

### 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 2,002 complete anonymous reports have been reported in Michigan.

# HIV Surveillance in Michigan (Continued)

## 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 19,500. 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 15,090 (77.38% X 19,500). Since the estimates are rounded to the nearest 10, totals may not equal 19,500. 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 (19,500 - 790 = 18,710). 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 2,220 (11.87% x 18,710). Since the estimates are rounded to the nearest 10, the county totals may not equal 18,710. 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

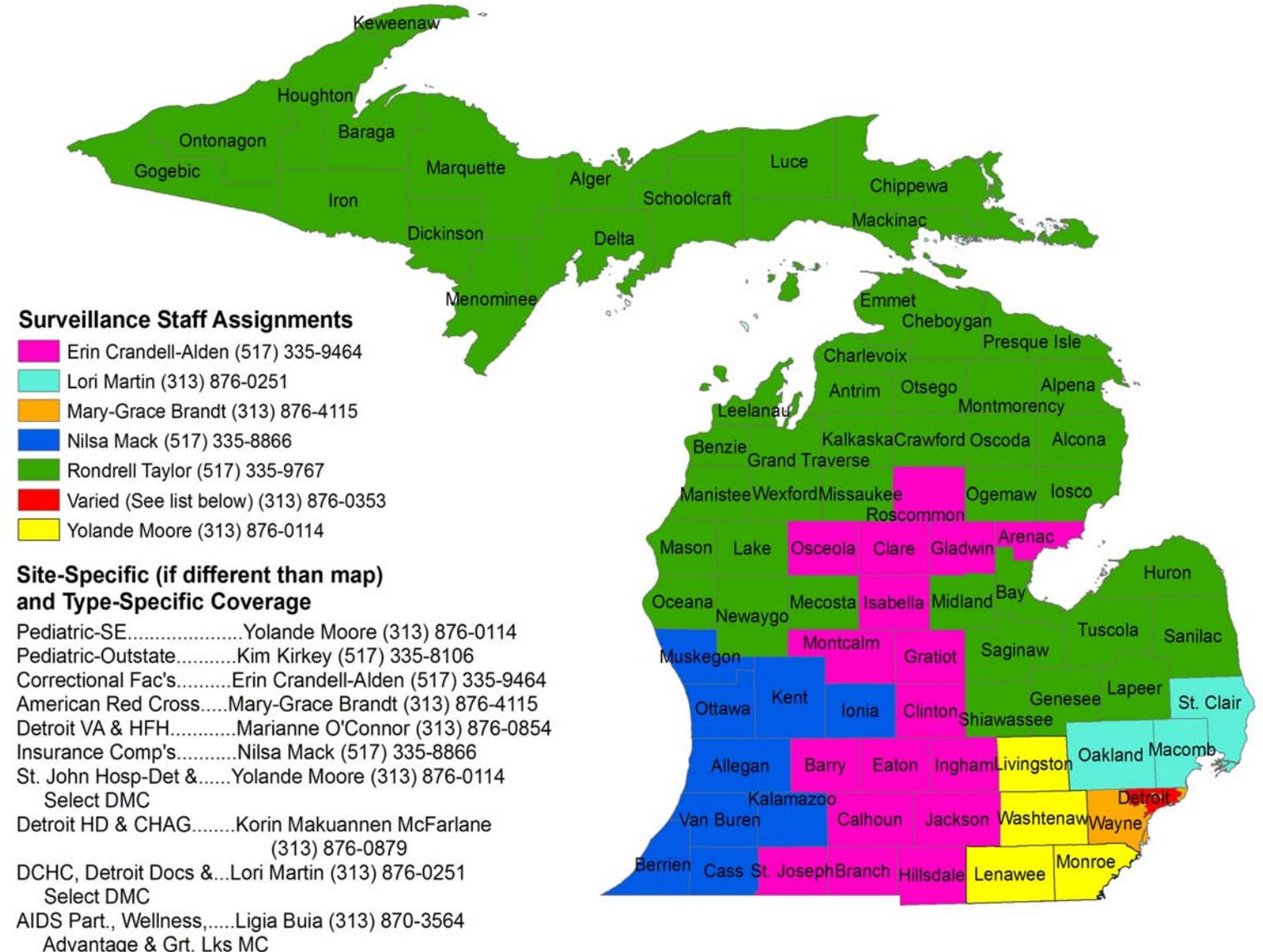


TABLE 1. Demographic Information on Prevalent HIV/AIDS Cases

	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	6,700	2,361	34%	2,760	34%	5,121	34%	66	7,750,818	77%
Black	11,510	4,050	59%	4,744	59%	8,794	59%	627	1,403,051	14%
Hispanic	810	268	4%	351	4%	619	4%	150	413,827	4%
Asian/PI	100	34	0%	39	0%	73	0%	31	236,236	2%
Am Indian/AN	50	24	0%	17	0%	41	0%	75	54,714	1%
Multi/Unk/Other	320	109	2%	138	2%	247	2%	N/A	144,776	1%
<b>SEX &amp; RACE</b>										
Males	15,090	5,150	75%	6,375	79%	11,525	77%	234	4,923,929	49%
White Males	5,860	2,005	29%	2,472	31%	4,477	30%	117	3,825,990	38%
Black Males	8,250	2,828	41%	3,474	43%	6,302	42%	951	662,992	7%
Hispanic Males	630	202	3%	280	3%	482	3%	221	217,942	2%
Other Males	350	115	2%	149	2%	264	2%	122	217,005	2%
Females	4,410	1,696	25%	1,674	21%	3,370	23%	66	5,079,493	51%
White Females	840	356	5%	288	4%	644	4%	16	3,924,828	39%
Black Females	3,260	1,222	18%	1,270	16%	2,492	17%	337	740,059	7%
Hispanic Fms	180	66	1%	71	1%	137	1%	70	195,885	2%
Other Females	130	52	1%	45	1%	97	1%	44	218,721	2%
<b>RISK*</b>										
Male-Male Sex	9,330	3,181	46%	3,948	49%	7,129	48%	N/A	N/A	N/A
Injection Drug Use	2,110	629	9%	985	12%	1,614	11%	N/A	N/A	N/A
MSM/IDU	850	266	4%	383	5%	649	4%	N/A	N/A	N/A
Blood Products	130	34	0%	62	1%	96	1%	N/A	N/A	N/A
Heterosexual	3,470	1,279	19%	1,368	17%	2,647	18%	N/A	N/A	N/A
HRH	2,400	820	12%	1,011	13%	1,831	12%	N/A	N/A	N/A
PH-Female	1,070	459	7%	357	4%	816	5%	N/A	N/A	N/A
Perinatal	210	105	2%	55	1%	160	1%	N/A	N/A	N/A
Undetermined	3,400	1,352	20%	1,248	16%	2,600	17%	N/A	N/A	N/A
PH-Male	1,790	596	9%	775	10%	1,371	9%	N/A	N/A	N/A
Unknown	1,610	756	11%	473	6%	1,229	8%	N/A	N/A	N/A
<b>AGE AT HIV DIAGNOSIS</b>										
0 - 12 years	240	119	2%	65	1%	184	1%	N/A	N/A	N/A
13 - 19 years	920	427	6%	272	3%	699	5%	N/A	N/A	N/A
20 - 24 years	2,550	1,102	16%	847	11%	1,949	13%	N/A	N/A	N/A
25 - 29 years	3,210	1,200	17%	1,250	16%	2,450	16%	N/A	N/A	N/A
30 - 39 years	6,790	2,170	32%	3,017	37%	5,187	35%	N/A	N/A	N/A
40 - 49 years	4,110	1,297	19%	1,842	23%	3,139	21%	N/A	N/A	N/A
50 - 59 years	1,370	434	6%	609	8%	1,043	7%	N/A	N/A	N/A
60 years and over	320	94	1%	147	2%	241	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	12,850	4,376	64%	5,320	66%	9,696	65%	221	4,395,484	44%
Out-State	5,850	2,094	31%	2,320	29%	4,414	30%	79	5,607,938	56%
Prison/Unknown	800	376	5%	409	5%	785	5%	N/A	N/A	N/A
<b>TOTAL</b>	<b>19,500</b>	<b>6,846</b>	<b>100%</b>	<b>8,049</b>	<b>100%</b>	<b>14,895</b>	<b>100%</b>	<b>149</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 x" statements for rate, divide the census number by the total reported prevalence. For example, for non-Hispanic whites: 7,750,818 / 5,121 = 1,510. Thus, 1 out of every 1,510 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	7,129	62%	N/A	--	7,129	48%
Injection Drug Use	959	8%	655	19%	1,614	11%
MSM/IDU	649	6%	N/A	--	649	4%
Blood Products	82	1%	14	0%	96	1%
Heterosexual	533	5%	2,114	63%	2,647	18%
<i>HRH</i>	533	5%	1,298	39%	1,831	12%
<i>PH-Female</i>	N/A	--	816	24%	816	5%
Perinatal	92	1%	68	2%	160	1%
Undetermined	2,081	18%	519	15%	2,600	17%
<i>PH-Male</i>	1,371	12%	N/A	--	1,371	9%
<i>Unknown</i>	710	6%	519	15%	1,229	8%
<b><i>EXPOSURE CATEGORIES<sup>†</sup></i></b>						
<i>(Mutually Exclusive: one case is represented in ONLY one category)</i>						
Male-Male Sex	6,627	58%	N/A	--	6,627	44%
<i>MSM - ONLY</i>	4,522	39%	N/A	--	4,522	30%
<i>MSM &amp; Sex with Female (not HRH)</i>	2,105	18%	N/A	--	2,105	14%
MSM & HRH	498	4%	N/A	--	498	3%
MSM & IDU	451	4%	N/A	--	451	3%
MSM & IDU & HRH	198	2%	N/A	--	198	1%
MSM & Blood Products	4	0%	N/A	--	4	0%
Heterosexual - ONLY	533	5%	2,114	63%	2,647	18%
<i>HRH</i>	533	5%	1,298	39%	1,831	12%
<i>PH-Female</i>	N/A	--	816	24%	816	5%
HRH & IDU	375	3%	360	11%	735	5%
Injection Drug Use - ONLY	579	5%	291	9%	870	6%
IDU & Blood Products	5	0%	4	0%	9	0%
Perinatal Exposure	92	1%	69	2%	161	1%
Exposure to Blood Products - ONLY	82	1%	14	0%	96	1%
Undetermined	2,081	18%	518	15%	2,599	17%
<i>PH-Male Only</i>	1,371	12%	N/A	--	1,371	9%
<i>Unknown</i>	710	6%	518	15%	1,228	8%
<b>TOTAL</b>	<b>11,525</b>	<b>100%</b>	<b>3,370</b>	<b>100%</b>	<b>14,895</b>	<b>100%</b>
<b><i>SUMMARIZED EXPOSURE CATEGORIES<sup>*</sup></i></b>						
<i>(NOT Mutually Exclusive: one case can be represented in multiple categories)</i>						
Any MSM	7,778	67%	N/A	--	7,778	52%
Behaviorally Bisexual Men	2,801	24%	N/A	--	2,801	19%
Any Heterosexual	3,709	32%	2,474	73%	6,183	42%
Any HRH	1,604	14%	1,658	49%	3,262	22%
Any IDU	1,608	14%	655	19%	2,263	15%

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

§ 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).

† 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.

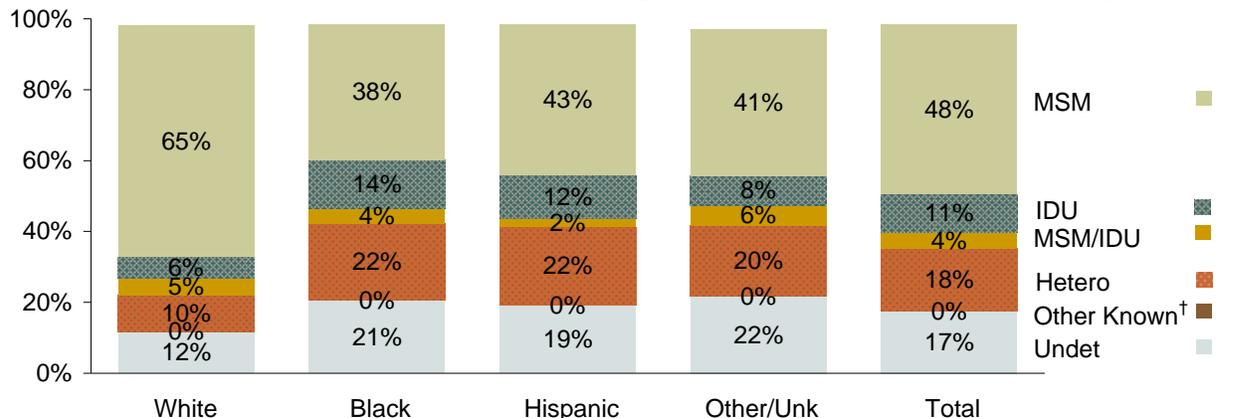
\*These groups presented are NOT mutually exclusive, meaning a case can be represented in multiple groupings. These summarized categories are meant to give a broader picture of the exposure categories and will NOT add up to the overall total number of persons living with HIV/AIDS.

**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	3,342	75%	3,374	54%	264	55%	149	56%	7,129	62%
Injecting Drug Use	183	4%	709	11%	53	11%	14	5%	959	8%
Male-Male Sex/IDU	253	6%	360	6%	15	3%	21	8%	649	6%
Blood Products	64	1%	15	0%	1	0%	2	1%	82	1%
Heterosexual*	102	2%	388	6%	36	7%	7	3%	533	5%
Perinatal	16	0%	68	1%	2	0%	6	2%	92	1%
Undetermined	517	12%	1,388	22%	111	23%	65	25%	2,081	18%
PH-Male	300	7%	948	15%	81	17%	42	16%	1,371	12%
Unknown	217	5%	440	7%	30	6%	23	9%	710	6%
<b>Male Subtotal</b>	<b>4,477</b>	<b>39%</b>	<b>6,302</b>	<b>55%</b>	<b>482</b>	<b>4%</b>	<b>264</b>	<b>2%</b>	<b>11,525</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	115	18%	502	20%	22	16%	16	16%	655	19%
Blood Products	9	1%	4	0%	1	1%	0	0%	14	0%
Heterosexual	426	66%	1,523	61%	100	73%	65	67%	2,114	63%
HRH	315	49%	873	35%	74	54%	36	37%	1,298	39%
PH-Female	111	17%	650	26%	26	19%	29	30%	816	24%
Perinatal	12	2%	47	2%	6	4%	3	3%	68	2%
Undetermined*	82	13%	416	17%	8	6%	13	13%	519	15%
<b>Female Subtotal</b>	<b>644</b>	<b>19%</b>	<b>2,492</b>	<b>74%</b>	<b>137</b>	<b>4%</b>	<b>97</b>	<b>3%</b>	<b>3,370</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	3,342	65%	3,374	38%	264	43%	149	41%	7,129	48%
Injecting Drug Use	298	6%	1,211	14%	75	12%	30	8%	1,614	11%
Male-Male Sex/IDU	253	5%	360	4%	15	2%	21	6%	649	4%
Blood Products	73	1%	19	0%	2	0%	2	1%	96	1%
Heterosexual	528	10%	1,911	22%	136	22%	72	20%	2,647	18%
HRH	417	8%	1,261	14%	110	18%	43	12%	1,831	12%
PH-Female	111	2%	650	7%	26	4%	29	8%	816	5%
Perinatal	28	1%	115	1%	8	1%	9	2%	160	1%
Undetermined	599	12%	1,804	21%	119	19%	78	22%	2,600	17%
PH-Male	300	6%	948	11%	81	13%	42	12%	1,371	9%
Unknown	299	6%	856	10%	38	6%	36	10%	1,229	8%
<b>RACE TOTAL</b>	<b>5,121</b>	<b>34%</b>	<b>8,794</b>	<b>59%</b>	<b>619</b>	<b>4%</b>	<b>361</b>	<b>2%</b>	<b>14,895</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	25	1%	75	1%	2	0%	7	3%	109	1%
13 - 19 years	72	2%	415	7%	15	3%	11	4%	513	4%
20 - 24 years	419	9%	985	16%	53	11%	33	13%	1,490	13%
25 - 29 years	728	16%	1,006	16%	94	20%	56	21%	1,884	16%
30 - 39 years	1,748	39%	2,030	32%	194	40%	98	37%	4,070	35%
40 - 49 years	1,062	24%	1,279	20%	83	17%	41	16%	2,465	21%
50 - 59 years	334	7%	425	7%	29	6%	14	5%	802	7%
60 years and over	89	2%	85	1%	12	2%	4	2%	190	2%
<b>Total*</b>	<b>4,477</b>	<b>39%</b>	<b>6,300</b>	<b>55%</b>	<b>482</b>	<b>4%</b>	<b>264</b>	<b>2%</b>	<b>11,523</b>	<b>100%</b>

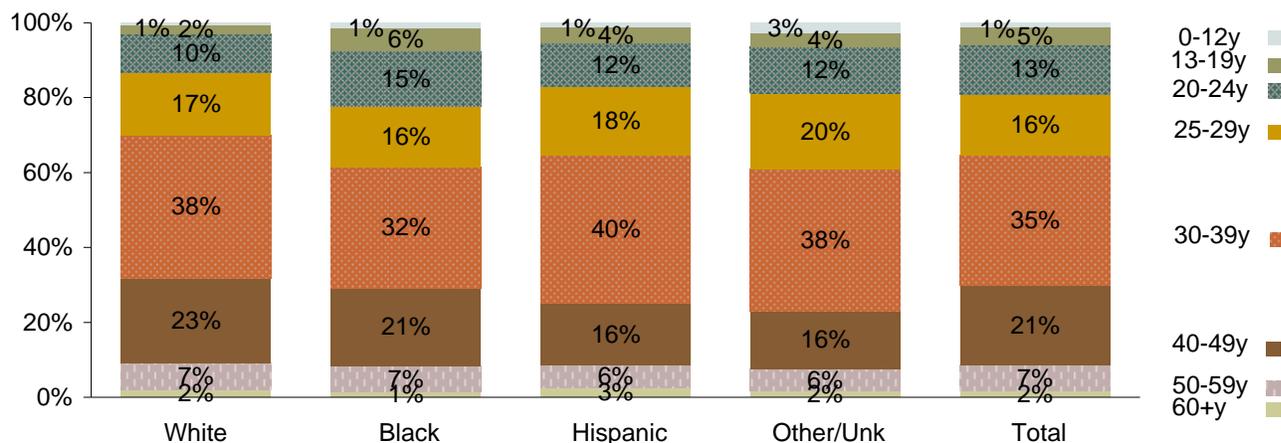
  

<b>FEMALES</b>	<b>White</b>		<b>Black</b>		<b>Hispanic</b>		<b>Other or Unknown</b>		<b>Female Subtotal</b>	
0 - 12 years	13	2%	53	2%	6	4%	3	3%	75	2%
13 - 19 years	41	6%	132	5%	11	8%	2	2%	186	6%
20 - 24 years	116	18%	312	13%	19	14%	12	12%	459	14%
25 - 29 years	126	20%	404	16%	19	14%	17	18%	566	17%
30 - 39 years	206	32%	821	33%	51	37%	39	40%	1,117	33%
40 - 49 years	93	14%	547	22%	19	14%	15	15%	674	20%
50 - 59 years	41	6%	185	7%	8	6%	7	7%	241	7%
60 years and over	7	1%	38	2%	4	3%	2	2%	51	2%
<b>Total*</b>	<b>643</b>	<b>19%</b>	<b>2,492</b>	<b>74%</b>	<b>137</b>	<b>4%</b>	<b>97</b>	<b>3%</b>	<b>3,369</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	38	1%	128	1%	8	1%	10	3%	184	1%
13 - 19 years	113	2%	547	6%	26	4%	13	4%	699	5%
20 - 24 years	535	10%	1,297	15%	72	12%	45	12%	1,949	13%
25 - 29 years	854	17%	1,410	16%	113	18%	73	20%	2,450	16%
30 - 39 years	1,954	38%	2,851	32%	245	40%	137	38%	5,187	35%
40 - 49 years	1,155	23%	1,826	21%	102	16%	56	16%	3,139	21%
50 - 59 years	375	7%	610	7%	37	6%	21	6%	1,043	7%
60 years and over	96	2%	123	1%	16	3%	6	2%	241	2%
<b>RACE TOTAL *</b>	<b>5,120</b>	<b>34%</b>	<b>8,792</b>	<b>59%</b>	<b>619</b>	<b>4%</b>	<b>361</b>	<b>2%</b>	<b>14,892</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	904	263	1,964	493	254	540
1989	1,299	380	2,883	689	370	859
1990	1,441	453	3,871	795	433	1,221
1991	1,442	536	4,777	962	515	1,668
1992	1,492	662	5,607	1,231	630	2,269
1993	1,301	822	6,086	1,126	776	2,619
1994	1,210	899	6,397	1,013	842	2,790
1995	1,189	911	6,675	1,063	843	3,010
1996	1,121	632	7,164	857	583	3,284
1997	1,045	469	7,740	736	419	3,601
1998	903	398	8,245	649	350	3,900
1999	750	363	8,632	574	317	4,157
2000	921	379	9,174	650	328	4,479
2001	879	382	9,671	575	315	4,739
2002	768	299	10,140	578	270	5,047
2003	873	278	10,735	599	240	5,406
2004	887	270	11,352	560	224	5,742
2005	894	284	11,962	718	242	6,218
2006	812	251	12,523	620	209	6,629
2007	799	231	13,091	586	199	7,016
2008	783	199	13,675	543	180	7,379
2009	822	165	14,332	472	147	7,704
2010	660	97	<b>14,895</b>	434	89	<b>8,049</b>
<b>TOTAL</b>	<b>24,889</b>	<b>9,994</b>		<b>17,184</b>	<b>9,135</b>	

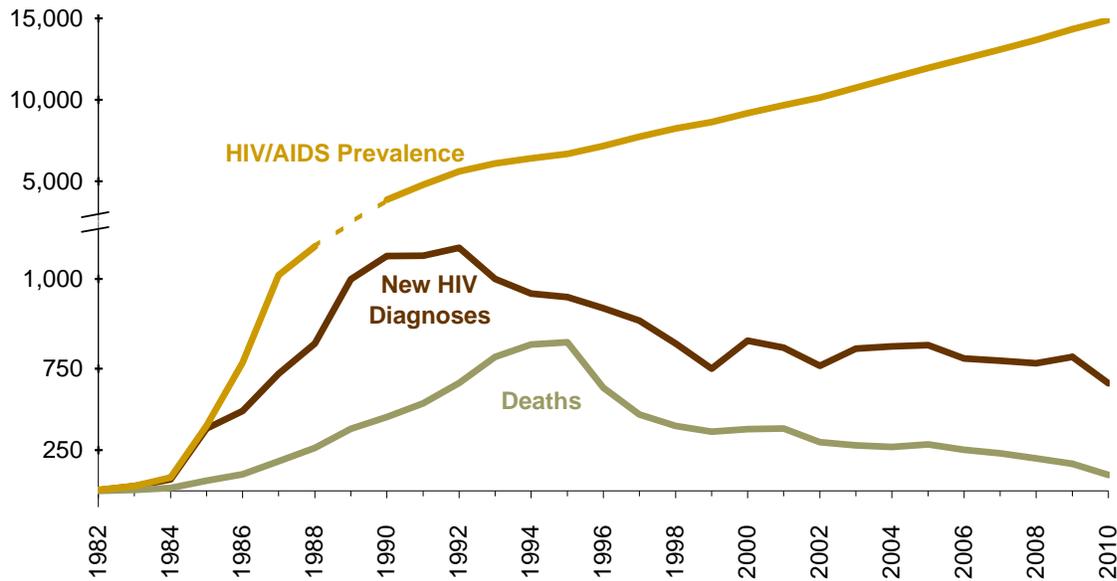
The prevalence of HIV in Michigan has steadily increased, since persons with HIV are living longer. This is largely due to improved anti-retroviral therapy.

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 14,895. The prevalence of AIDS, which is a subset of HIV/AIDS prevalence, is 8,049.

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.

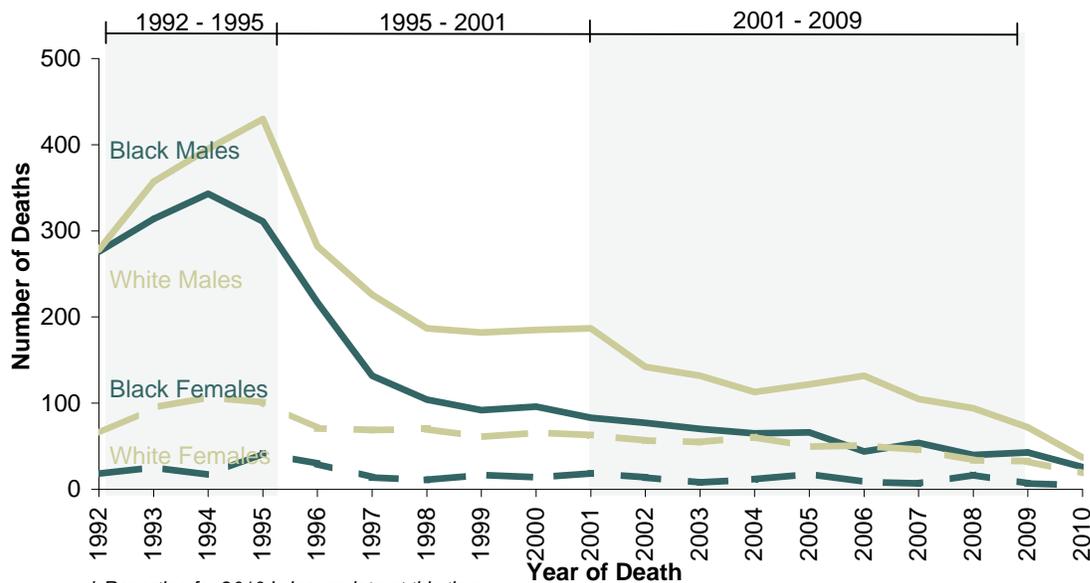
**FIGURE 3. New Diagnoses<sup>†</sup>, Deaths, and Prevalence of HIV/AIDS by Year**



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

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 2009 (61%), as have the number of deaths in white males (48%), black females (48%) and white females (63%).

**FIGURE 4. HIV/AIDS Deaths<sup>†</sup> by Race/Sex**



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

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	184	(35%)	21	(16%)	205	(31%)	7,860	(40%)	985	(19%)	8,845	(36%)
Black	305	(58%)	100	(77%)	405	(61%)	10,761	(55%)	3,850	(75%)	14,611	(59%)
Hispanic	31	(6%)	6	(5%)	37	(6%)	730	(4%)	187	(4%)	917	(4%)
Asian/Hi/PI	1	(0%)	0	(0%)	1	(0%)	64	(0%)	23	(0%)	87	(0%)
Am In/AK Nat	1	(0%)	1	(1%)	2	(0%)	46	(0%)	15	(0%)	61	(0%)
Multi/Unk	8	(2%)	2	(2%)	10	(2%)	275	(1%)	93	(2%)	368	(1%)
<b>RISK<sup>§</sup></b>												
Male-Male Sex	300	(57%)	N/A	--	300	(45%)	11,617	(59%)	N/A	--	11,617	(47%)
Injection Drug Use	14	(3%)	19	(15%)	33	(5%)	2,688	(14%)	1,575	(31%)	4,263	(17%)
MSM/IDU	5	(1%)	N/A	--	5	(1%)	1,346	(7%)	N/A	--	1,346	(5%)
Blood Products	0	(0%)	0	(0%)	0	(0%)	306	(2%)	38	(1%)	344	(1%)
Heterosexual	9	(2%)	77	(59%)	86	(13%)	789	(4%)	2,775	(54%)	3,564	(14%)
HRH	9	(2%)	18	(14%)	27	(4%)	789	(4%)	1,812	(35%)	2,601	(10%)
PH-Female	N/A	--	59	(45%)	59	(9%)	N/A	--	963	(19%)	963	(4%)
Perinatal	3	(1%)	1	(1%)	4	(1%)	133	(1%)	100	(2%)	233	(1%)
Undetermined	199	(38%)	33	(25%)	232	(35%)	2,857	(14%)	665	(13%)	3,522	(14%)
PH-Male	98	(18%)	N/A	--	98	(15%)	1,831	(9%)	N/A	--	1,831	(7%)
Unknown	101	(19%)	33	(25%)	134	(20%)	1,026	(5%)	665	(13%)	1,691	(7%)
<b>AGE AT HIV DIAGNOSIS</b>												
0 - 12 years	3	(1%)	1	(1%)	4	(1%)	177	(1%)	106	(2%)	283	(1%)
13 - 19 years	39	(7%)	8	(6%)	47	(7%)	599	(3%)	221	(4%)	820	(3%)
20 - 24 years	112	(21%)	16	(12%)	128	(19%)	1,927	(10%)	565	(11%)	2,492	(10%)
25 - 29 years	77	(15%)	24	(18%)	101	(15%)	3,139	(16%)	789	(15%)	3,928	(16%)
30 - 39 years	131	(25%)	32	(25%)	163	(25%)	7,316	(37%)	1,796	(35%)	9,112	(37%)
40 - 49 years	94	(18%)	31	(24%)	125	(19%)	4,567	(23%)	1,154	(22%)	5,721	(23%)
50 - 59 years	57	(11%)	12	(9%)	69	(10%)	1,556	(8%)	402	(8%)	1,958	(8%)
60 years and over	17	(3%)	6	(5%)	23	(3%)	453	(2%)	119	(2%)	572	(2%)
Unspecified	0	(0%)	0	(0%)	0	(0%)	2	(0%)	1	(0%)	3	(0%)
<b>DISEASE STATUS<sup>¶</sup></b>												
HIV, not AIDS	362	(68%)	100	(77%)	462	(70%)	5,780	(29%)	1,925	(37%)	7,705	(31%)
AIDS - Same time	124	(23%)	19	(15%)	143	(22%)	7,529	(38%)	1,462	(28%)	8,991	(36%)
AIDS - Short lag	44	(8%)	11	(8%)	55	(8%)	1,513	(8%)	419	(8%)	1,932	(8%)
AIDS - Long lag	0	(0%)	0	(0%)	0	(0%)	4,914	(25%)	1,347	(26%)	6,261	(25%)
<b>AREA OF RESIDENCE AT DIAGNOSIS<sup>§</sup></b>												
Detroit Metro	356	(67%)	92	(71%)	448	(68%)	13,005	(66%)	3,730	(72%)	16,735	(67%)
Out-State	166	(31%)	38	(29%)	204	(31%)	5,633	(29%)	1,319	(26%)	6,952	(28%)
Prison/Unknown	8	(2%)	0	(0%)	8	(1%)	1,098	(6%)	104	(2%)	1,202	(5%)
<b>TOTAL</b>	<b>530</b>	<b>(80%)</b>	<b>130</b>	<b>(20%)</b>	<b>660</b>	<b>(100%)</b>	<b>19,736</b>	<b>(79%)</b>	<b>5,153</b>	<b>(21%)</b>	<b>24,889</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

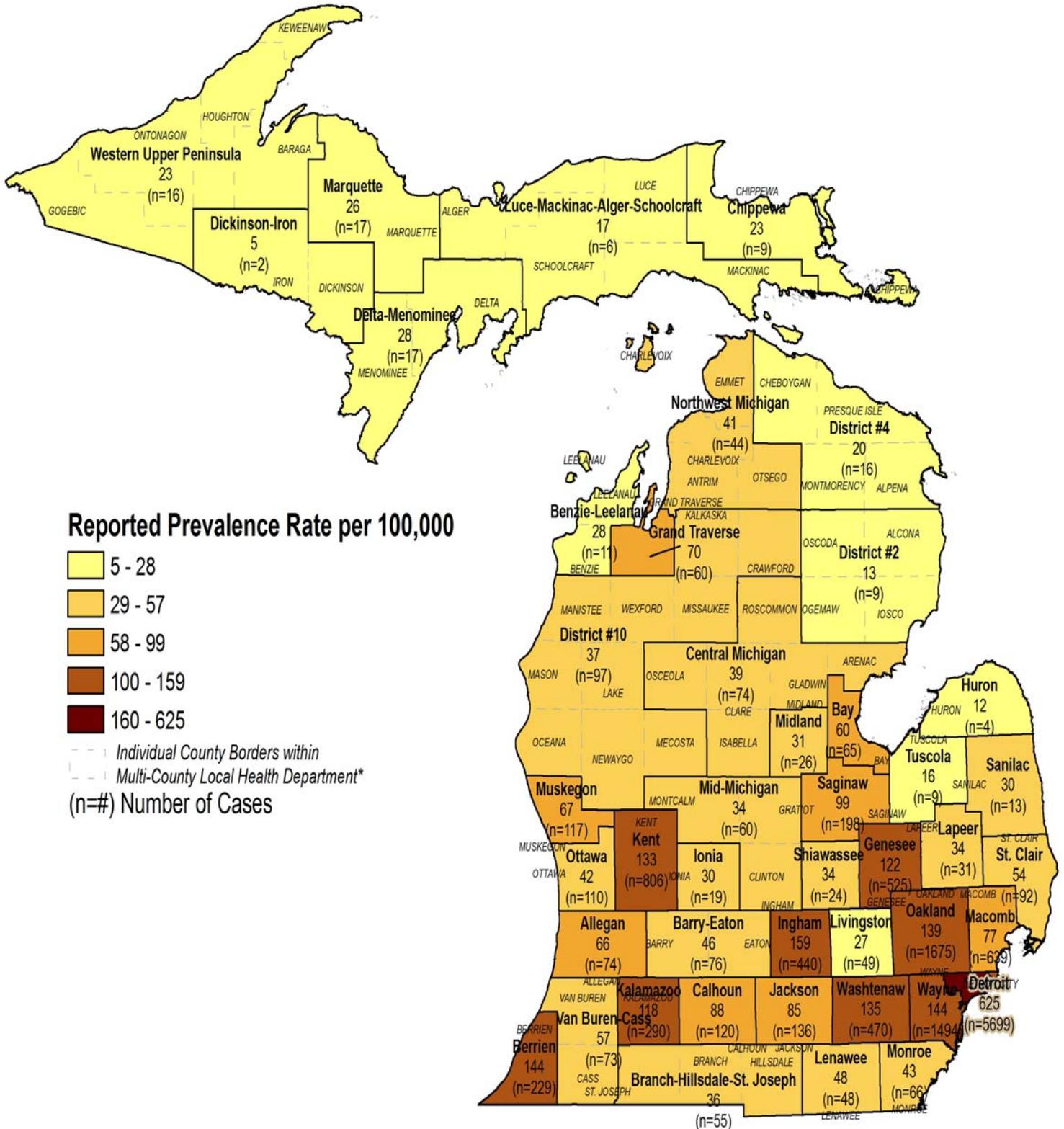
TABLE 7. Prevalent HIV/AIDS Cases According to County of Residence at Diagnosis

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	19	30	49	27	182,575
Alger	10	0	1	1	11	9,438	Luce	10	0	0	0	0	6,614
Allegan	100	26	48	74	66	112,975	Mackinac	10	2	2	4	38	10,624
Alpena	10	1	2	3	10	29,520	Macomb	850	309	330	639	77	830,663
Antrim	10	4	7	11	46	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	1	4	5	59	8,528	Mason	10	3	6	9	31	28,782
Barry	30	9	15	24	41	58,890	Mecosta	20	10	5	15	36	41,562
Bay	90	36	29	65	60	107,495	Menominee	10	3	1	4	17	24,202
Benzie	10	2	3	5	29	17,396	Midland	30	12	14	26	31	82,605
Berrien	300	89	140	229	144	159,481	Missaukee	10	4	2	6	40	15,001
Branch	20	12	3	15	33	45,726	Monroe	90	25	41	66	43	152,949
Calhoun	160	56	64	120	88	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	160	62	55	117	67	174,344
Cheboygan	10	2	6	8	30	26,354	Newaygo	20	7	10	17	35	48,897
Chippewa	10	6	3	9	23	38,971	Oakland	2,220	810	865	1,675	139	1,202,174
Clare	20	5	8	13	43	30,312	Oceana	10	7	4	11	40	27,598
Clinton	40	19	13	32	46	69,726	Ogemaw	10	1	3	4	19	21,016
Crawford	10	0	3	3	21	14,463	Ontonagon	10	1	2	3	44	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	4	7	11	46	23,808
Emmet	10	3	6	9	27	33,535	Ottawa	150	48	62	110	42	260,364
Genesee	700	271	254	525	122	428,790	Presque Isle	10	0	2	2	15	13,650
Gladwin	10	3	5	8	31	25,920	Roscommon	10	3	8	11	44	25,042
Gogebic	10	1	1	2	12	16,043	Saginaw	260	104	94	198	99	200,745
Grand Traverse	80	31	29	60	70	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	4	8	17	46,212	Shiawassee	30	9	15	24	34	70,880
Houghton	10	3	3	6	17	35,174	St. Clair	120	48	44	92	54	168,894
Huron	10	2	2	4	12	32,805	St. Joseph	40	13	19	32	51	62,232
Ingham	580	235	205	440	159	277,528	Tuscola	10	4	5	9	16	56,187
Ionia	30	8	11	19	30	63,833	Van Buren	60	18	25	43	55	77,801
Iosco	10	3	1	4	15	25,932	Washtenaw	620	230	240	470	135	347,376
Iron	10	0	1	1	8	12,001	Wayne Total	9,540	3,170	4,023	7,193	369	1,949,929
Isabella	50	19	16	35	52	66,778	Wayne, excl. Detroit	1,980	642	852	1,494	144	1,037,867
Jackson	180	65	71	136	85	160,180	Detroit	7,560	2,528	3,171	5,699	625	912,062
Kalamazoo	380	147	143	290	118	245,912	Wexford	10	3	5	8	25	31,673
Kalkaska	10	4	0	4	23	17,066							
Kent	1,070	352	454	806	133	605,213	<b>Detroit Metro<sup>†</sup></b>	12,850	4,376	5,320	9,696	221	4,395,484
Keweenaw	10	0	0	0	0	2,202	<b>Out-State<sup>†</sup></b>	5,850	2,094	2,320	4,414	79	5,607,938
Lake	10	3	8	11	100	11,014							
Lapeer	40	14	17	31	34	90,875	<b>Prisons<sup>‡</sup></b>	790	374	408	782	N/A	N/A
Leelanau	10	0	6	6	28	21,783	<b>Unknown</b>	10	2	1	3	N/A	N/A
Lenawee	60	21	27	48	48	100,801	<b>TOTAL</b>	<b>19,500</b>	<b>6,846</b>	<b>8,049</b>	<b>14,895</b>	<b>149</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	57	72	50	54	39	34	25
Mothers	53	66	48	47	38	29	15
<b>RESIDENCE AT BIRTH</b>							
Southeast Michigan	37 65%	42 58%	30 60%	35 65%	28 72%	21 62%	14 56%
Out-State Michigan	20 35%	30 42%	20 40%	19 35%	11 28%	13 38%	11 44%
<b>INFANTS' RACE</b>							
White, Non-Hispanic	9 16%	9 13%	6 12%	6 11%	8 21%	8 24%	1 4%
Black, Non-Hispanic	45 79%	58 81%	35 70%	42 78%	27 69%	23 68%	17 68%
Other	3 5%	5 7%	9 18%	6 11%	4 10%	3 9%	7 28%
<b>MOTHERS' MODE OF TRANSMISSION</b>							
Injecting Drug Use	3 6%	7 11%	2 4%	2 4%	1 3%	6 21%	0 0%
High Risk Heterosexual	15 28%	32 48%	18 38%	16 34%	8 21%	10 34%	9 60%
Undetermined	35 66%	27 41%	28 58%	29 62%	29 76%	13 45%	6 40%

<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**