Michigan Department of Community Health

MDCH

Rick Snyder, Governor
Olga Dazzo, Director

QUARTERLY HIV SURVEILLANCE REPORT, MICHIGAN
April 2012

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WEBSITE http://www.michigan.gov/hivstd **WEBSITE**

General HIV

HIV (Human Immunodeficiency Virus)
Diagnosis with HIV requires both a positive HIV screening and positive supplemental antibody test or detectable quantity on a virologic test. A standard case definition for HIV infection is used by all states for surveillance. Specific information is required in order to count a case of HIV infection, including a method to uniquely identify an individual. Each case is classified in a HIV infection stage (see below). Once a case reaches stage 3 (AIDS), the case is always considered stage 3 for surveillance purposes, even if his/her health improves (MMWR; December 5, 2008 / Vol. 57 / No. RR--10 / Pg. 1 - 12).

HIV Infection Stages
Stage 1: A case does not have any of the conditions associated with severe HIV infection (called an AIDS-defining condition) and has >= 500 CD4 cells/µl.
Stage 2: A case has no AIDS-defining condition, but the level of CD4 cells has fallen to 200-499 cells/µl.
Stage 3: Diagnosis with any one of 26 AIDS-defining conditions which are indicative of a severe immune deficiency, or a laboratory test demonstrating severe immune deficiency: CD4 count <200 cells/µl or CD4 percent <14%. **Previously referred to as AIDS.**
Stage unknown: A case of HIV without information available on CD4 levels or AIDS-defining conditions.

AIDS (Acquired Immune Deficiency Syndrome)
Now referred to as stage 3 HIV infection.

HAART
Highly Active Antiretroviral Therapy.

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 measure the impact of a disease on populations of varying size.

Administrative Info

CDC
U.S. Centers for Disease Control and Prevention

eHARS (enhanced HIV/AIDS Reporting System)
A standardized database developed by CDC for national reporting of HIV infection.

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 cases.
Nilsa Mack, (517) 335-8165 or Eve Mokotoff, (313) 876-4769

MMP (Medical Monitoring Project)
Project providing information on health-related and risk behaviors, access to and use of prevention and support services, and other data on HIV-infected persons in care in Michigan.
Meosia Lee-Turner, MI MMP Coordinator, (313) 876-0072

NHBS (National HIV Behavioral Surveillance)
Surveillance system to identify behaviors that place individuals at risk for contracting HIV as well as access to prevention services among groups of uninfected persons at highest risk for HIV infection: MSM, IDU, and Heterosexuals at risk for contracting HIV.
Emily Higgins, MI NHBS Coordinator, (313) 876-0176

STARHS (Serologic Testing Algorithm for Recent HIV Seroconversion)
HIV Incidence Surveillance that enables estimation of new HIV infections in Michigan.
Marianne O'Connor, MI STARHS Coordinator, (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.
Mary-Grace Brandt, MI VARHS Coordinator, (313) 876-4115

Risk Transmission and Exposure Categories - Overview

Risk Transmission Categories

Risk transmission categories are the hierarchical risk categories that have been used to display HIV transmission risk in the Michigan and national HIV infection statistics since the 1980s. 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, even though our understanding of the most efficient HIV transmission routes has changed.

Background on Hierarchy

The hierarchy algorithm is calculated using data from individual patient history questions collected on the case report form (Section VIII). In this hierarchy, all cases are assigned a single mode of transmission with the exception of men who report both sex with other men and injection drug use (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 multiple risks that a case may have. For example, a woman who has documented risk of both injection drug use and sex with a male partner who has injected drugs would be assigned a risk of injection drug use (IDU), rather than both IDU and heterosexual sex, because the IDU category is ranked higher in the transmission risk hierarchy. Therefore, this woman's risk of heterosexual sex would not be represented.

There is a national effort toward representing mode of HIV transmission more comprehensively. Beginning in January 2009, Michigan began presenting data on mode of transmission in two ways. First, the traditional risk categories continue to be used in the same tables in which they previously appeared. Second, Table 2 on page 2 displays exposure categories, which present mode of HIV exposure 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 known modes of HIV exposure. Like the traditional risk transmission categories, the exposure categories are mutually exclusive, meaning that each case is only included in one category. Exposure categories, however, allow readers to see all the reported ways in which a case may have been exposed to HIV without stating definitively how the case was infected. Categories are displayed in order of decreasing HIV prevalence. In order to display the most accurate information possible, we request that persons who complete the Michigan Adult HIV/AIDS Confidential Case Report Form indicate a 'Yes', 'No', or 'Unknown' answer to each patient history questions in *Section VIII. Patient History* of the form.

Risk Transmission & Exposure Categories - Definitions

Blood Recipients

Hemophiliacs, blood transfusion recipients, and organ recipients who received blood products prior to 1985 & persons documented to have ever received an infected organ or unit of blood.

Heterosexual Contact (HC):

Heterosexual Contact w/ Female Risk (HCFR): Males whose female sexual partners are known to be HIV-infected or at high risk for HIV. These partners meet one of the following criteria: IDU, hemophiliac, HIV infected transfusion recipient, or other HIV infected person of unknown risk **(applies to risk transmission categories).**

Heterosexual Contact w/ Female (HCF): Males who have had sex with a female regardless of what is known about the female's HIV status or behaviors **(applies to exposure categories)**.

Heterosexual Contact w/ Male (HCM): Females who have had sex with a male regardless of what is known about the male's HIV status or behaviors **(applies to both risk transmission *and* exposure categories).**

Injection Drug Users (IDU)

Persons who have a history of injection drug use.

Men who have sex with men (MSM)

Males who have a history of sexual contact with other men.

MSM / IDU

MSM who also have a history of injection drug use.

Behaviorally Bisexual Men

MSM who also have a history of sexual contact with women. Also referred to as "MSM & Sex with Female".

Perinatal

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

Undetermined

Males and females with no identified risk.

Males whose only documented risk is sex with a female, and their female partner's risk and HIV status is unknown **(note: these males meet the definition of heterosexual contact w/ female (HCF) in the exposure categories, but they remain "undetermined" risk in the transmission categories)**.

HIV Surveillance in Michigan

Background

Reports of HIV infection are submitted to state and local health departments under Michigan law by providers making initial diagnoses or treating previously diagnosed persons. In addition, laboratories have been required to report HIV-related results since April 2005 (MCL 333.5114). Anonymous HIV tests (without name or other identifier) are excluded from this report because we cannot de-duplicate tests, update status, or obtain missing data. In April 2012, we changed the way we present anonymous numbers. Previously, we presented the cumulative number of anonymous case report forms in Michigan to date. We will now be presenting *the number of positive anonymous tests* (since we cannot know how many individuals these tests represent) *reported each quarter* since the last Quarterly Analysis. A total of

HIV Surveillance in Michigan (Continued)

10 anonymous positive HIV tests were reported in Michigan between January 1 and March 31, 2012.

HIV Prevalence Estimates for Michigan

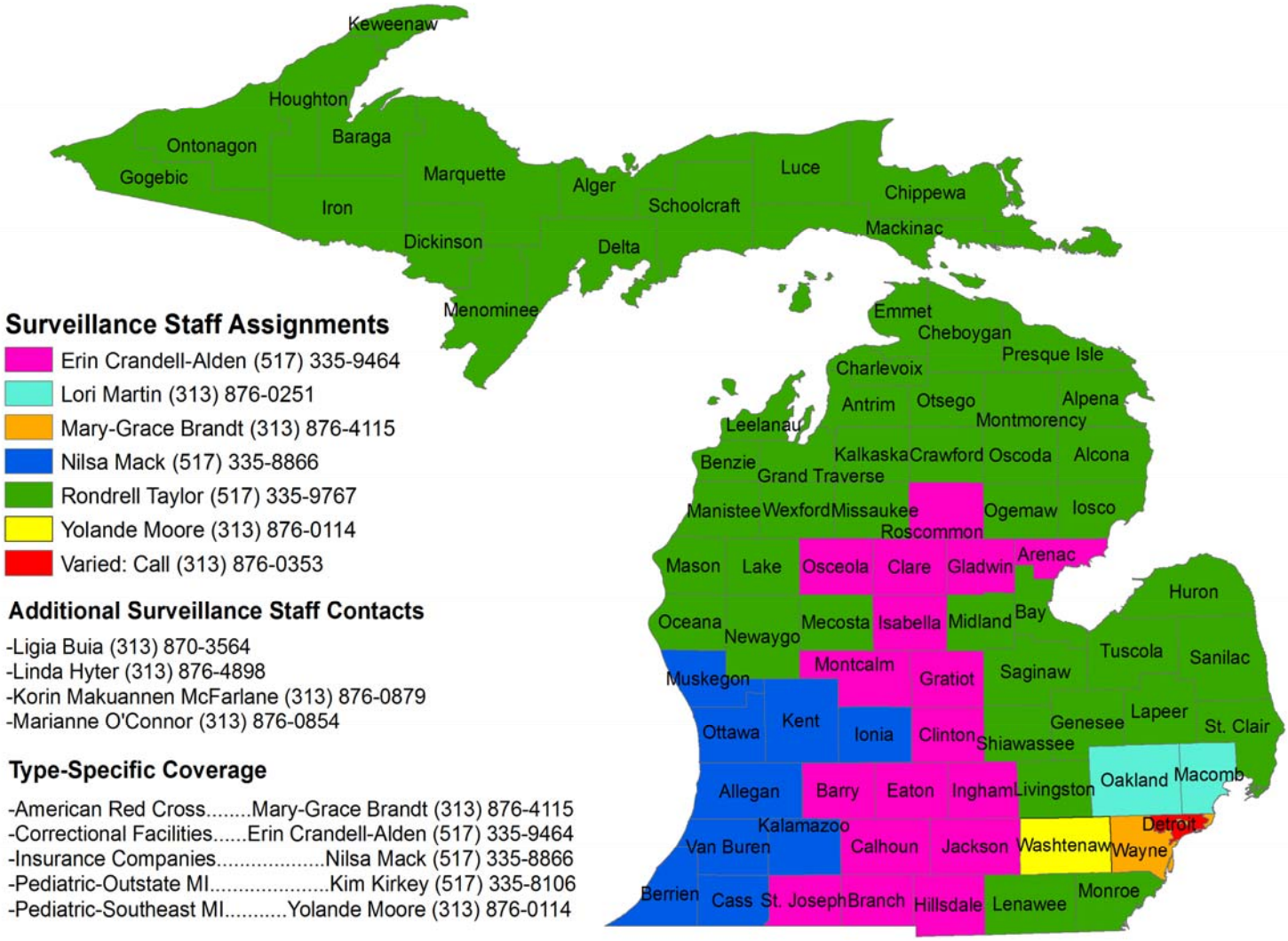
HIV prevalence estimates are updated annually in the January edition of this quarterly analysis. These estimates are based on reported cases diagnosed with HIV infection while residents of Michigan, regardless of current residence, which is the national standard established by the CDC. Estimates are calculated by adding the following three components and rounding up to the nearest 100: 1) the number of reported cases living with HIV infection, 2) the number of diagnosed HIV infected cases not yet reported, estimated at 10 percent of the reported cases living with HIV infection, and 3) the number of HIV infected cases that have not yet been tested, estimated at 21 percent of the total cases living with HIV infection (identical to the CDC estimate). The current prevalence estimate is 19,300 cases.

HIV prevalence estimates for each subgroup are calculated by multiplying the proportion of total cases in that group by 19,300 (the current total prevalence estimate). For example, 78 percent of HIV infection reports are among men. Therefore, the number of HIV-infected men in Michigan is estimated to be 14,970 (77.57% X 19,300 rounded to the nearest 10). Since the estimates are rounded, totals may not equal 19,300. The minimum estimate is 10.

Prison estimates of HIV infection are calculated differently than the aforementioned categorical estimates. All prisoners are tested for HIV upon entry to prison; therefore, there is no need to apply estimates to account for unreported and untested cases. The prison prevalence estimate is calculated by rounding the reported number of persons living with HIV infection and 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 (19,300 - 730 = 18,570). For example, 12 percent of HIV infection cases (not including cases in prison) 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 2,270 (12.21% x 18,570). Since the estimates are rounded to the nearest 10, the county totals may not equal 18,570. 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



Surveillance Staff Assignments

- Erin Crandell-Alden (517) 335-9464
- Lori Martin (313) 876-0251
- Mary-Grace Brandt (313) 876-4115
- Nilsa Mack (517) 335-8866
- Rondrell Taylor (517) 335-9767
- Yolande Moore (313) 876-0114
- Varied: Call (313) 876-0353

Additional Surveillance Staff Contacts

-Ligia Buia (313) 870-3564
-Linda Hyter (313) 876-4898
-Korin Makuannen McFarlane (313) 876-0879
-Marianne O'Connor (313) 876-0854

Type-Specific Coverage

-American Red Cross.....Mary-Grace Brandt (313) 876-4115
-Correctional Facilities.....Erin Crandell-Alden (517) 335-9464
-Insurance Companies.....Nilsa Mack (517) 335-8866
-Pediatric-Outstate MI.....Kim Kirkey (517) 335-8106
-Pediatric-Southeast MI.....Yolande Moore (313) 876-0114

TABLE 1. Demographic Information on Prevalent HIV Infection Cases

REPORTED HIV INFECTION PREVALENCE

	EST PREV*	HIV Infection Non-Stage 3		HIV Infection Stage 3 (AIDS)		Total			CENSUS 2010	
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000[†‡]	Num	Percent
RACE/ETHNICITY[§]										
White	6,630	2,388	34%	2,712	34%	5,100	34%	67	7,569,939	77%
Black	11,270	4,104	59%	4,565	58%	8,669	58%	626	1,383,756	14%
Hispanic	830	286	4%	355	5%	641	4%	147	436,358	4%
Asian/PI	110	43	1%	44	1%	87	1%	36	238,660	2%
Am Indian/AN	50	21	<1%	14	<1%	35	<1%	64	54,665	1%
Multi/Other/Unk	400	132	2%	177	2%	309	2%	N/A	200,262	2%
SEX[¶] & RACE										
Male	14,970	5,307	76%	6,205	79%	11,512	78%	237	4,848,114	49%
White Male	*5,790*	*2,027*	*29%*	*2,423*	*31%*	*4,450*	*30%*	*119*	*3,728,507*	*38%*
Black Male	*8,110*	*2,917*	*42%*	*3,318*	*42%*	*6,235*	*42%*	*949*	*657,181*	*7%*
Hispanic Male	*650*	*222*	*3%*	*281*	*4%*	*503*	*3%*	*227*	*221,913*	*2%*
Other Male	*420*	*141*	*2%*	*183*	*2%*	*324*	*2%*	*135*	*240,513*	*2%*
Female	4,330	1,667	24%	1,662	21%	3,329	22%	66	5,035,526	51%
White Female	*850*	*361*	*5%*	*289*	*4%*	*650*	*4%*	*17*	*3,841,432*	*39%*
Black Female	*3,170*	*1,187*	*17%*	*1,247*	*16%*	*2,434*	*16%*	*335*	*726,575*	*7%*
Hispanic Female	*180*	*64*	*1%*	*74*	*1%*	*138*	*1%*	*64*	*214,445*	*2%*
Other Female	*140*	*55*	*1%*	*52*	*1%*	*107*	*1%*	*42*	*253,074*	*3%*
RISK*										
Male-Male Sex (MSM)	9,480	3,379	48%	3,911	50%	7,290	49%	--	--	--
Injection Drug Use (IDU)	1,780	543	8%	826	10%	1,369	9%	--	--	--
MSM/IDU	770	252	4%	343	4%	595	4%	--	--	--
Blood Products	110	28	<1%	55	1%	83	1%	--	--	--
Heterosexual Contact (HC)	3,440	1,269	18%	1,378	18%	2,647	18%	--	--	--
HCFR (Males)	*670*	*224*	*3%*	*288*	*4%*	*512*	*3%*	--		
HCM (Females)	*2,780*	*1,045*	*15%*	*1,090*	*14%*	*2,135*	*14%*	--		
Perinatal	210	99	1%	66	1%	165	1%	--	--	--
Undetermined	3,500	1,404	20%	1,288	16%	2,692	18%	--	--	--
									--	--
AGE AT HIV DIAGNOSIS									--	--
0 - 12 years	250	114	2%	75	1%	189	1%	--	--	--
13 - 19 years	990	457	7%	305	4%	762	5%	--	--	--
20 - 24 years	2,700	1,206	17%	874	11%	2,080	14%	--	--	--
25 - 29 years	3,250	1,261	18%	1,235	16%	2,496	17%	--	--	--
30 - 39 years	6,580	2,156	31%	2,902	37%	5,058	34%	--	--	--
40 - 49 years	3,900	1,245	18%	1,751	22%	2,996	20%	--	--	--
50 - 59 years	1,330	440	6%	581	7%	1,021	7%	--	--	--
60 years and over	310	92	1%	144	2%	236	2%	--	--	--
Unspecified	10	3	<1%	0	0%	3	<1%	--	--	--
AREA OF RESIDENCE AT DIAGNOSIS[¥]										
Detroit Metro	12,630	4,453	64%	5,149	65%	9,602	65%	225	4,267,304	43%
Out-State	5,930	2,163	31%	2,348	30%	4,511	30%	80	5,616,336	57%
Prison/Unknown	740	356	5%	369	5%	725	5%	N/A	N/A	N/A
TOTAL	**19,300**	**6,974**	**100%**	**7,867**	**100%**	**14,841**	**100%**	**150**	**9,883,640**	**100%**

**See pages ii and iii for descriptions of prevalence estimate calculations and risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCFR). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).*

[†] To calculate "1 out x" statements for rate, divide the census number by the total reported prevalence. For example, for non-Hispanic whites: 7,569,939/ 5,100 = 1,484. Thus, 1 out of every 1,484 non-Hispanic white persons in Michigan are living with HIV.

[‡] Rates are not reported for risk categories and age at diagnosis because no reliable denominator data exist for these groups.

[§] 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 may be of any race.

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

[¶] As of April 2012, there were 50 prevalent transgender HIV cases (2 female to male, 48 male to female). Due to small numbers, these individuals will continue to be classified according to birth sex in all tables.

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

REPORTED HIV INFECTION PREVALENCE

	Male		Female		Overall	
	Num	Percent	Num	Percent	Num	Percent
RISK TRANSMISSION CATEGORIES (CDC Hierarchy) [*§]						
(Mutually Exclusive: one case is represented in ONLY one category)						
Male-Male Sex (MSM)	7,290	63%	N/A	--	7,290	49%
Injection Drug Use (IDU)	810	7%	559	17%	1,369	9%
MSM/IDU	595	5%	N/A	--	595	4%
Blood Products	71	1%	12	<1%	83	1%
Heterosexual Contact (HC)	512	4%	2,135	64%	2,647	18%
HCFR (Males)	*512*	*4%*	*N/A*	*--*	*512*	*3%*
HCM (Females)	*N/A*	*--*	*2,135*	*64%*	*2,135*	*14%*
Perinatal	93	1%	72	2%	165	1%
Undetermined	2,141	19%	551	17%	2,692	18%
EXPOSURE CATEGORIES [*†]						
(Mutually Exclusive: one case is represented in ONLY one category)						
Male-Male Sex Only	4,709	41%	N/A	--	4,709	32%
MSM & HC	2,535	22%	N/A	--	2,535	17%
MSM & IDU	254	2%	N/A	--	254	2%
MSM & Blood Products	23	<1%	N/A	--	23	<1%
MSM & HC & IDU	326	3%	N/A	--	326	2%
MSM & HC & Blood Products	23	<1%	N/A	--	23	<1%
MSM & IDU & Blood Products	2	<1%	N/A	--	2	<1%
MSM & HC & IDU & Blood Products	13	<1%	N/A	--	13	<1%
Heterosexual Contact Only	1,881	16%	2,428	73%	4,309	29%
HC & IDU	613	5%	492	15%	1,105	7%
HC & Blood Products	47	<1%	36	1%	83	1%
HC & IDU & Blood Products	17	<1%	12	<1%	29	<1%
Injection Drug Use Only	178	2%	55	2%	233	2%
IDU & Blood Products	2	<1%	0	0%	2	<1%
Perinatal Exposure	93	1%	72	2%	165	1%
Exposure to Blood Products Only	37	<1%	3	<1%	40	<1%
Undetermined	759	7%	231	7%	990	7%
TOTAL	**11,512**	**100%**	**3,329**	**100%**	**14,841**	**100%**
SUMMARIZED EXPOSURE CATEGORIES [¥]						
(NOT Mutually Exclusive: one case may be represented in multiple categories)						
Any MSM	7,885	68%	N/A	--	7,885	53%
Behaviorally Bisexual Men	2,897	25%	N/A	--	2,897	20%
Any Heterosexual Contact	5,455	47%	2,968	89%	8,423	57%
Any IDU	1,405	12%	559	17%	1,964	13%

**See page ii for descriptions of risk transmission and exposure categories.*

[§] Risk transmission categories are grouped based on hierarchical categories determined by the CDC. Any one person with multiple risks is only represented in the highest category, with the exception of MSM/IDU (based on the hierarchical algorithm).

[†] Exposure categories are mutually exclusive and grouped to allow all possible combinations of exposures that any one person may have. NOTE: Heterosexual contact (HC) in exposure categories includes males and females who had heterosexual contact, regardless of what is known about their partners' risk or HIV status.

[¥] Summarized exposure categories are NOT mutually exclusive, i.e. a case may be represented in multiple categories. These summarized categories are meant to give a broader picture of exposure and will NOT add up to the total number of persons living with HIV infection.

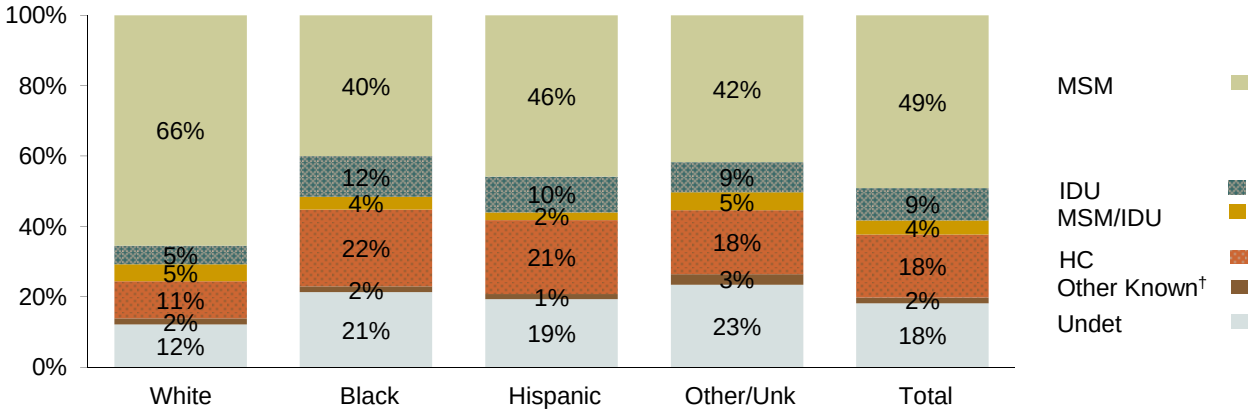
TABLE 3. Sex, Race, and Risk Among Prevalent HIV Infection Cases

MALE	**White**		**Black**		**Hispanic**		**Other or Unknown**		**All Male**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-Male sex	3,341	75%	3,475	56%	294	58%	180	56%	7,290	63%
Injection Drug Use	161	4%	583	9%	45	9%	21	6%	810	7%
MSM/IDU	245	6%	314	5%	14	3%	22	7%	595	5%
Blood Products	55	1%	13	<1%	1	<1%	2	1%	71	1%
Heterosexual Contact (HCFR)	101	2%	369	6%	32	6%	10	3%	512	4%
Perinatal	14	<1%	71	1%	1	<1%	7	2%	93	1%
Undetermined	533	12%	1,410	23%	116	23%	82	25%	2,141	19%
Male Subtotal	**4,450**	**39%**	**6,235**	**54%**	**503**	**4%**	**324**	**3%**	**11,512**	**100%**

FEMALE	**White**		**Black**		**Hispanic**		**Other or Unknown**		**All Female**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Injection Drug Use	106	16%	417	17%	20	14%	16	15%	559	17%
Blood Products	7	1%	4	<1%	1	1%	0	0%	12	<1%
Heterosexual Contact (HCM)	439	68%	1,525	63%	103	75%	68	64%	2,135	64%
Perinatal	12	2%	50	2%	6	4%	4	4%	72	2%
Undetermined	86	13%	438	18%	8	6%	19	18%	551	17%
Female Subtotal	**650**	**20%**	**2,434**	**73%**	**138**	**4%**	**107**	**3%**	**3,329**	**100%**

ALL	**White**		**Black**		**Hispanic**		**Other or Unknown**		**Risk All**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-Male sex	3,341	66%	3,475	40%	294	46%	180	42%	7,290	49%
Injection Drug Use	267	5%	1,000	12%	65	10%	37	9%	1,369	9%
MSM/IDU	245	5%	314	4%	14	2%	22	5%	595	4%
Blood Products	62	1%	17	<1%	2	<1%	2	<1%	83	1%
Heterosexual Contact (HC)	540	11%	1,894	22%	135	21%	78	18%	2,647	18%
HCFR (Males)	*101*	*2%*	*369*	*4%*	*32*	*5%*	*10*	*2%*	*512*	*3%*
HCM (Females)	*439*	*9%*	*1,525*	*18%*	*103*	*16%*	*68*	*16%*	*2,135*	*14%*
Perinatal	26	1%	121	1%	7	1%	11	3%	165	1%
Undetermined	619	12%	1,848	21%	124	19%	101	23%	2,692	18%
RACE ALL	***5,100***	***34%***	***8,669***	***58%***	***641***	***4%***	***431***	***3%***	***14,841***	***100%***

FIGURE 1. Mode of HIV Transmission Among Prevalent Cases, by Race



†The 'Other Known' mode of transmission 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 Cases

MALE	White		Black		Hispanic		Other or Unknown		All Male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	24	1%	77	1%	1	<1%	8	2%	110	1%
13 - 19 years	77	2%	466	7%	17	3%	18	6%	578	5%
20 - 24 years	417	9%	1,093	18%	64	13%	44	14%	1,618	14%
25 - 29 years	738	17%	1,015	16%	104	21%	65	20%	1,922	17%
30 - 39 years	1,722	39%	1,926	31%	196	39%	117	36%	3,961	34%
40 - 49 years	1,045	23%	1,183	19%	80	16%	54	17%	2,362	21%
50 - 59 years	336	8%	397	6%	28	6%	15	5%	776	7%
60 years and over	91	2%	76	1%	13	3%	3	1%	183	2%
Male Subtotal*	**4,450**	**39%**	**6,233**	**54%**	**503**	**4%**	**324**	**3%**	**11,510**	**100%**

FEMALE	White		Black		Hispanic		Other or Unknown		All Female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	13	2%	56	2%	6	4%	4	4%	79	2%
13 - 19 years	40	6%	130	5%	11	8%	3	3%	184	6%
20 - 24 years	113	17%	315	13%	21	15%	13	12%	462	14%
25 - 29 years	130	20%	405	17%	19	14%	20	19%	574	17%
30 - 39 years	204	31%	801	33%	51	37%	41	38%	1,097	33%
40 - 49 years	97	15%	504	21%	18	13%	15	14%	634	19%
50 - 59 years	45	7%	182	7%	9	7%	9	8%	245	7%
60 years and over	7	1%	41	2%	3	2%	2	2%	53	2%
Female Subtotal*	**649**	**20%**	**2,434**	**73%**	**138**	**4%**	**107**	**3%**	**3,328**	**100%**

ALL	White		Black		Hispanic		Other or Unknown		Overall	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	37	1%	133	2%	7	1%	12	3%	189	1%
13 - 19 years	117	2%	596	7%	28	4%	21	5%	762	5%
20 - 24 years	530	10%	1,408	16%	85	13%	57	13%	2,080	14%
25 - 29 years	868	17%	1,420	16%	123	19%	85	20%	2,496	17%
30 - 39 years	1,926	38%	2,727	31%	247	39%	158	37%	5,058	34%
40 - 49 years	1,142	22%	1,687	19%	98	15%	69	16%	2,996	20%
50 - 59 years	381	7%	579	7%	37	6%	24	6%	1,021	7%
60 years and over	98	2%	117	1%	16	2%	5	1%	236	2%
RACE OVERALL*	***5,099***	***34%***	***8,667***	***58%***	***641***	***4%***	***431***	***3%***	***14,838***	***100%***

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

FIGURE 2. Age at HIV Diagnosis Among Prevalent Cases, by Race

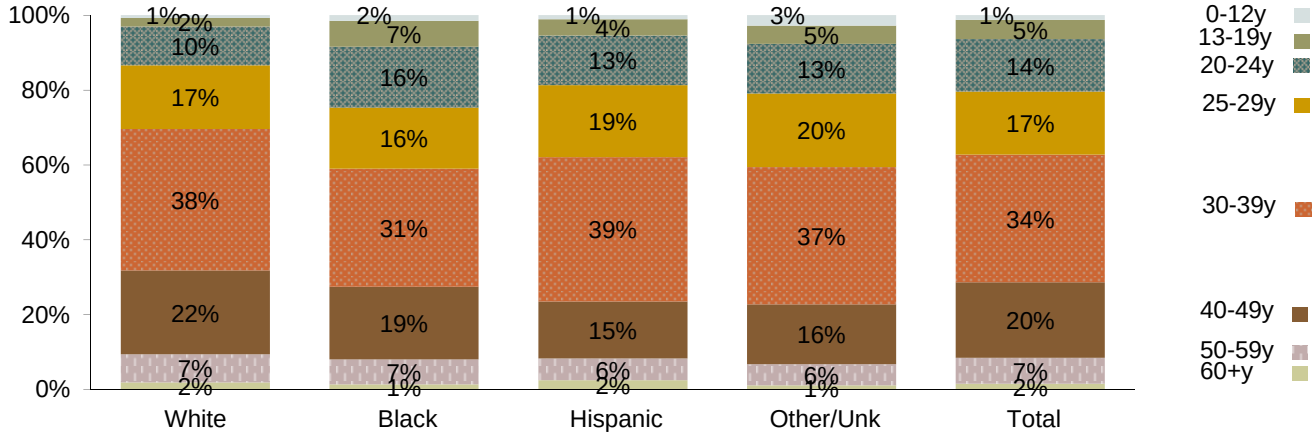


TABLE 5. New Diagnoses, Deaths, and Prevalence of HIV Infection, by Year

	HIV Infection (all stages)			HIV Infection Stage 3 (AIDS)		
Year	New HIV Diagnoses	Deaths	Prevalence	New Stage 3 Diagnoses	Deaths	Prevalence
1981	4	2	2	3	2	1
1982	3	0	5	2	0	3
1983	30	5	30	22	5	20
1984	70	17	83	50	17	53
1985	383	63	403	98	63	88
1986	490	103	790	168	100	156
1987	720	182	1,328	318	174	300
1988	906	266	1,968	493	257	536
1989	1,299	383	2,884	689	373	852
1990	1,441	454	3,871	795	434	1,213
1991	1,441	537	4,775	962	516	1,659
1992	1,489	665	5,599	1,232	633	2,258
1993	1,300	827	6,072	1,126	781	2,603
1994	1,211	904	6,379	1,014	846	2,771
1995	1,193	922	6,650	1,064	853	2,982
1996	1,118	636	7,132	858	587	3,253
1997	1,044	470	7,706	738	419	3,572
1998	900	410	8,196	650	357	3,865
1999	747	374	8,569	574	325	4,114
2000	928	391	9,106	652	338	4,428
2001	877	398	9,585	575	328	4,675
2002	768	378	9,975	578	321	4,932
2003	867	372	10,470	600	302	5,230
2004	890	350	11,010	563	280	5,513
2005	895	360	11,545	738	296	5,955
2006	808	345	12,008	613	277	6,291
2007	799	331	12,476	590	280	6,601
2008	791	344	12,923	546	282	6,865
2009	817	226	13,514	477	195	7,147
2010	768	163	14,119	511	147	7,511
2011	727	113	14,733	423	102	7,832
2012	115	7	***14,841***	41	6	***7,867***
TOTAL	***25,839***	***10,998***		***17,763***	***9,896***	

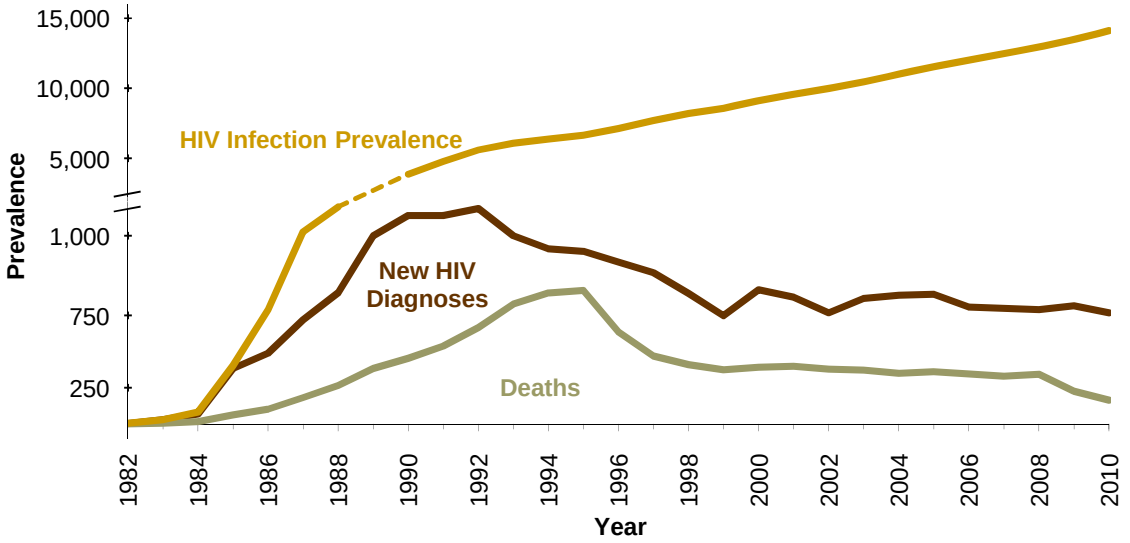
The prevalence of HIV in Michigan has steadily increased, since persons with HIV are living longer. This is largely due to improved anti-retroviral therapy.

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 infection in Michigan is 14,841. The prevalence of Stage 3 infection, which is a subset of the overall HIV infection prevalence, is 7,867.

As implied, the HIV infection section displays data on all persons with HIV, including those with Stage 3 infection as well as those who have not progressed to Stage 3. Thus, persons represented in the Stage 3 section are also represented in the HIV infection section. The number of reported deaths includes deaths directly attributable to presence of HIV infection as well as deaths due to other causes.

NOTE: Reporting for recent years may not be complete. Data are not adjusted to account for reporting delays.

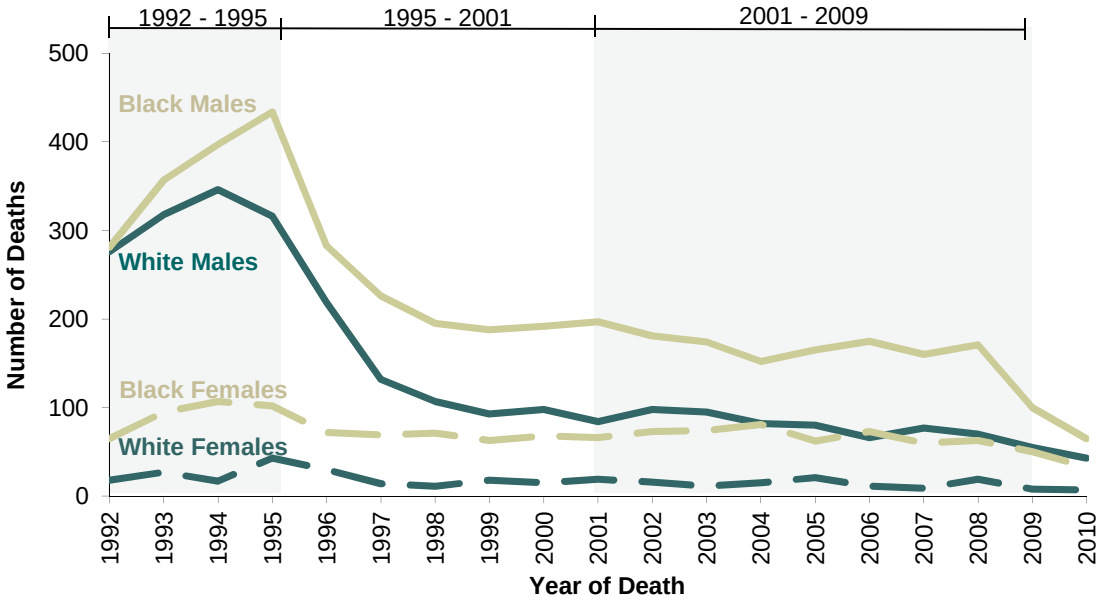
FIGURE 3. New Diagnoses†, Deaths, and Prevalence of HIV Infection, by Year



† Reporting for 2010 is incomplete at this time.

Figure 4 (below) shows the number of HIV-infected Michigan residents who are reported as deceased by a local health department, the Department of Vital Records via a data match or death certificate, a match with the National Death Index, 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 (55%), and the percent decrease among white females (56%) was larger than the percent decrease among black females (35%). Encouragingly, the number of deaths in black males has fallen substantially from 2001 to 2009 (49%), as have the number of deaths in white males (35%), black females (24%) and white females (58%).

FIGURE 4. HIV Infection Deaths†,by Race/Sex



† Reporting for 2010 is incomplete at this time.

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

	2012†						CUMULATIVE (through April 2012)¶					
	Male		Female		All		Male		Female		All	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
RACE/ETHNICITY												
White	30	33%	8	35%	38	33%	8,080	39%	1,020	19%	9,100	35%
Black	54	59%	14	61%	68	59%	11,181	55%	3,983	74%	15,164	59%
Hispanic	4	4%	0	0%	4	3%	777	4%	193	4%	970	4%
Asian/HI/PI	3	3%	0	0%	3	3%	74	<1%	28	1%	102	<1%
Am In/AK Nat	0	0%	1	4%	1	1%	42	<1%	16	<1%	58	<1%
Multi/Other/Unk	1	1%	0	0%	1	1%	337	2%	108	2%	445	2%
RISK§												
Male-Male Sex	60	65%	N/A	--	60	52%	12,137	59%	N/A	--	12,137	47%
Injection Drug Use	2	2%	1	4%	3	3%	2,711	13%	1,589	30%	4,300	17%
MSM/IDU	0	0%	N/A	--	0	0%	1,367	7%	N/A	--	1,367	5%
Blood Products	0	0%	0	0%	0	0%	306	1%	38	1%	344	1%
Heterosexual Contact (HC)	3	3%	10	43%	13	11%	807	4%	2,893	54%	3,700	14%
HCFR (Males)	*3*	*3%*	*N/A*	*--*	*3*	*3%*	*807*	*4%*	*N/A*	*--*	*807*	*3%*
HCM (Females)	*N/A*	*--*	*10*	*43%*	*10*	*9%*	*N/A*	*--*	*2,893*	*54%*	*2,893*	*11%*
Perinatal	0	0%	0	0%	0	0%	135	1%	104	2%	239	1%
Undetermined	27	29%	12	52%	39	34%	3,028	15%	724	14%	3,752	15%
AGE AT HIV DIAGNOSIS												
0 - 12 years	0	0%	0	0%	0	0%	180	1%	110	2%	290	1%
13 - 19 years	6	7%	2	9%	8	7%	669	3%	225	4%	894	3%
20 - 24 years	23	25%	0	0%	23	20%	2,118	10%	583	11%	2,701	10%
25 - 29 years	14	15%	6	26%	20	17%	3,264	16%	825	15%	4,089	16%
30 - 39 years	24	26%	6	26%	30	26%	7,452	36%	1,848	35%	9,300	36%
40 - 49 years	13	14%	4	17%	17	15%	4,702	23%	1,191	22%	5,893	23%
50 - 59 years	12	13%	4	17%	16	14%	1,628	8%	435	8%	2,063	8%
60 years and over	0	0%	1	4%	1	1%	476	2%	130	2%	606	2%
Unspecified	0	0%	0	0%	0	0%	2	<1%	1	<1%	3	<1%
Infection STATUS¥												
HIV Infection Non-Stage 3	77	84%	22	96%	99	86%	6,111	30%	1,965	37%	8,076	31%
HIV Infection Stage 3 (AIDS)	15	16%	1	4%	16	14%	14,380	70%	3,383	63%	17,763	69%
AIDS - Same time	*15*	*16%*	*1*	*4%*	*16*	*14%*	*7,673*	*37%*	*1,503*	*28%*	*9,176*	*36%*
AIDS - Short Lag	*0*	*0%*	*0*	*0%*	*0*	*0%*	*1,588*	*8%*	*441*	*8%*	*2,029*	*8%*
AIDS - Long lag	*0*	*0%*	*0*	*0%*	*0*	*0%*	*5,119*	*25%*	*1,439*	*27%*	*6,558*	*25%*
AREA OF RESIDENCE AT DIAGNOSIS£												
Detroit Metro	54	59%	18	78%	72	63%	13,500	66%	3,869	72%	17,369	67%
Out-State	37	40%	5	22%	42	37%	5,884	29%	1,373	26%	7,257	28%
Prison/Unknown	1	1%	0	0%	1	1%	1,107	5%	106	2%	1,213	5%
TOTAL	**92**	**80%**	**23**	**20%**	**115**	**100%**	**20,491**	**79%**	**5,348**	**21%**	**25,839**	**100%**

**Includes deceased cases.*

†Data for cases diagnosed in 2012 are incomplete at this time.

§ See page ii for description of risk category groupings. Risk categories used in Michigan are redefined as of January 2012.

¥ The definitions of infection status are as follows (see page i for complete description of HIV infection stages):

HIV Infection Non-Stage 3: Has not progressed to Stage 3 Infection (AIDS) or no information is available on CD4 levels or AIDS-defining conditions

HIV Infection Stage 3 (AIDS):

AIDS - Same time = Diagnosed as Stage 3 Infection within 30 days of initial HIV diagnosis

AIDS - Short lag = Progressed to Stage 3 between 1 and 12 months after initial HIV diagnosis

AIDS - Long lag = Progressed to Stage 3 more than 12 months after initial HIV diagnosis

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

¶ As of April 2012, there were 72 cumulative transgender HIV cases (2 female to male, 70 male to female). Due to small numbers, these individuals will continue to be classified according to birth sex in all tables.

TABLE 7. Prevalent HIV Infection Cases, by County of Residence at Diagnosis

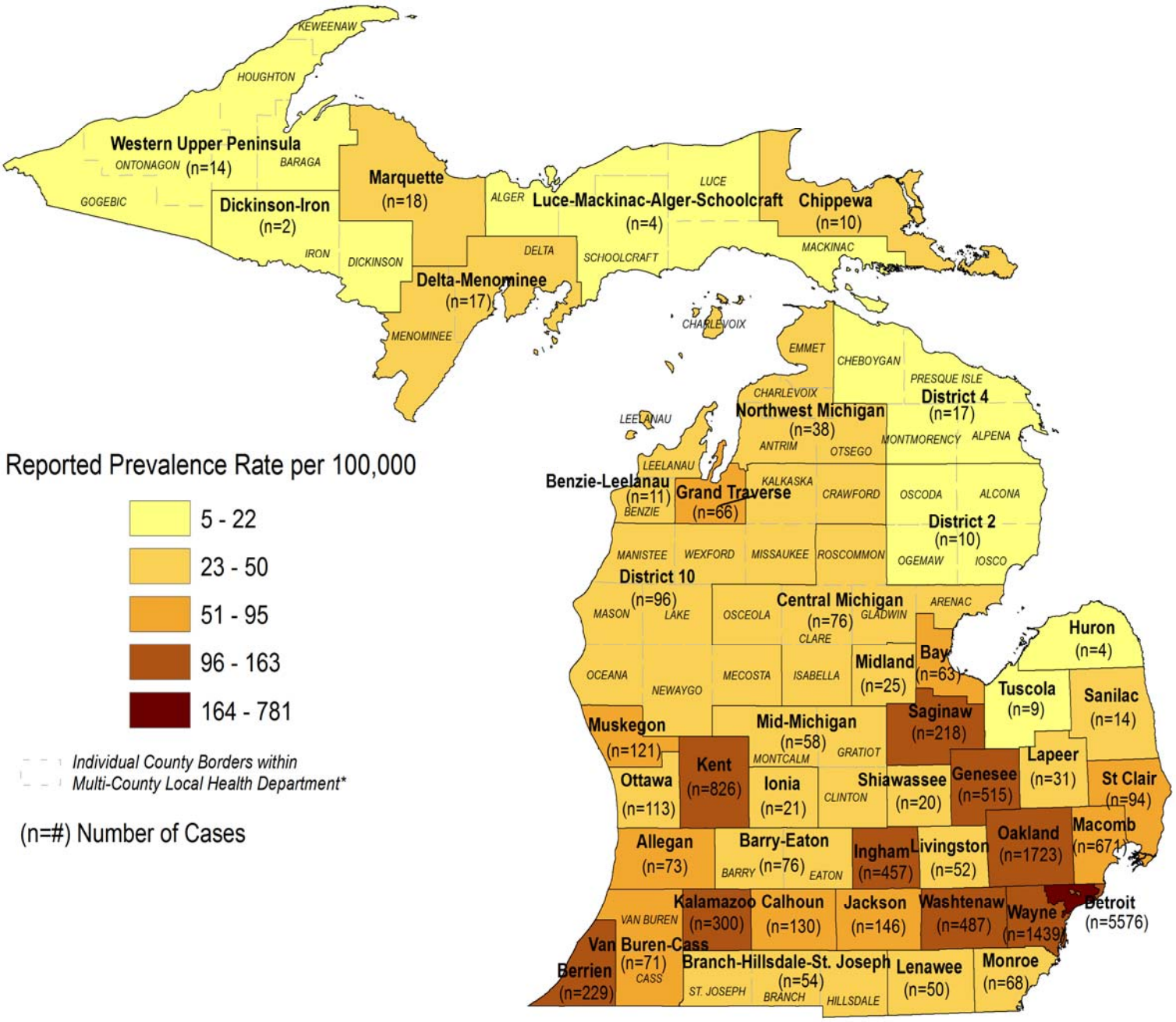
COUNTY	EST PREV	REPORTED PREVALENCE				CENSUS 2010	COUNTY	EST PREV	REPORTED PREVALENCE				CENSUS 2010
	Number	HIV Infection Non-Stage 3	HIV Infection Stage 3	Total	Rate*			Number	HIV Infection Non-Stage 3	HIV Infection Stage 3	Total	Rate*	
Alcona	10	0	0	0	0	10,942	Livingston	70	20	32	52	29	180,967
Alger	10	0	1	1	10	9,601	Luce	10	0	0	0	0	6,631
Allegan	100	26	47	73	66	111,408	Mackinac	10	2	1	3	27	11,113
Alpena	10	1	2	3	10	29,598	Macomb	880	333	338	671	80	840,978
Antrim	10	3	6	9	38	23,580	Manistee	20	5	7	12	49	24,733
Arenac	10	1	1	2	13	15,899	Marquette	20	7	11	18	27	67,077
Baraga	10	1	3	4	45	8,860	Mason	10	4	5	9	31	28,705
Barry	30	9	14	23	39	59,173	Mecosta	20	10	5	15	35	42,798
Bay	80	36	27	63	58	107,771	Menominee	10	3	1	4	17	24,029
Benzie	10	2	3	5	29	17,525	Midland	30	12	13	25	30	83,629
Berrien	300	92	137	229	146	156,813	Missaukee	10	3	5	8	54	14,849
Branch	20	11	3	14	31	45,248	Monroe	90	31	37	68	45	152,021
Calhoun	170	65	65	130	95	136,146	Montcalm	30	9	13	22	35	63,342
Cass	40	14	14	28	54	52,293	Montmorency	10	0	3	3	31	9,765
Charlevoix	10	3	7	10	39	25,949	Muskegon	160	63	58	121	70	172,188
Cheboygan	10	3	6	9	34	26,152	Newaygo	20	7	9	16	33	48,460
Chippewa	10	7	3	10	26	38,520	Oakland	2,270	861	862	1,723	143	1,202,362
Clare	20	3	10	13	42	30,926	Oceana	10	5	4	9	34	26,570
Clinton	40	18	10	28	37	75,382	Ogemaw	10	1	3	4	18	21,699
Crawford	10	1	3	4	28	14,074	Ontonagon	10	1	1	2	29	6,780
Delta	20	5	8	13	35	37,069	Osceola	10	1	2	3	13	23,528
Dickinson	10	0	1	1	4	26,168	Oscoda	10	1	0	1	12	8,640
Eaton	70	24	29	53	49	107,759	Otsego	10	4	7	11	46	24,164
Emmet	10	3	5	8	24	32,694	Ottawa	150	47	66	113	43	263,801
Genesee	680	254	261	515	121	425,790	Presque Isle	10	0	2	2	15	13,376
Gladwin	10	3	4	7	27	25,692	Roscommon	20	3	10	13	53	24,449
Gogebic	10	1	1	2	12	16,427	Saginaw	290	115	103	218	109	200,169
Grand Traverse	90	34	32	66	76	86,986	Sanilac	20	7	7	14	32	43,114
Gratiot	10	6	2	8	19	42,476	Schoolcraft	10	0	0	0	0	8,485
Hillsdale	10	3	5	8	17	46,688	Shiawassee	30	8	12	20	28	70,648
Houghton	10	3	3	6	16	36,628	St. Clair	120	51	43	94	58	163,040
Huron	10	2	2	4	12	33,118	St. Joseph	40	13	19	32	52	61,295
Ingham	600	250	207	457	163	280,895	Tuscola	10	4	5	9	16	55,729
Ionia	30	10	11	21	33	63,905	Van Buren	60	20	23	43	56	76,258
Iosco	10	4	1	5	19	25,887	Washtenaw	640	249	238	487	141	344,791
Iron	10	0	1	1	8	11,817	Wayne Total	9,230	3,164	3,851	7,015	385	1,820,584
Isabella	50	18	20	38	54	70,311	*Wayne, excl. Detroit*	*1,890*	*624*	*815*	*1,439*	*130*	*1,106,807*
Jackson	190	74	72	146	91	160,248	*Detroit*	*7,340*	*2,540*	*3,036*	*5,576*	*781*	*713,777*
Kalamazoo	390	153	147	300	120	250,331	Wexford	10	3	5	8	24	32,735
Kalkaska	10	4	0	4	23	17,153							
Kent	1,090	361	465	826	137	602,622	**Detroit Metro†**	12,630	4,453	5,149	9,602	225	4,267,304
Keweenaw	10	0	0	0	0	2,156	**Out-State†**	5,930	2,163	2,348	4,511	80	5,616,336
Lake	10	4	7	11	95	11,539							
Lapeer	40	13	18	31	35	88,319	**Prisons£**	730	356	369	725	N/A	N/A
Leelanau	10	0	6	6	28	21,708	**Unknown**	10	2	1	3	N/A	N/A
Lenawee	70	24	26	50	50	99,892	***TOTAL***	***19,300***	***6,974***	***7,867***	***14,841***	***150***	***9,883,640***

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

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

£ The Prevalence Estimate for prisons is calculated differently from the remainder of the state. Please see the Front Matter (p. iii) for 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: Number of Deliveries and Births with Perinatal HIV Exposure, 2008 - 2011†

	Mothers	Infants
2008	39	41
2009	35	40
2010	40	40
2011	39	39

FIGURE 6. Perinatal HIV Exposures, by Residence at Birth

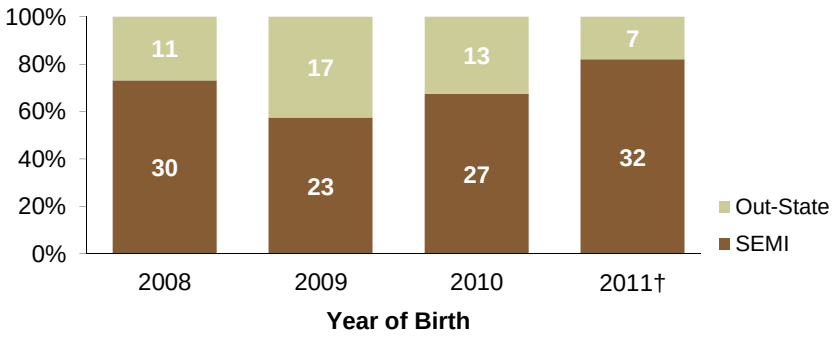


FIGURE 7. Perinatal HIV Exposures, by Infant Race

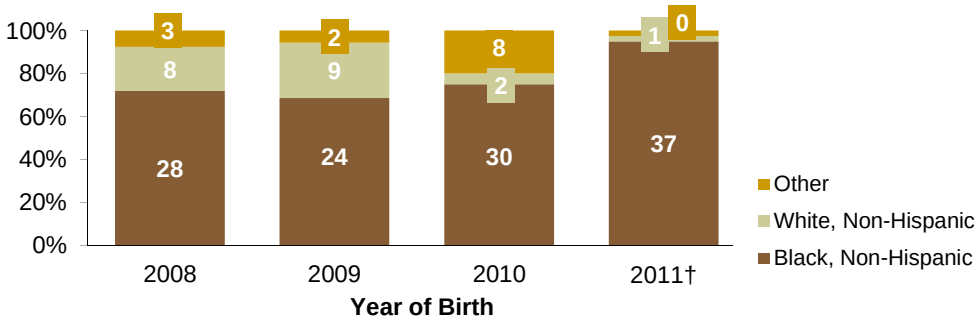


FIGURE 8. Perinatal HIV Exposures, by Maternal Risk

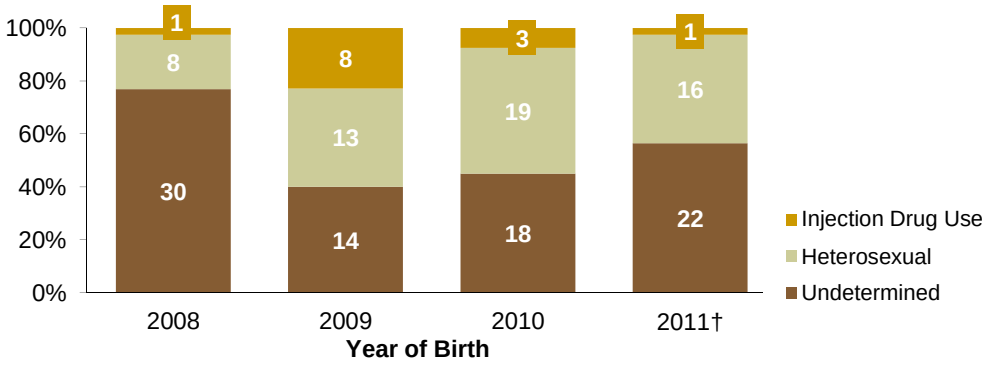


FIGURE 9. Infection Status of Perinatal HIV Exposures

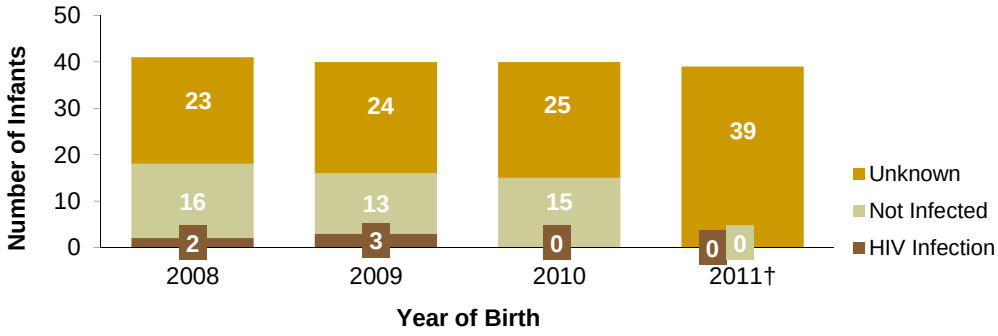


Figure 9 indicates the current infection status of infants born in Michigan to HIV positive women: the top portion of the bars shows number of infants confirmed to be infected with HIV disease; the middle portion shows those not infected with HIV, based on laboratory testing or physician exam; and the bottom portion shows the number of infants whose HIV infection status is unknown due to loss to follow- up or infection status reporting delay.

† Reporting for 2011 is incomplete at this time.