

### 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 1,982 complete anonymous reports have been reported in Michigan.

## HIV Prevalence Estimates for Michigan

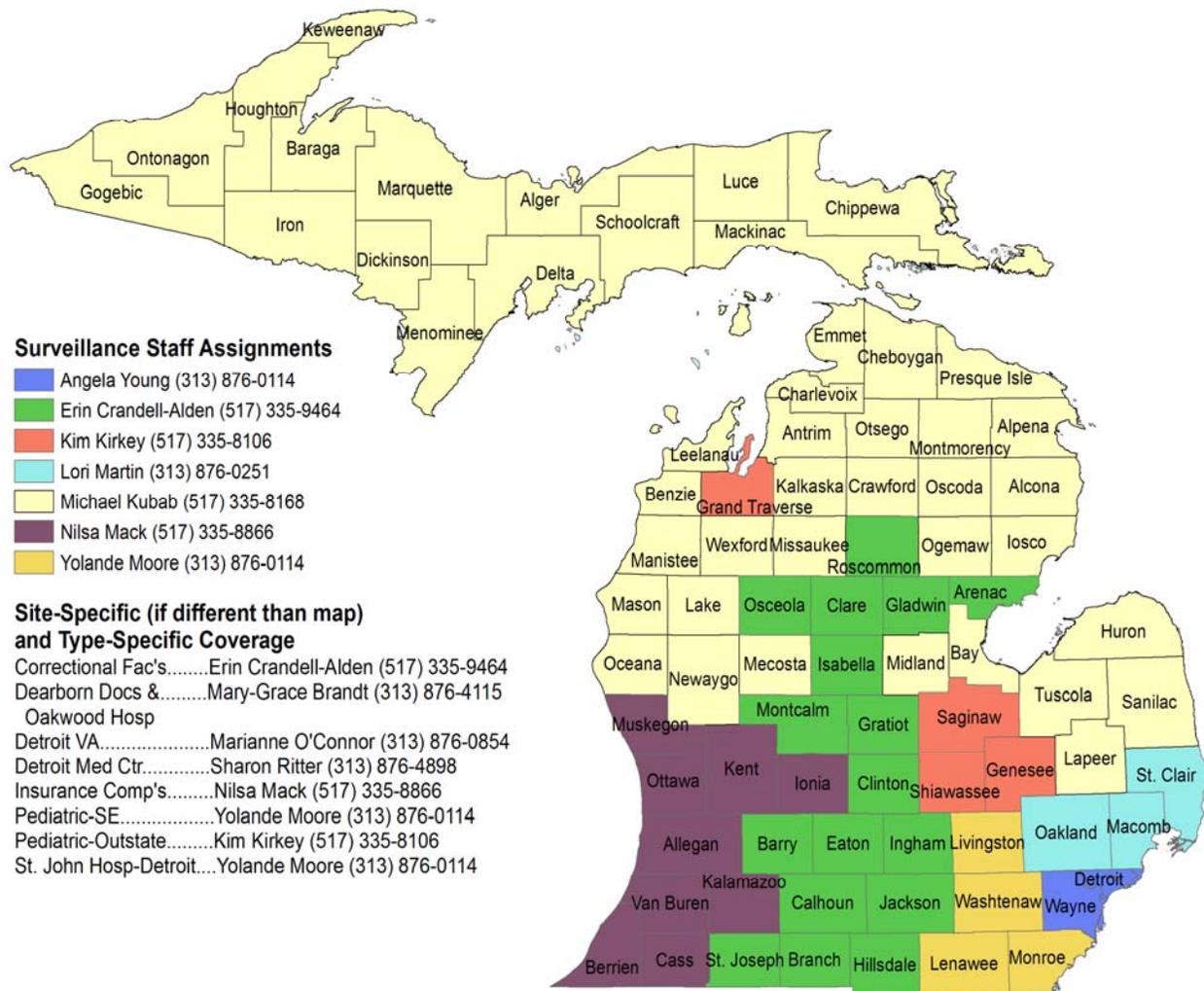
HIV prevalence estimates in this report are based on adding the following three components and rounding: 1) the number of reported cases living with HIV/AIDS, 2) the number of known HIV+ cases not yet reported, estimated at 10 percent of the reported living HIV/AIDS cases, and 3) the number of HIV+ cases 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 14,510 (77.18% 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**

	<b>EST PREV*</b>	<b>REPORTED PREVALENCE</b>						<b>CENSUS 2008 ESTIMATES</b>	
		<b>HIV, not AIDS</b>		<b>AIDS</b>		<b>Total</b>		<b>Rate per 100,000<sup>†</sup></b>	
	<b>Number</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
<b>RACE/ ETHNICITY<sup>§</sup></b>									
White	6,490	2,329	34%	2,702	35%	5,031	35%	65	7,750,818 77%
Black	11,130	4,036	60%	4,593	59%	8,629	59%	615	1,403,051 14%
Hispanic	770	265	4%	334	4%	599	4%	145	413,827 4%
Asian/PI	90	34	1%	35	0%	69	0%	29	236,236 2%
Am Indian/AN	50	21	0%	20	0%	41	0%	75	54,714 1%
Multi/Unk/Other	260	91	1%	114	1%	205	1%	N/A	144,776 1%
<b>SEX &amp; RACE</b>									
Males	14,510	5,079	75%	6,167	79%	11,246	77%	228	4,923,929 49%
White Males	5,660	1,973	29%	2,416	31%	4,389	30%	115	3,825,990 38%
Black Males	7,950	2,807	41%	3,356	43%	6,163	42%	930	662,992 7%
Hispanic Males	600	199	3%	265	3%	464	3%	213	217,942 2%
Other Males	300	100	1%	130	2%	230	2%	106	217,005 2%
Females	4,290	1,697	25%	1,631	21%	3,328	23%	66	5,079,493 51%
White Females	830	356	5%	286	4%	642	4%	16	3,924,828 39%
Black Females	3,180	1,229	18%	1,237	16%	2,466	17%	333	740,059 7%
Hispanic Fmls	170	66	1%	69	1%	135	1%	69	195,885 2%
Other Females	110	46	1%	39	1%	85	1%	39	218,721 2%
<b>RISK*</b>									
Male-Male Sex	8,990	3,117	46%	3,854	49%	6,971	48%	N/A	N/A N/A
Injection Drug Use	2,090	640	9%	979	13%	1,619	11%	N/A	N/A N/A
MSM/IDU	830	265	4%	375	5%	640	4%	N/A	N/A N/A
Blood Products	120	34	1%	62	1%	96	1%	N/A	N/A N/A
Heterosexual	3,360	1,281	19%	1,320	17%	2,601	18%	N/A	N/A N/A
HRH	2,360	842	12%	988	13%	1,830	13%	N/A	N/A N/A
PH-Female	990	439	6%	332	4%	771	5%	N/A	N/A N/A
Perinatal	200	105	2%	52	1%	157	1%	N/A	N/A N/A
Undetermined	3,210	1,334	20%	1,156	15%	2,490	17%	N/A	N/A N/A
PH-Male	1,690	590	9%	718	9%	1,308	9%	N/A	N/A N/A
Unknown	1,520	744	11%	438	6%	1,182	8%	N/A	N/A N/A
<b>AGE AT HIV DIAGNOSIS</b>									
0 - 12 years	230	120	2%	62	1%	182	1%	N/A	N/A N/A
13 - 19 years	860	413	6%	251	3%	664	5%	N/A	N/A N/A
20 - 24 years	2,420	1,072	16%	801	10%	1,873	13%	N/A	N/A N/A
25 - 29 years	3,100	1,179	17%	1,227	16%	2,406	17%	N/A	N/A N/A
30 - 39 years	6,600	2,183	32%	2,936	38%	5,119	35%	N/A	N/A N/A
40 - 49 years	3,990	1,301	19%	1,793	23%	3,094	21%	N/A	N/A N/A
50 - 59 years	1,300	416	6%	592	8%	1,008	7%	N/A	N/A N/A
60 years and over	290	89	1%	136	2%	225	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	12,380	4,318	64%	5,162	66%	9,480	65%	216	4,395,484 44%
Out-State	5,630	2,060	30%	2,247	29%	4,307	30%	77	5,607,938 56%
Prison/Unknown	800	398	6%	389	5%	787	5%	N/A	N/A N/A
<b>TOTAL</b>	<b>18,800</b>	<b>6,776</b>	<b>100%</b>	<b>7,798</b>	<b>100%</b>	<b>14,574</b>	<b>100%</b>	<b>146</b>	<b>10,003,422 100%</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.

<sup>†</sup> 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 / 5,031 = 1,541. Thus, 1 out of every 1,541 non-Hispanic white persons in Michigan are living with HIV.

<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.

<sup>\*</sup> 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>RISK TRANSMISSION CATEGORIES (CDC Hierarchy)<sup>§</sup></b>						
<i>(Mutually Exclusive: one case is represented in ONLY one category)</i>						
Male-Male Sex	6,971	62%	N/A	--	6,971	48%
Injection Drug Use	961	9%	658	20%	1,619	11%
MSM/IDU	640	6%	N/A	--	640	4%
Blood Products	82	1%	14	0%	96	1%
Heterosexual	529	5%	2,072	62%	2,601	18%
HRH	529	5%	1,301	39%	1,830	13%
PH-Female	N/A	--	771	23%	771	5%
Perinatal	88	1%	69	2%	157	1%
Undetermined	1,975	18%	515	15%	2,490	17%
PH-Male	1,308	12%	N/A	--	1,308	9%
Unknown	667	6%	515	15%	1,182	8%
<b>EXPOSURE CATEGORIES<sup>†</sup></b>						
<i>(Mutually Exclusive: one case is represented in ONLY one category)</i>						
Male-Male Sex	6,466	57%	N/A	--	6,466	44%
MSM - ONLY	4,413	39%	N/A	--	4,413	30%
MSM & Sex with Female (not HRH)	2,053	18%	N/A	--	2,053	14%
MSM & HRH	501	4%	N/A	--	501	3%
MSM & IDU	444	4%	N/A	--	444	3%
MSM & IDU & HRH	196	2%	N/A	--	196	1%
MSM & Blood Products	4	0%	N/A	--	4	0%
Heterosexual - ONLY	529	5%	2,072	62%	2,601	18%
HRH	529	5%	1,301	39%	1,830	13%
PH-Female	N/A	--	771	23%	771	5%
HRH & IDU	379	3%	361	11%	740	5%
Injection Drug Use - ONLY	577	5%	293	9%	870	6%
IDU & Blood Products	5	0%	4	0%	9	0%
Perinatal Exposure	88	1%	70	2%	158	1%
Exposure to Blood Products - ONLY	82	1%	14	0%	96	1%
Undetermined	1,975	18%	514	15%	2,489	17%
PH-Male Only	1,308	12%	N/A	--	1,308	9%
Unknown	667	6%	514	15%	1,181	8%
<b>TOTAL</b>	<b>11,246</b>	<b>100%</b>	<b>3,328</b>	<b>100%</b>	<b>14,574</b>	<b>100%</b>
<b>SUMMARIZED EXPOSURE CATEGORIES*</b>						
<i>(NOT Mutually Exclusive: one case can be represented in multiple categories)</i>						
Any MSM	7,611	68%	N/A	--	7,611	52%
Behaviorally Bisexual Men	2,750	24%	N/A	--	2,750	19%
Any Heterosexual	3,658	33%	2,433	73%	6,091	42%
Any HRH	1,605	14%	1,662	50%	3,267	22%
Any IDU	1,601	14%	658	20%	2,259	16%

\*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.

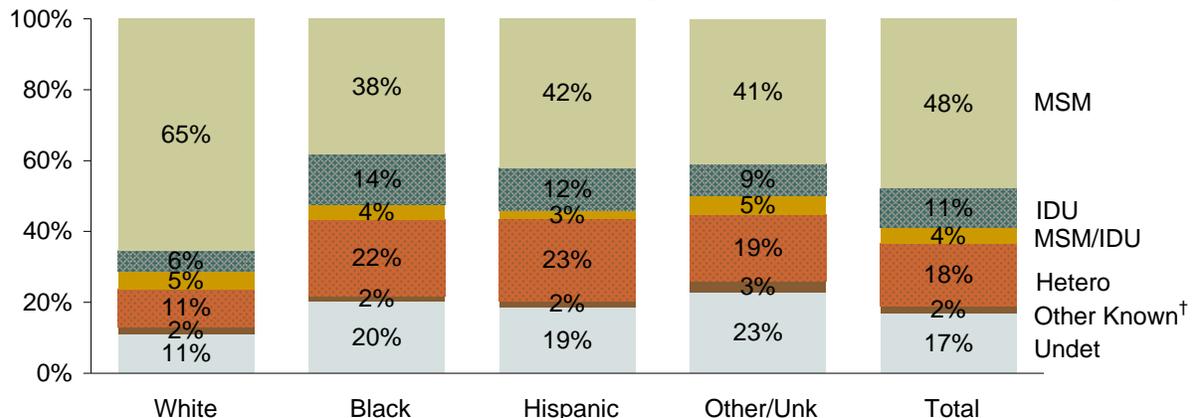
\*These groups presented are NOT mutually exclusive, meaning a case can be represented in multiple groupings. These summarized categories are meant to give a broader picture of the exposure categories and will NOT add up to the overall total number of persons living with HIV/AIDS.

**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	3,294	75%	3,296	53%	252	54%	129	56%	6,971	62%
Injecting Drug Use	183	4%	715	12%	51	11%	12	5%	961	9%
Male-Male Sex/IDU	249	6%	359	6%	15	3%	17	7%	640	6%
Blood Products	64	1%	15	0%	1	0%	2	1%	82	1%
Heterosexual*	101	2%	386	6%	37	8%	5	2%	529	5%
Perinatal	15	0%	66	1%	2	0%	5	2%	88	1%
Undetermined	483	11%	1,326	22%	106	23%	60	26%	1,975	18%
<i>PH-Male</i>	289	7%	904	15%	77	17%	38	17%	1,308	12%
<i>Unknown</i>	194	4%	422	7%	29	6%	22	10%	667	6%
<b>Male Subtotal</b>	<b>4,389</b>	<b>39%</b>	<b>6,163</b>	<b>55%</b>	<b>464</b>	<b>4%</b>	<b>230</b>	<b>2%</b>	<b>11,246</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%	507	21%	21	16%	16	19%	658	20%
Blood Products	9	1%	4	0%	1	1%	0	0%	14	0%
Heterosexual	428	67%	1,489	60%	101	75%	54	64%	2,072	62%
<i>HRH</i>	318	50%	879	36%	74	55%	30	35%	1,301	39%
<i>PH-Female</i>	110	17%	610	25%	27	20%	24	28%	771	23%
Perinatal	12	2%	48	2%	6	4%	3	4%	69	2%
Undetermined*	79	12%	418	17%	6	4%	12	14%	515	15%
<b>Female Subtotal</b>	<b>642</b>	<b>19%</b>	<b>2,466</b>	<b>74%</b>	<b>135</b>	<b>4%</b>	<b>85</b>	<b>3%</b>	<b>3,328</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	3,294	65%	3,296	38%	252	42%	129	41%	6,971	48%
Injecting Drug Use	297	6%	1,222	14%	72	12%	28	9%	1,619	11%
Male-Male Sex/IDU	249	5%	359	4%	15	3%	17	5%	640	4%
Blood Products	73	1%	19	0%	2	0%	2	1%	96	1%
Heterosexual	529	11%	1,875	22%	138	23%	59	19%	2,601	18%
<i>HRH</i>	419	8%	1,265	15%	111	19%	35	11%	1,830	13%
<i>PH-Female</i>	110	2%	610	7%	27	5%	24	8%	771	5%
Perinatal	27	1%	114	1%	8	1%	8	3%	157	1%
Undetermined	562	11%	1,744	20%	112	19%	72	23%	2,490	17%
<i>PH-Male</i>	289	6%	904	10%	77	13%	38	12%	1,308	9%
<i>Unknown</i>	273	5%	840	10%	35	6%	34	11%	1,182	8%
<b>RACE TOTAL</b>	<b>5,031</b>	<b>35%</b>	<b>8,629</b>	<b>59%</b>	<b>599</b>	<b>4%</b>	<b>315</b>	<b>2%</b>	<b>14,574</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>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Male Subtotal</b>	
0 - 12 years	24	1%	74	1%	2	0%	6	3%	106	1%
13 - 19 years	67	2%	391	6%	16	3%	8	3%	482	4%
20 - 24 years	412	9%	932	15%	49	11%	29	13%	1,422	13%
25 - 29 years	721	16%	992	16%	91	20%	46	20%	1,850	16%
30 - 39 years	1,723	39%	2,006	33%	185	40%	90	39%	4,004	36%
40 - 49 years	1,040	24%	1,271	21%	82	18%	36	16%	2,429	22%
50 - 59 years	317	7%	415	7%	28	6%	13	6%	773	7%
60 years and over	85	2%	80	1%	11	2%	2	1%	178	2%
<b>Total*</b>	<b>4,389</b>	<b>39%</b>	<b>6,161</b>	<b>55%</b>	<b>464</b>	<b>4%</b>	<b>230</b>	<b>2%</b>	<b>11,244</b>	<b>100%</b>

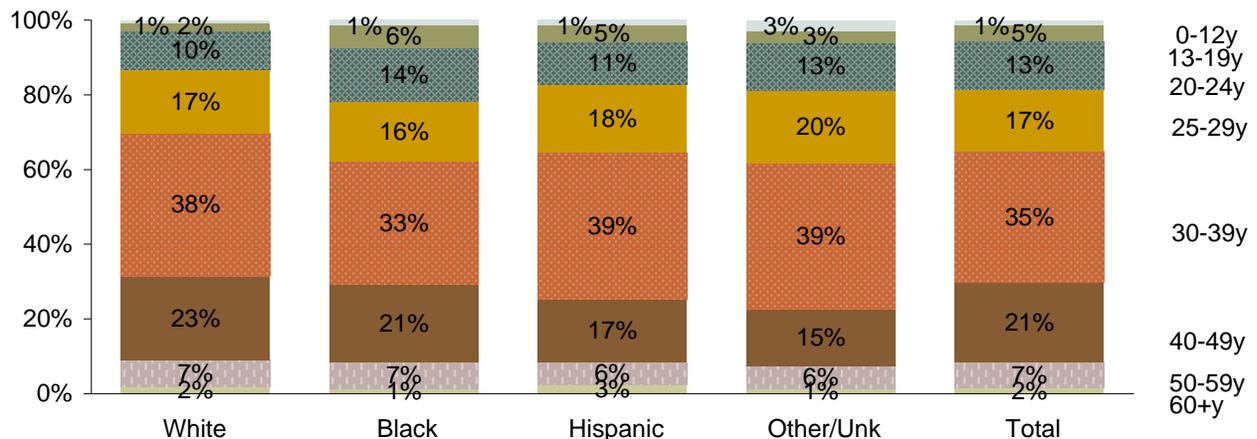
<b>FEMALES</b>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Female Subtotal</b>	
0 - 12 years	13	2%	54	2%	6	4%	3	4%	76	2%
13 - 19 years	41	6%	128	5%	11	8%	2	2%	182	5%
20 - 24 years	116	18%	305	12%	19	14%	11	13%	451	14%
25 - 29 years	128	20%	393	16%	19	14%	16	19%	556	17%
30 - 39 years	202	32%	830	34%	50	37%	33	39%	1,115	34%
40 - 49 years	95	15%	539	22%	19	14%	12	14%	665	20%
50 - 59 years	38	6%	184	7%	7	5%	6	7%	235	7%
60 years and over	8	1%	33	1%	4	3%	2	2%	47	1%
<b>Total*</b>	<b>641</b>	<b>19%</b>	<b>2,466</b>	<b>74%</b>	<b>135</b>	<b>4%</b>	<b>85</b>	<b>3%</b>	<b>3,327</b>	<b>100%</b>

<b>TOTAL</b>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Age Total</b>	
0 - 12 years	37	1%	128	1%	8	1%	9	3%	182	1%
13 - 19 years	108	2%	519	6%	27	5%	10	3%	664	5%
20 - 24 years	528	10%	1,237	14%	68	11%	40	13%	1,873	13%
25 - 29 years	849	17%	1,385	16%	110	18%	62	20%	2,406	17%
30 - 39 years	1,925	38%	2,836	33%	235	39%	123	39%	5,119	35%
40 - 49 years	1,135	23%	1,810	21%	101	17%	48	15%	3,094	21%
50 - 59 years	355	7%	599	7%	35	6%	19	6%	1,008	7%
60 years and over	93	2%	113	1%	15	3%	4	1%	225	2%
<b>RACE TOTAL *</b>	<b>5,030</b>	<b>35%</b>	<b>8,627</b>	<b>59%</b>	<b>599</b>	<b>4%</b>	<b>315</b>	<b>2%</b>	<b>14,571</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	488	102	786	168	99	157
1987	716	182	1,320	318	174	301
1988	902	263	1,959	493	254	540
1989	1,301	380	2,880	689	370	859
1990	1,441	453	3,868	795	433	1,221
1991	1,450	536	4,782	962	515	1,668
1992	1,490	662	5,610	1,231	630	2,269
1993	1,305	822	6,093	1,126	776	2,619
1994	1,214	899	6,408	1,013	842	2,790
1995	1,190	911	6,687	1,063	843	3,010
1996	1,122	632	7,177	857	583	3,284
1997	1,049	469	7,757	736	419	3,601
1998	905	398	8,264	649	350	3,900
1999	755	363	8,656	574	317	4,157
2000	928	379	9,205	650	328	4,479
2001	883	382	9,706	572	315	4,736
2002	764	299	10,171	578	270	5,044
2003	881	278	10,774	600	240	5,404
2004	895	270	11,399	559	224	5,739
2005	904	284	12,019	680	242	6,177
2006	821	251	12,589	629	209	6,597
2007	802	233	13,158	599	201	6,995
2008	800	202	13,756	559	180	7,374
2009	815	116	14,455	461	105	7,730
2010	127	8	<b>14,574</b>	75	7	<b>7,798</b>
<b>TOTAL</b>	<b>24,435</b>	<b>9,861</b>		<b>16,811</b>	<b>9,013</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 14,574. The prevalence of AIDS, which is a subset of HIV/AIDS prevalence, is 7,798.

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**

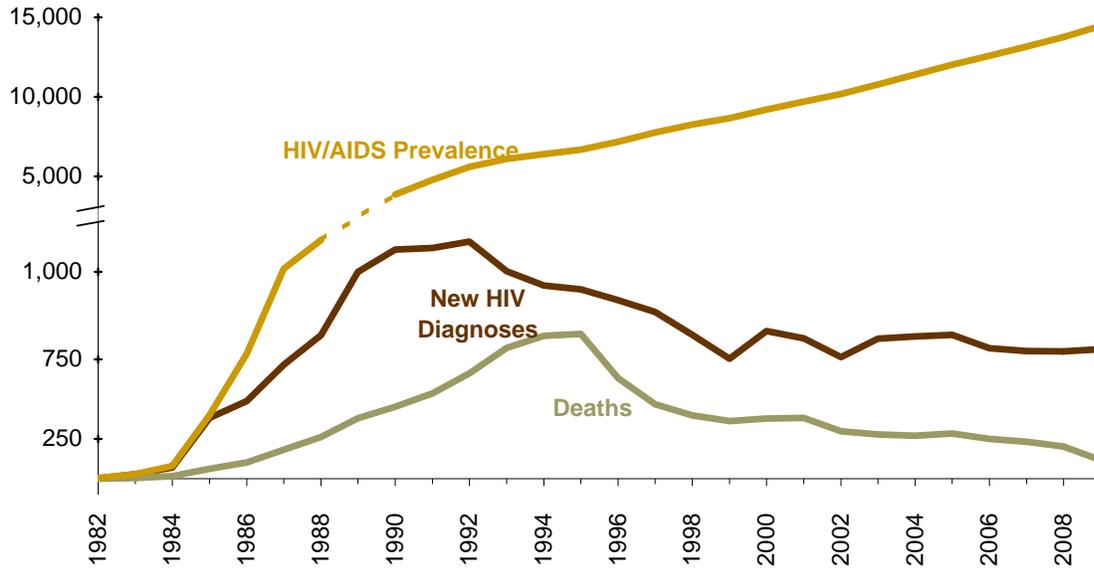
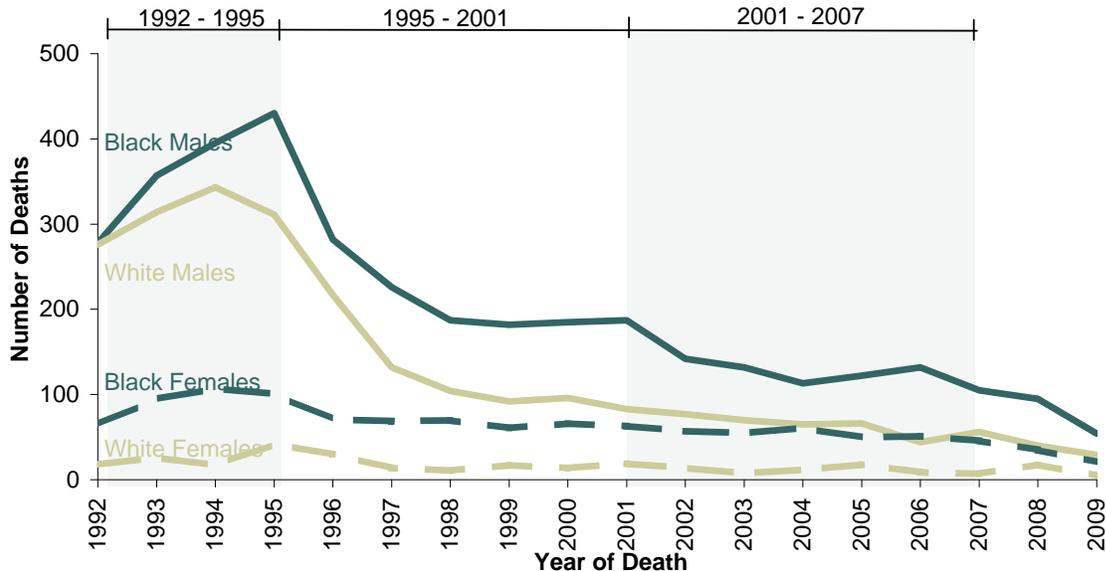


Figure 4 (below) shows the number of HIV-infected Michigan residents who have been reported as deceased by a local health department, the department of vital records via a data match or death certificate, or an alternate source. The number of deaths increased in all race/sex groups from the beginning 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 (49%), as have the number of deaths in white males (52%) and black females (44%). Compared to the other groups, the number of deaths in white females fell by a smaller amount between 2001 and 2008 (5%).

**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	32	(32%)	5	(18%)	37	(29%)	7,735	(40%)	978	(19%)	8,713	(36%)
Black	60	(61%)	21	(75%)	81	(64%)	10,571	(55%)	3,797	(75%)	14,368	(59%)
Hispanic	6	(6%)	2	(7%)	8	(6%)	706	(4%)	185	(4%)	891	(4%)
Asian/HI/PI	0	(0%)	0	(0%)	0	(0%)	62	(0%)	22	(0%)	84	(0%)
Am In/AK Nat	0	(0%)	0	(0%)	0	(0%)	46	(0%)	15	(0%)	61	(0%)
Multi/Unk	1	(1%)	0	(0%)	1	(1%)	239	(1%)	79	(2%)	318	(1%)
<b>RISK<sup>§</sup></b>												
Male-Male Sex	57	(58%)	N/A	--	57	(45%)	11,405	(59%)	N/A	--	11,405	(47%)
Injection Drug Use	1	(1%)	6	(21%)	7	(6%)	2,675	(14%)	1,562	(31%)	4,237	(17%)
MSM/IDU	12	(12%)	N/A	--	12	(9%)	1,331	(7%)	N/A	--	1,331	(5%)
Blood Products	0	(0%)	0	(0%)	0	(0%)	305	(2%)	38	(1%)	343	(1%)
Heterosexual	2	(2%)	14	(50%)	16	(13%)	783	(4%)	2,716	(54%)	3,499	(14%)
HRH	2	(2%)	5	(18%)	7	(6%)	783	(4%)	1,801	(35%)	2,584	(11%)
PH-Female	N/A	--	9	(32%)	9	(7%)	N/A	--	915	(18%)	915	(4%)
Perinatal	0	(0%)	1	(4%)	1	(1%)	129	(1%)	101	(2%)	230	(1%)
Undetermined	39	(39%)	7	(25%)	46	(36%)	2,731	(14%)	659	(13%)	3,390	(14%)
PH-Male	17	(17%)	N/A	--	17	(13%)	1,762	(9%)	N/A	--	1,762	(7%)
Unknown	22	(22%)	7	(25%)	29	(23%)	969	(5%)	659	(13%)	1,628	(7%)
<b>AGE AT HIV DIAGNOSIS</b>												
0 - 12 years	0	(0%)	1	(4%)	1	(1%)	174	(1%)	107	(2%)	281	(1%)
13 - 19 years	11	(11%)	2	(7%)	13	(10%)	568	(3%)	214	(4%)	782	(3%)
20 - 24 years	22	(22%)	5	(18%)	27	(21%)	1,850	(10%)	555	(11%)	2,405	(10%)
25 - 29 years	17	(17%)	5	(18%)	22	(17%)	3,092	(16%)	778	(15%)	3,870	(16%)
30 - 39 years	20	(20%)	6	(21%)	26	(20%)	7,214	(37%)	1,781	(35%)	8,995	(37%)
40 - 49 years	16	(16%)	7	(25%)	23	(18%)	4,513	(23%)	1,136	(22%)	5,649	(23%)
50 - 59 years	12	(12%)	1	(4%)	13	(10%)	1,510	(8%)	390	(8%)	1,900	(8%)
60 years and over	1	(1%)	1	(4%)	2	(2%)	436	(2%)	114	(2%)	550	(2%)
Unspecified	0	(0%)	0	(0%)	0	(0%)	2	(0%)	1	(0%)	3	(0%)
<b>DISEASE STATUS<sup>¶</sup></b>												
HIV, not AIDS	80	(81%)	22	(79%)	102	(80%)	5,700	(29%)	1,924	(38%)	7,624	(31%)
AIDS - Same time	16	(16%)	6	(21%)	22	(17%)	7,429	(38%)	1,447	(29%)	8,876	(36%)
AIDS - Short lag	3	(3%)	0	(0%)	3	(2%)	1,461	(8%)	402	(8%)	1,863	(8%)
AIDS - Long lag	0	(0%)	0	(0%)	0	(0%)	4,769	(25%)	1,303	(26%)	6,072	(25%)
<b>AREA OF RESIDENCE AT DIAGNOSIS<sup>‡</sup></b>												
Detroit Metro	73	(74%)	16	(57%)	89	(70%)	12,754	(66%)	3,674	(72%)	16,428	(67%)
Out-State	25	(25%)	12	(43%)	37	(29%)	5,507	(28%)	1,297	(26%)	6,804	(28%)
Prison/Unknown	1	(1%)	0	(0%)	1	(1%)	1,098	(6%)	105	(2%)	1,203	(5%)
<b>TOTAL</b>	<b>99</b>	<b>(78%)</b>	<b>28</b>	<b>(22%)</b>	<b>127</b>	<b>(100%)</b>	<b>19,359</b>	<b>(79%)</b>	<b>5,076</b>	<b>(21%)</b>	<b>24,435</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

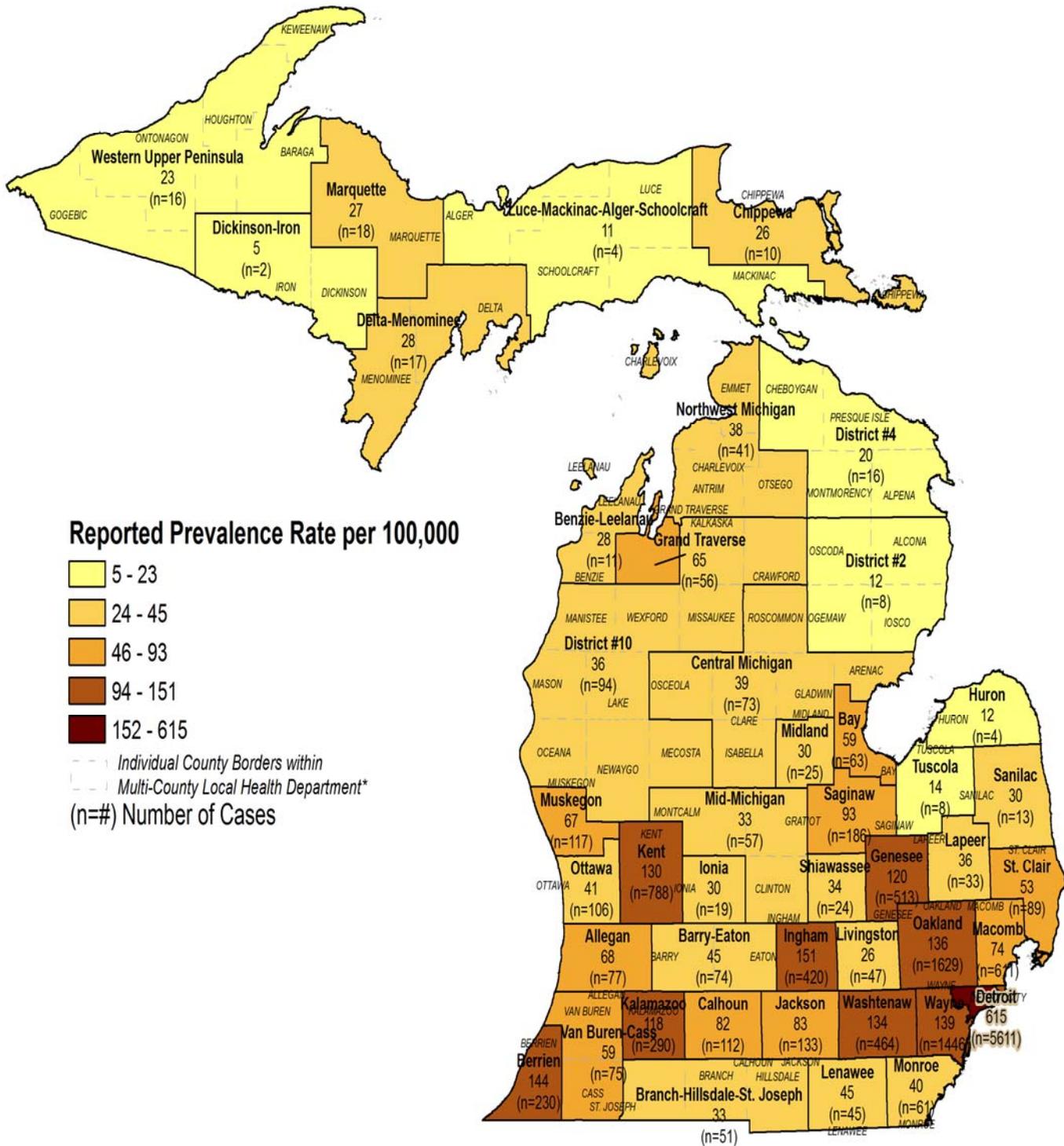
COUNTY	EST PREV Number	REPORTED PREVALENCE				CENSUS 2008 EST	COUNTY	EST PREV Number	REPORTED PREVALENCE				CENSUS 2008 EST
		HIV, Not AIDS	AIDS	Total	Rate*				HIV, Not AIDS	AIDS	Total	Rate*	
Alcona	10	0	0	0	0	11,556	Livingston	60	20	27	47	26	182,575
Alger	10	0	1	1	11	9,438	Luce	10	0	0	0	0	6,614
Allegan	100	29	48	77	68	112,975	Mackinac	10	1	1	2	19	10,624
Alpena	10	1	3	4	14	29,520	Macomb	800	296	315	611	74	830,663
Antrim	10	3	6	9	37	24,109	Manistee	10	5	6	11	45	24,640
Arenac	10	1	1	2	12	16,361	Marquette	20	10	8	18	27	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	28	63	59	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	96	134	230	144	159,481	Missaukee	10	4	2	6	40	15,001
Branch	20	11	3	14	31	45,726	Monroe	80	23	38	61	40	152,949
Calhoun	150	54	58	112	82	135,861	Montcalm	20	6	13	19	30	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	56	117	67	174,344
Cheboygan	10	3	4	7	27	26,354	Newaygo	20	5	9	14	29	48,897
Chippewa	10	7	3	10	26	38,971	Oakland	2,130	794	835	1,629	136	1,202,174
Clare	20	6	7	13	43	30,312	Oceana	10	6	5	11	40	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	259	254	513	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	240	98	88	186	93	200,745
Grand Traverse	70	29	27	56	65	86,071	Sanilac	20	6	7	13	30	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	45	44	89	53	168,894
Huron	10	2	2	4	12	32,805	St. Joseph	40	11	19	30	48	62,232
Ingham	550	225	195	420	151	277,528	Tuscola	10	4	4	8	14	56,187
Ionia	20	8	11	19	30	63,833	Van Buren	60	20	25	45	58	77,801
Iosco	10	2	1	3	12	25,932	Washtenaw	610	228	236	464	134	347,376
Iron	10	0	1	1	8	12,001	Wayne Total	9,220	3,144	3,913	7,057	362	1,949,929
Isabella	40	18	15	33	49	66,778	Wayne, excl. Detroit	1,890	627	819	1,446	139	1,037,867
Jackson	170	64	69	133	83	160,180	Detroit	7,330	2,517	3,094	5,611	615	912,062
Kalamazoo	380	148	142	290	118	245,912	Wexford	10	3	5	8	25	31,673
Kalkaska	10	4	1	5	29	17,066							
Kent	1,030	351	437	788	130	605,213	<b>Detroit Metro<sup>†</sup></b>	<b>12,380</b>	<b>4,318</b>	<b>5,162</b>	<b>9,480</b>	<b>216</b>	<b>4,395,484</b>
Keweenaw	10	0	0	0	0	2,202	<b>Out-State<sup>†</sup></b>	<b>5,630</b>	<b>2,060</b>	<b>2,247</b>	<b>4,307</b>	<b>77</b>	<b>5,607,938</b>
Lake	20	4	8	12	109	11,014							
Lapeer	40	16	17	33	36	90,875	<b>Prisons<sup>‡</sup></b>	<b>790</b>	<b>397</b>	<b>388</b>	<b>785</b>	<b>N/A</b>	<b>N/A</b>
Leelanau	10	0	6	6	28	21,783	<b>Unknown</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>N/A</b>	<b>N/A</b>
Lenawee	60	21	24	45	45	100,801	<b>TOTAL</b>	<b>18,800</b>	<b>6,776</b>	<b>7,798</b>	<b>14,574</b>	<b>146</b>	<b>10,003,422</b>

\*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	55	71	49	52	37	33	3
Mothers	51	65	47	45	36	29	3
<b>RESIDENCE AT BIRTH</b>							
Southeast Michigan	37 67%	42 59%	30 61%	35 67%	26 70%	21 64%	2 67%
Out-State Michigan	18 33%	29 41%	19 39%	17 33%	11 30%	12 36%	1 33%
<b>INFANTS' RACE</b>							
White, Non-Hispanic	7 13%	9 13%	6 12%	6 12%	7 19%	8 24%	0 0%
Black, Non-Hispanic	45 82%	57 80%	34 69%	41 79%	27 73%	22 67%	3 100%
Other	3 5%	5 7%	9 18%	5 10%	3 8%	3 9%	0 0%
<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	13 25%	32 49%	18 38%	15 33%	7 19%	10 34%	1 33%
Undetermined	35 69%	26 40%	27 57%	29 64%	28 78%	13 45%	2 67%

<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**