	41	152,949
Calhoun	150	55	59	114	84	135,861	Montcalm	30	7	14	21	33	62,971
Cass	40	15	15	30	60	50,185	Montmorency	10	0	3	3	29	10,335
Charlevoix	20	5	8	13	50	25,936	Muskegon	150	61	55	116	67	174,344
Cheboygan	10	3	4	7	27	26,354	Newaygo	20	6	10	16	33	48,897
Chippewa	10	6	3	9	23	38,971	Oakland	2,130	798	849	1,647	137	1,202,174
Clare	20	5	8	13	43	30,312	Oceana	20	7	5	12	43	27,598
Clinton	40	18	13	31	44	69,726	Ogemaw	10	1	3	4	19	21,016
Crawford	10	0	3	3	21	14,463	Ontonagon	10	1	1	2	29	6,819
Delta	20	5	8	13	35	37,179	Osceola	10	2	3	5	22	22,930
Dickinson	10	0	1	1	4	26,812	Oscoda	10	1	0	1	11	8,836
Eaton	70	24	28	52	49	106,781	Otsego	10	5	6	11	46	23,808
Emmet	10	3	5	8	24	33,535	Ottawa	140	45	61	106	41	260,364
Genesee	670	263	253	516	120	428,790	Presque Isle	10	0	2	2	15	13,650
Gladwin	10	3	5	8	31	25,920	Roscommon	20	4	8	12	48	25,042
Gogebic	10	1	1	2	12	16,043	Saginaw	250	99	93	192	96	200,745
Grand Traverse	70	29	28	57	66	86,071	Sanilac	20	5	7	12	28	43,024
Gratiot	10	3	4	7	17	42,245	Schoolcraft	10	1	0	1	12	8,220
Hillsdale	10	4	3	7	15	46,212	Shiawassee	30	9	15	24	34	70,880
Houghton	10	2	4	6	17	35,174	St. Clair	120	48	43	91	54	168,894
Huron	10	2	2	4	12	32,805	St. Joseph	40	11	19	30	48	62,232
Ingham	550	224	198	422	152	277,528	Tuscola	10	4	4	8	14	56,187
Ionia	20	8	11	19	30	63,833	Van Buren	60	20	26	46	59	77,801
Iosco	10	2	1	3	12	25,932	Washtenaw	600	228	238	466	134	347,376
Iron	10	0	1	1	8	12,001	Wayne Total	9,200	3,141	3,960	7,101	364	1,949,929
Isabella	40	18	16	34	51	66,778	Wayne, excl. Detroit	1,890	630	831	1,461	141	1,037,867
Jackson	170	62	71	133	83	160,180	Detroit	7,310	2,511	3,129	5,640	618	912,062
Kalamazoo	380	147	143	290	118	245,912	Wexford	10	3	5	8	25	31,673
Kalkaska	10	4	1	5	29	17,066	<b>Detroit Metro<sup>†</sup></b>	<b>12,370</b>	<b>4,323</b>	<b>5,230</b>	<b>9,553</b>	<b>217</b>	<b>4,395,484</b>
Kent	1,040	355	444	799	132	605,213	<b>Out-State<sup>†</sup></b>	<b>5,630</b>	<b>2,067</b>	<b>2,280</b>	<b>4,347</b>	<b>78</b>	<b>5,607,938</b>
Keweenaw	10	0	0	0	0	2,202	<b>Prisons<sup>‡</sup></b>	<b>790</b>	<b>384</b>	<b>399</b>	<b>783</b>	<b>N/A</b>	<b>N/A</b>
Lake	10	3	8	11	100	11,014	<b>Unknown</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>N/A</b>	<b>N/A</b>
Lapeer	40	16	16	32	35	90,875	<b>TOTAL</b>	<b>18,800</b>	<b>6,776</b>	<b>7,910</b>	<b>14,686</b>	<b>147</b>	<b>10,003,422</b>
Leelanau	10	0	6	6	28	21,783							
Lenawee	60	21	24	45	45	100,801							

\*Rate is reported prevalence per 100,000 and is not an estimate

<sup>†</sup> Detroit Metro Area consists of Oakland, Monroe, Lapeer, Macomb, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State area.

<sup>‡</sup> The Prevalence Estimate for prisons is calculated differently from the remainder of the state. Please see the Front Matter (p. iii) for a further explanation.

**FIGURE 5. Reported HIV Prevalence and Prevalence Rates by Residence at Diagnosis**



\*To mitigate the effect of small numbers of cases, reported HIV prevalence rates and case numbers for multi-county health departments are listed for the health department as a whole and not the individual counties.

**TABLE 8. Perinatal HIV Exposures by Year of Birth, 2004 - 2010**

	2004	2005	2006	2007	2008	2009	2010 <sup>†</sup>
<b>NUMBER DELIVERIES/BIRTHS</b>							
Infants	56	71	50	52	39	34	11
Mothers	52	65	48	45	38	29	8
<b>RESIDENCE AT BIRTH</b>							
Southeast Michigan	37 66%	42 59%	30 60%	35 67%	28 72%	21 62%	5 45%
Out-State Michigan	19 34%	29 41%	20 40%	17 33%	11 28%	13 38%	6 55%
<b>INFANTS' RACE</b>							
White, Non-Hispanic	8 14%	9 13%	6 12%	6 12%	8 21%	8 24%	0 0%
Black, Non-Hispanic	45 80%	57 80%	35 70%	41 79%	27 69%	23 68%	9 82%
Other	3 5%	5 7%	9 18%	5 10%	4 10%	3 9%	2 18%
<b>MOTHERS' MODE OF TRANSMISSION</b>							
Injecting Drug Use	3 6%	7 11%	2 4%	1 2%	1 3%	6 21%	0 0%
High Risk Heterosexual	14 27%	32 49%	18 38%	15 33%	8 21%	10 34%	5 63%
Undetermined	35 67%	26 40%	28 58%	29 64%	29 76%	13 45%	3 38%

<sup>†</sup> Reporting for 2010 is incomplete at this time.

Table 8 displays the characteristics of all infants born to HIV positive women as well as characteristics of their mothers. Figure 6 indicates the current infection status of these infants -- the bottom portion of the bars showing number confirmed to be infected with HIV and/or diagnosed with AIDS; the middle portion showing those not to be infected with HIV or AIDS through laboratory testing or physician exam; and the top portion showing the number whose HIV infection status is unknown due to loss to follow up or infection status reporting delay.

Since 1994, the CDC and other organizations involved in perinatal HIV transmission have recommended that HIV-positive pregnant women receive doses of zidovudine (ZDV or AZT) prenatally and at labor and delivery and that children born to these women receive ZDV neonatally. Despite these recommendations, only 57% of births to HIV-positive women are documented by MDCH to have received all three arms of therapy. For more information, please see the annual Missed Opportunity report, which can be found at: [http://www.michigan.gov/mdch/0,1607,7-132-2940\\_2955\\_2982\\_46000\\_46003-166892--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_2982_46000_46003-166892--,00.html)

**FIGURE 6. Infection Status of Perinatal HIV Exposures, 2004 - 2010**