MDHHS
Michigan Department of Health & Human Services
RICK SNYDER, GOVERNOR
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ANNUAL HIV SURVEILLANCE REPORT, MICHIGAN
July 2015

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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

MDHHS
Michigan Department of Health and Human Services

Michigan HIV Surveillance Activities

Core HIV Surveillance
Population-based surveillance system of diagnosed adult, adolescent, and pediatric HIV cases.
Nilsa Mack, (517) 335-8866 or Mary-Grace Brandt, (248) 424-7913

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-positive persons in care in Michigan.
Meosia Lee-Turner, MI MMP Coordinator, (248) 424-7924

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, (248) 424-7916

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, (248) 424-7922

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 males 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 males who report both sex with other males 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-positive or at high risk for HIV. These partners meet one of the following criteria: IDU, hemophiliac, HIV-positive transfusion recipient, or other HIV-positive 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 males.

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 females. 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) *conducted each year* since the last Annual Analysis. A total of 67 anonymous positive HIV tests were conducted and reported in 2014.

HIV Surveillance in Michigan (Continued)

HIV Prevalence Estimates for Michigan

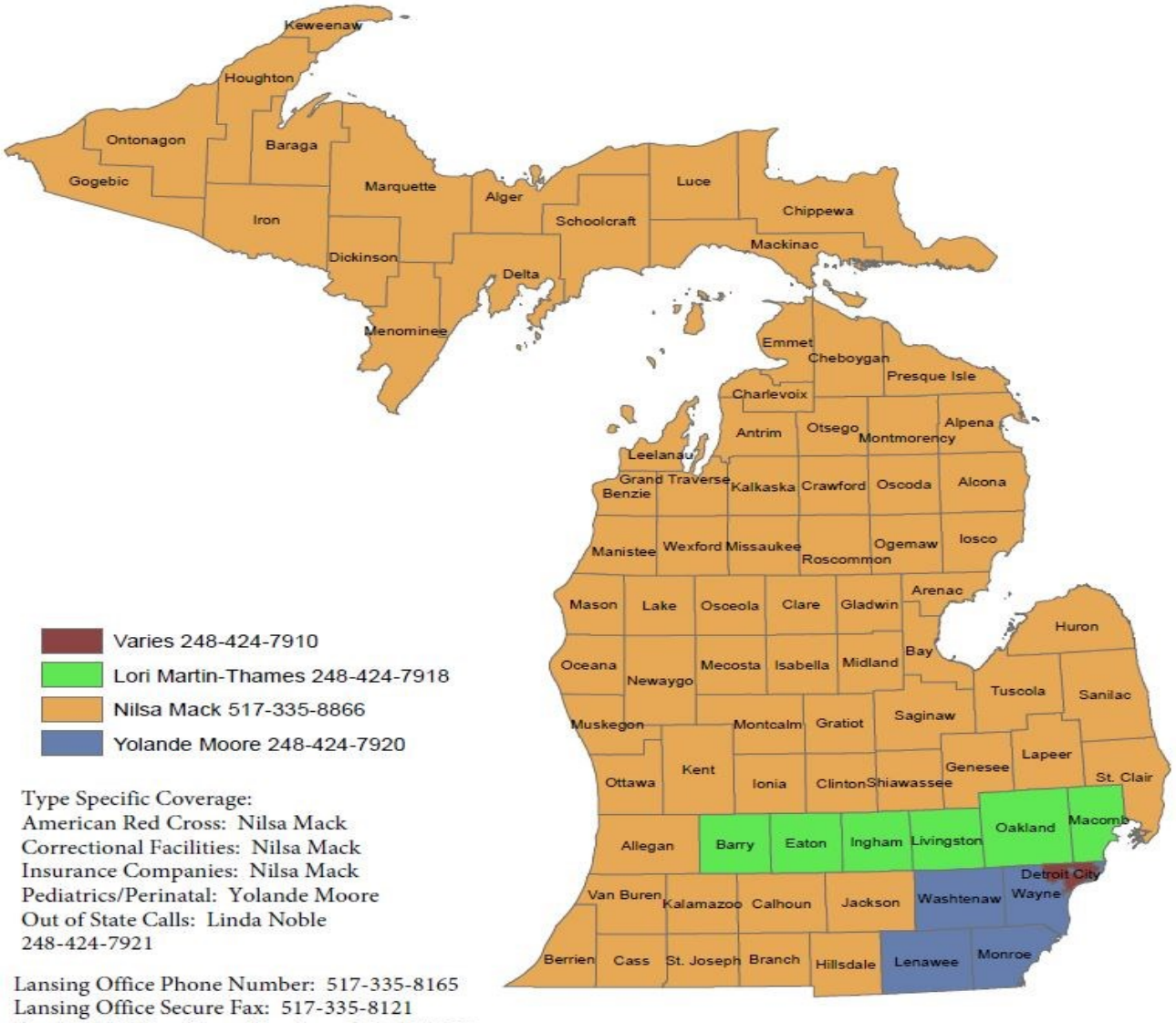
HIV prevalence estimates are updated annually in July. These estimates are based on reported cases diagnosed with HIV infection while residents of Michigan, regardless of current residence, which is the national standard established by the CDC. Estimates are calculated by adding the following three components and rounding up to the nearest 100: 1) the number of reported cases living with HIV infection, 2) and 2) the number of HIV infection cases that have not yet been tested, estimated at 14 percent of the total cases living with HIV infection (identical to the CDC estimate). The current prevalence estimate as of January 2015 is 18,800 cases.

HIV prevalence estimates for each subgroup are calculated by multiplying the proportion of total cases in that group by 18,800 (the current total prevalence estimate). For example, 78 percent of HIV infection reports are among males. Therefore, the number of HIV-positive males in Michigan is estimated to be 14,710 (78.2458% X 18,800 rounded to the nearest 10; extra decimals included for accurate calculation). Since the estimates are rounded, totals may not equal 18,800. The minimum estimate is 10.

Prison estimates of HIV infection are calculated differently than the aforementioned subgroup estimates. All prisoners are tested for HIV upon entry to prison; therefore, there is no need 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 subgroup 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 - 700 = 18,100). For example, 13 percent of HIV infection cases (not including cases in prison) were living in Oakland County at diagnosis. Therefore, the number of HIV-positive persons who were living in Oakland County at the time of diagnosis is estimated to be 2,300 (12.68% x 18,100). Since the estimates are rounded to the nearest 10, county totals may not equal 18,100. The method of calculating prevalence estimates for county of residence was revised as of April 2008; thus, county estimates presented prior to this date may differ from current and future estimates.

HIV Surveillance Staff Contacts



Type Specific Coverage:
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Correctional Facilities: Nilsa Mack
Insurance Companies: Nilsa Mack
Pediatrics/Perinatal: Yolande Moore
Out of State Calls: Linda Noble
248-424-7921

Lansing Office Phone Number: 517-335-8165
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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 2014 ESTIMATES	
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000[†‡]	Num	Percent
RACE/ETHNICITY[§]										
White	6,290	2,627	34%	2,794	33%	5,421	33%	72	7,512,721	76%
Black	11,000	4,582	59%	4,888	58%	9,470	58%	686	1,379,996	14%
Hispanic	880	340	4%	414	5%	754	5%	158	476,285	5%
Asian/NH/PI	140	68	1%	52	1%	120	1%	42	282,809	3%
Am Indian/AN	40	21	<1%	16	<1%	37	<1%	66	56,196	1%
Multi/Other/Unk	450	161	2%	227	3%	388	2%	N/A	201,870	2%
SEX[¶] & RACE										
Male	14,710	6,053	78%	6,615	79%	12,668	78%	260	4,868,463	49%
White Male	*5,500*	*2,243*	*29%*	*2,490*	*30%*	*4,733*	*29%*	*128*	*3,707,305*	*37%*
Black Male	*8,030*	*3,356*	*43%*	*3,558*	*42%*	*6,914*	*43%*	*1055*	*655,089*	*7%*
Hispanic Male	*700*	*269*	*3%*	*335*	*4%*	*604*	*4%*	*250*	*241,548*	*2%*
Other Male	*480*	*185*	*2%*	*232*	*3%*	*417*	*3%*	*158*	*264,521*	*3%*
Female	4,090	1,746	22%	1,776	21%	3,522	22%	70	5,041,414	51%
White Female	*800*	*384*	*5%*	*304*	*4%*	*688*	*4%*	*18*	*3,805,416*	*38%*
Black Female	*2,970*	*1,226*	*16%*	*1,330*	*16%*	*2,556*	*16%*	*353*	*724,907*	*7%*
Hispanic Female	*170*	*71*	*1%*	*79*	*1%*	*150*	*1%*	*64*	*234,737*	*2%*
Other Female	*150*	*65*	*1%*	*63*	*1%*	*128*	*1%*	*46*	*276,354*	*3%*
RISK*										
Male-Male Sex (MSM)	9,850	4,208	54%	4,275	51%	8,483	52%	--	--	--
Injection Drug Use (IDU)	1,470	490	6%	776	9%	1,266	8%	--	--	--
MSM/IDU	680	254	3%	334	4%	588	4%	--	--	--
Blood Products	90	23	<1%	55	1%	78	<1%	--	--	--
Heterosexual Contact (HC)	3,510	1,424	18%	1,595	19%	3,019	19%	--	--	--
HCFR (Males)	*740*	*272*	*3%*	*368*	*4%*	*640*	*4%*	*--*		
HCM (Females)	*2,760*	*1,152*	*15%*	*1,227*	*15%*	*2,379*	*15%*	*--*		
Perinatal	220	114	1%	74	1%	188	1%	--	--	--
Undetermined	2,980	1,286	16%	1,282	15%	2,568	16%	--	--	--
									--	--
									--	--
AGE AT HIV DIAGNOSIS									--	--
0 - 12 years	240	125	2%	83	1%	208	1%	--	--	--
13 - 19 years	1,050	544	7%	360	4%	904	6%	--	--	--
20 - 24 years	2,970	1,513	19%	1,044	12%	2,557	16%	--	--	--
25 - 29 years	3,270	1,470	19%	1,342	16%	2,812	17%	--	--	--
30 - 39 years	6,030	2,237	29%	2,953	35%	5,190	32%	--	--	--
40 - 49 years	3,620	1,307	17%	1,810	22%	3,117	19%	--	--	--
50 - 59 years	1,340	493	6%	664	8%	1,157	7%	--	--	--
60 years and over	280	107	1%	135	2%	242	1%	--	--	--
Unspecified	10	3	<1%	0	0%	3	<1%	--	--	--
AREA OF RESIDENCE AT DIAGNOSIS[¥]										
Detroit Metro	12,240	4,998	64%	5,478	65%	10,476	65%	246	4,260,839	43%
Out-State	5,860	2,486	32%	2,534	30%	5,020	31%	89	5,649,038	57%
Prison/Unknown	710	315	4%	379	5%	694	4%	N/A	N/A	N/A
TOTAL	**18,800**	**7,799**	**100%**	**8,391**	**100%**	**16,190**	**100%**	**163**	**9,909,877**	**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: 7,512,721/ 5,421= 1,386. Thus, 1 out of every 1,386 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/Native Hawaiian/Pacific Islander (Asian/NH/PI), or American Indian/Alaska Native (Am Indian/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 January 2015, there were 87 prevalent transgender HIV cases (2 female to male, 85 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)	8,483	67%	N/A	--	8,483	52%
Injection Drug Use (IDU)	739	6%	527	15%	1,266	8%
MSM/IDU	588	5%	N/A	--	588	4%
Blood Products	67	1%	11	<1%	78	<1%
Heterosexual Contact (HC)	640	5%	2,379	68%	3,019	19%
HCFR (Males)	*640*	*5%*	*N/A*	*--*	*640*	*4%*
HCM (Females)	*N/A*	*--*	*2,379*	*68%*	*2,379*	*15%*
Perinatal	103	1%	85	2%	188	1%
Undetermined	2,048	16%	520	15%	2,568	16%
EXPOSURE CATEGORIES*†						
(Mutually Exclusive: one case is represented in ONLY one category)						
Male-Male Sex Only	5,490	43%	N/A	--	5,490	34%
MSM & HC	2,951	23%	N/A	--	2,951	18%
MSM & IDU	262	2%	N/A	--	262	2%
MSM & Blood Products	21	<1%	N/A	--	21	<1%
MSM & HC & IDU	312	2%	N/A	--	312	2%
MSM & HC & Blood Products	21	<1%	N/A	--	21	<1%
MSM & IDU & Blood Products	3	<1%	N/A	--	3	<1%
MSM & HC & IDU & Blood Products	11	<1%	N/A	--	11	<1%
Heterosexual Contact Only	2,119	17%	2,715	77%	4,834	30%
HC & IDU	564	4%	469	13%	1,033	6%
HC & Blood Products	47	<1%	34	1%	81	1%
HC & IDU & Blood Products	15	<1%	9	<1%	24	<1%
Injection Drug Use Only	158	1%	49	1%	207	1%
IDU & Blood Products	2	<1%	0	0%	2	<1%
Perinatal Exposure	103	1%	85	2%	188	1%
Exposure to Blood Products Only	34	<1%	3	<1%	37	<1%
Undetermined	555	4%	158	4%	713	4%
TOTAL	***12,668***	***100%***	***3,522***	***100%***	***16,190***	***100%***
SUMMARIZED EXPOSURE CATEGORIES¥						
(NOT Mutually Exclusive: one case may be represented in multiple categories)						
Any MSM	9,071	72%	N/A	--	9,071	56%
Behaviorally Bisexual Men	3,295	26%	N/A	--	3,295	20%
Any Heterosexual Contact	6,040	48%	3,227	92%	9,267	57%
Any IDU	1,327	10%	527	15%	1,854	11%

**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.

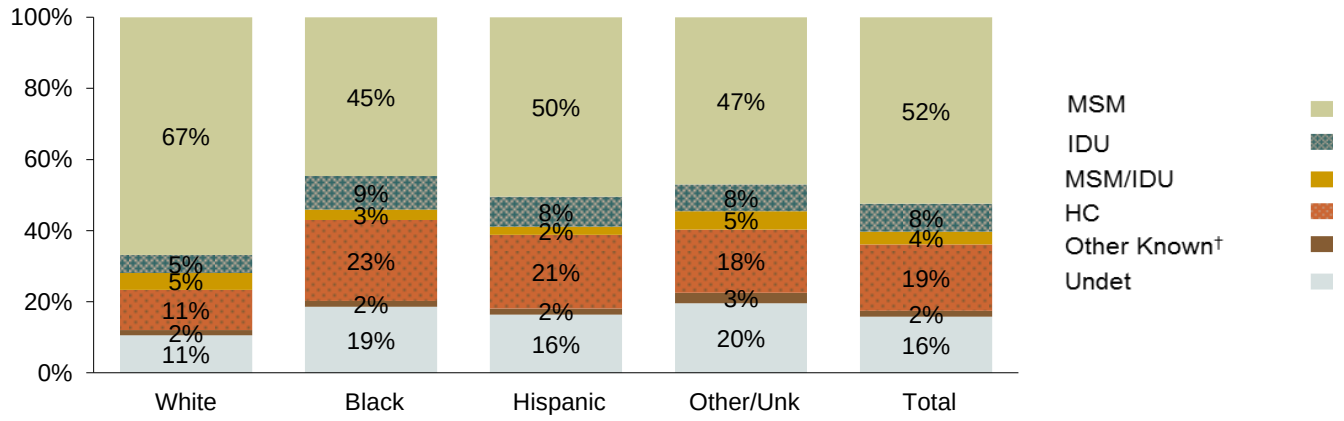
TABLE 3. Sex, Race, and Risk Among Prevalent HIV Infection Cases

MALE	**White**		**Black**		**Hispanic**		**Other or Unknown**		**All Male**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-Male sex	3,620	76%	4,227	61%	380	63%	256	61%	8,483	67%
Injection Drug Use	159	3%	515	7%	41	7%	24	6%	739	6%
MSM/IDU	259	5%	284	4%	17	3%	28	7%	588	5%
Blood Products	52	1%	13	<1%	1	<1%	1	<1%	67	1%
Heterosexual Contact (HCFR)	129	3%	452	7%	45	7%	14	3%	640	5%
Perinatal	13	<1%	76	1%	5	1%	9	2%	103	1%
Undetermined	501	11%	1,347	19%	115	19%	85	20%	2,048	16%
Male Subtotal	**4,733**	**37%**	**6,914**	**55%**	**604**	**5%**	**417**	**3%**	**12,668**	**100%**

FEMALE	**White**		**Black**		**Hispanic**		**Other or Unknown**		**All Female**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Injection Drug Use	117	17%	370	14%	23	15%	17	13%	527	15%
Blood Products	7	1%	3	<1%	1	1%	0	0%	11	<1%
Heterosexual Contact (HCM)	480	70%	1,705	67%	111	74%	83	65%	2,379	68%
Perinatal	12	2%	61	2%	6	4%	6	5%	85	2%
Undetermined	72	10%	417	16%	9	6%	22	17%	520	15%
Female Subtotal	**688**	**20%**	**2,556**	**73%**	**150**	**4%**	**128**	**4%**	**3,522**	**100%**

ALL	**White**		**Black**		**Hispanic**		**Other or Unknown**		**Risk All**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-Male sex	3,620	67%	4,227	45%	380	50%	256	47%	8,483	52%
Injection Drug Use	276	5%	885	9%	64	8%	41	8%	1,266	8%
MSM/IDU	259	5%	284	3%	17	2%	28	5%	588	4%
Blood Products	59	1%	16	<1%	2	<1%	1	<1%	78	<1%
Heterosexual Contact (HC)	609	11%	2,157	23%	156	21%	97	18%	3,019	19%
HCFR (Males)	*129*	*2%*	*452*	*5%*	*45*	*6%*	*14*	*3%*	*640*	*4%*
HCM (Females)	*480*	*9%*	*1,705*	*18%*	*111*	*15%*	*83*	*15%*	*2,379*	*15%*
Perinatal	25	<1%	137	1%	11	1%	15	3%	188	1%
Undetermined	573	11%	1,764	19%	124	16%	107	20%	2,568	16%
RACE ALL	***5,421***	***33%***	***9,470***	***58%***	***754***	***5%***	***545***	***3%***	***16,190***	***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	23	<1%	80	1%	5	1%	10	2%	118	1%
13 - 19 years	84	2%	570	8%	19	3%	25	6%	698	6%
20 - 24 years	470	10%	1,422	21%	85	14%	70	17%	2,047	16%
25 - 29 years	812	17%	1,191	17%	122	20%	84	20%	2,209	17%
30 - 39 years	1,753	37%	1,962	28%	224	37%	132	32%	4,071	32%
40 - 49 years	1,097	23%	1,176	17%	100	17%	74	18%	2,447	19%
50 - 59 years	401	8%	439	6%	38	6%	18	4%	896	7%
60 years and over	93	2%	72	1%	11	2%	4	1%	180	1%
Male Subtotal*	**4,733**	**37%**	**6,912**	**55%**	**604**	**5%**	**417**	**3%**	**12,666**	**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%	65	3%	6	4%	6	5%	90	3%
13 - 19 years	47	7%	144	6%	11	7%	4	3%	206	6%
20 - 24 years	120	17%	352	14%	23	15%	15	12%	510	14%
25 - 29 years	130	19%	429	17%	21	14%	23	18%	603	17%
30 - 39 years	209	30%	806	32%	58	39%	46	36%	1,119	32%
40 - 49 years	104	15%	524	21%	18	12%	24	19%	670	19%
50 - 59 years	56	8%	186	7%	10	7%	9	7%	261	7%
60 years and over	8	1%	50	2%	3	2%	1	1%	62	2%
Female Subtotal*	**687**	**20%**	**2,556**	**73%**	**150**	**4%**	**128**	**4%**	**3,521**	**100%**

ALL	**White**		**Black**		**Hispanic**		**Other or Unknown**		**Overall**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
0 - 12 years	36	1%	145	2%	11	1%	16	3%	208	1%
13 - 19 years	131	2%	714	8%	30	4%	29	5%	904	6%
20 - 24 years	590	11%	1,774	19%	108	14%	85	16%	2,557	16%
25 - 29 years	942	17%	1,620	17%	143	19%	107	20%	2,812	17%
30 - 39 years	1,962	36%	2,768	29%	282	37%	178	33%	5,190	32%
40 - 49 years	1,201	22%	1,700	18%	118	16%	98	18%	3,117	19%
50 - 59 years	457	8%	625	7%	48	6%	27	5%	1,157	7%
60 years and over	101	2%	122	1%	14	2%	5	1%	242	1%
RACE OVERALL*	***5,420***	***33%***	***9,468***	***58%***	***754***	***5%***	***545***	***3%***	***16,187***	***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

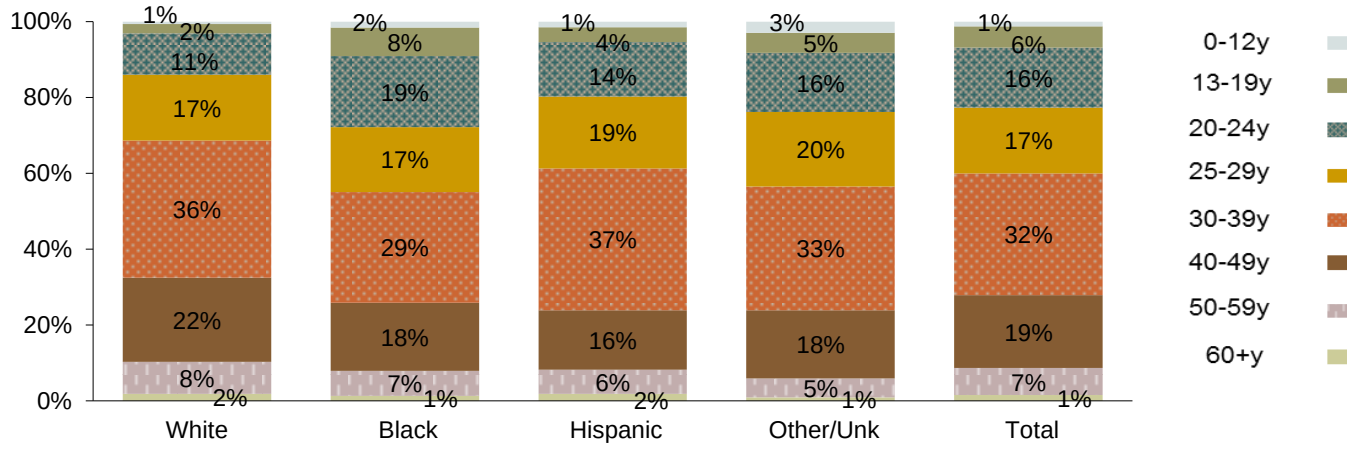


TABLE 5. New Diagnoses, Deaths, and Prevalence of HIV Infection, by Year

	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	72	17	85	50	17	53
1985	387	63	409	98	63	88
1986	493	103	799	168	100	156
1987	722	182	1,339	318	174	300
1988	907	266	1,980	492	257	535
1989	1,300	383	2,897	690	373	852
1990	1,445	455	3,887	795	435	1,212
1991	1,448	541	4,794	962	519	1,655
1992	1,487	668	5,613	1,234	636	2,253
1993	1,299	830	6,082	1,130	783	2,600
1994	1,212	910	6,384	1,013	850	2,763
1995	1,187	925	6,646	1,063	856	2,970
1996	1,114	636	7,124	859	586	3,243
1997	1,042	472	7,694	736	421	3,558
1998	888	411	8,171	645	356	3,847
1999	742	375	8,538	574	327	4,094
2000	925	395	9,068	648	339	4,403
2001	876	402	9,542	572	330	4,645
2002	766	384	9,924	579	325	4,899
2003	872	378	10,418	601	305	5,195
2004	884	357	10,945	564	283	5,476
2005	896	369	11,472	744	301	5,919
2006	810	354	11,928	616	285	6,250
2007	805	334	12,399	590	281	6,559
2008	799	350	12,848	551	284	6,826
2009	826	287	13,387	479	233	7,072
2010	781	288	13,880	521	235	7,358
2011	797	298	14,379	472	236	7,594
2012	801	316	14,864	441	257	7,778
2013	782	175	15,471	472	146	8,104
2014	814	95	***16,190***	361	74	***8,391***
TOTAL	***28,216***	***12,026***		***19,065***	***10,674***	

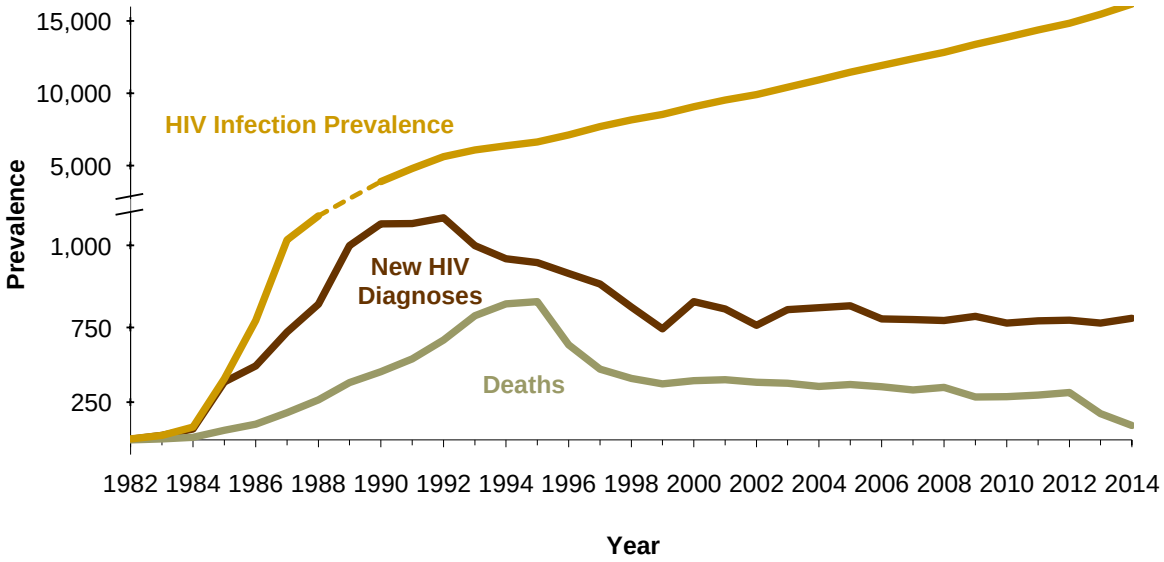
The prevalence of HIV in Michigan has steadily increased, since persons with HIV are living longer. This is largely due to improved anti-retroviral therapy.

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 16,190. The prevalence of Stage 3 infection, which is a subset of the overall HIV infection prevalence, is 8,391.

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: Reported deaths for most recent years may not be complete.

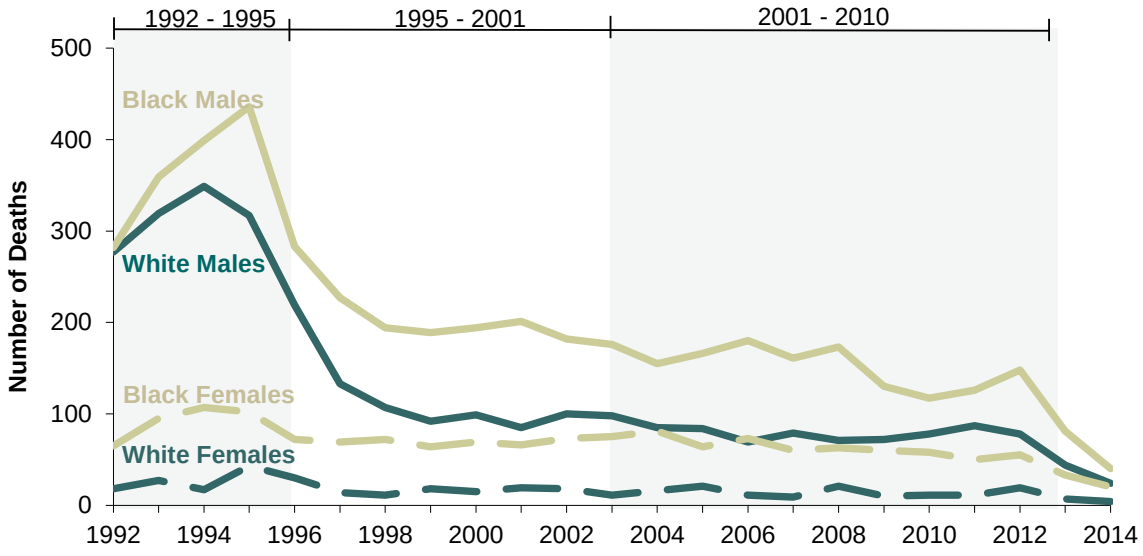
FIGURE 3. New Diagnoses, Deaths,† and Prevalence of HIV Infection, by Year



† Reporting for 2013 deaths is incomplete at this time.

Figure 4 (below) shows the number of HIV positive 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 2010 (41%), as have the number of deaths in white males (10%), black females (12%), and white females (42%).

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



† Reporting for 2013 deaths is incomplete at this time.

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

	2014						CUMULATIVE (through January 2015) ¶					
	Male		Female		All		Male		Female		All	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
RACE/ETHNICITY												
White	212	32%	29	19%	241	30%	8,638	39%	1,106	19%	9,744	35%
Black	383	58%	111	74%	494	61%	12,317	55%	4,287	74%	16,604	59%
Hispanic	43	6%	4	3%	47	6%	910	4%	212	4%	1,122	4%
Asian/NH/PI	12	2%	5	3%	17	2%	97	<1%	42	1%	139	<1%
Am Indian/AN	3	<1%	0	0%	3	<1%	44	<1%	16	<1%	60	<1%
Multi/Other/Unk	10	2%	2	1%	12	1%	425	2%	122	2%	547	2%
RISK §												
Male-Male Sex	488	74%	N/A	--	488	60%	13,748	61%	N/A	--	13,748	49%
Injection Drug Use	10	2%	6	4%	16	2%	2,757	12%	1,643	28%	4,400	16%
MSM/IDU	11	2%	N/A	--	11	1%	1,423	6%	N/A	--	1,423	5%
Blood Products	0	0%	0	0%	0	0%	307	1%	38	1%	345	1%
Heterosexual Contact (HC)	23	3%	117	77%	140	17%	986	4%	3,263	56%	4,249	15%
HCFR (Males)	*23*	*3%*	*N/A*	*--*	*23*	*3%*	*986*	*4%*	*N/A*	*--*	*986*	*3%*
HCM (Females)	*N/A*	*--*	*117*	*77%*	*117*	*14%*	*N/A*	*--*	*3,263*	*56%*	*3,263*	*12%*
Perinatal	4	1%	2	1%	6	1%	146	1%	118	2%	264	1%
Undetermined	127	19%	26	17%	153	19%	3,064	14%	723	12%	3,787	13%
AGE AT HIV DIAGNOSIS												
0 - 12 years	3	<1%	2	1%	5	1%	190	1%	122	2%	312	1%
13 - 19 years	41	6%	3	2%	44	5%	807	4%	252	4%	1,059	4%
20 - 24 years	168	25%	24	16%	192	24%	2,600	12%	646	11%	3,246	12%
25 - 29 years	137	21%	23	15%	160	20%	3,636	16%	881	15%	4,517	16%
30 - 39 years	131	20%	35	23%	166	20%	7,811	35%	1,951	34%	9,762	35%
40 - 49 years	98	15%	36	24%	134	16%	5,009	22%	1,297	22%	6,306	22%
50 - 59 years	69	10%	20	13%	89	11%	1,841	8%	480	8%	2,321	8%
60 years and over	16	2%	8	5%	24	3%	535	2%	155	3%	690	2%
Unspecified	0	0%	0	0%	0	0%	2	<1%	1	<1%	3	<1%
Infection STATUS ¥												
HIV Infection Non-Stage 3	505	76%	107	71%	612	75%	6,997	31%	2,078	36%	9,075	32%
HIV Infection Stage 3 (AIDS)	158	24%	44	29%	202	25%	15,434	69%	3,707	64%	19,141	68%
AIDS - Same time	*125*	*19%*	*36*	*24%*	*161*	*20%*	*8,082*	*36%*	*1,590*	*27%*	*9,672*	*34%*
AIDS - Short Lag	*32*	*5%*	*8*	*5%*	*40*	*5%*	*1,729*	*8%*	*481*	*8%*	*2,210*	*8%*
AIDS - Long lag	*1*	*<1%*	*0*	*0%*	*1*	*<1%*	*5,623*	*25%*	*1,636*	*28%*	*7,259*	*26%*
AREA OF RESIDENCE AT DIAGNOSIS £												
Detroit Metro	432	65%	103	68%	535	66%	14,807	66%	4,171	72%	18,978	67%
Out-State	224	34%	48	32%	272	33%	6,509	29%	1,510	26%	8,019	28%
Prison/Unknown	7	1%	0	0%	7	1%	1,115	5%	104	2%	1,219	4%
TOTAL	**663**	**81%**	**151**	**19%**	**814**	**100%**	**22,431**	**79%**	**5,785**	**21%**	**28,216**	**100%**

**Includes deceased cases.*

§ 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 January 2015, there were 114 cumulative transgender HIV cases (2 female to male, 112 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 2014 ESTIMATES	COUNTY	EST PREV	REPORTED PREVALENCE				CENSUS 2014 ESTIMATES
	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	10,454	Livingston	80	29	39	68	37	185,596
Alger	10	0	1	1	11	9,459	Luce	10	0	0	0	0	6,426
Allegan	90	27	51	78	69	113,847	Mackinac	10	4	3	7	63	11,042
Alpena	10	2	3	5	17	28,988	Macomb	940	435	367	802	93	860,112
Antrim	10	3	6	9	39	23,267	Manistee	10	5	6	11	45	24,420
Arenac	10	1	1	2	13	15,353	Marquette	20	8	12	20	30	67,676
Baraga	10	1	2	3	35	8,654	Mason	10	4	7	11	38	28,824
Barry	30	12	17	29	49	59,281	Mecosta	20	11	7	18	42	43,186
Bay	70	38	26	64	60	106,179	Menominee	10	3	1	4	17	23,714
Benzie	10	2	3	5	29	17,519	Midland	30	13	15	28	34	83,427
Berrien	300	113	140	253	163	155,233	Missaukee	10	4	6	10	67	15,037
Branch	20	15	5	20	46	43,545	Monroe	90	39	38	77	51	149,824
Calhoun	180	76	77	153	113	134,878	Montcalm	30	10	15	25	40	62,893
Cass	40	16	15	31	60	51,608	Montmorency	10	0	3	3	32	9,300
Charlevoix	10	3	9	12	46	26,121	Muskegon	150	73	59	132	77	172,344
Cheboygan	10	4	5	9	35	25,675	Newaygo	20	7	11	18	38	47,900
Chippewa	10	5	4	9	23	38,321	Oakland	2,300	1,005	960	1,965	159	1,237,868
Clare	20	4	11	15	49	30,652	Oceana	10	5	4	9	34	26,221
Clinton	40	22	15	37	48	77,297	Ogemaw	10	0	2	2	10	21,039
Crawford	10	1	3	4	29	13,745	Ontonagon	10	1	1	2	32	6,172
Delta	10	4	8	12	33	36,559	Osceola	10	1	2	3	13	23,169
Dickinson	10	1	0	1	4	25,957	Oscoda	10	2	1	3	36	8,371
Eaton	70	23	35	58	53	108,579	Otsego	10	4	6	10	41	24,158
Emmet	10	1	6	7	21	33,204	Ottawa	140	49	72	121	44	276,292
Genesee	640	275	271	546	132	412,895	Presque Isle	10	0	2	2	15	13,004
Gladwin	10	3	5	8	31	25,411	Roscommon	20	3	13	16	67	23,955
Gogebic	10	1	1	2	13	15,737	Saginaw	290	133	112	245	126	195,012
Grand Traverse	80	33	34	67	74	90,782	Sanilac	20	7	7	14	34	41,587
Gratiot	10	8	3	11	26	41,665	Schoolcraft	10	0	0	0	0	8,171
Hillsdale	10	4	5	9	20	45,830	Shiawassee	30	11	13	24	35	68,933
Houghton	10	5	3	8	22	36,495	St. Clair	110	54	43	97	61	160,078
Huron	10	2	5	7	22	32,065	St. Joseph	40	13	20	33	54	60,946
Ingham	580	271	226	497	175	284,582	Tuscola	20	8	5	13	24	54,000
Ionia	30	11	14	25	39	64,294	Van Buren	50	21	26	47	63	75,199
Iosco	10	2	5	7	28	25,420	Washtenaw	640	300	252	552	155	356,874
Iron	10	0	1	1	9	11,387	Wayne Total	8,760	3,448	4,050	7,498	425	1,764,804
Isabella	50	21	22	43	61	70,616	*Wayne, excl. Detroit*	*1,920*	*753*	*891*	*1,644*	*159*	*1,033,312*
Jackson	210	89	87	176	110	159,741	*Detroit*[†]	*6,840*	*2,695*	*3,159*	*5,854*	*800*	*731,492*
Kalamazoo	400	189	153	342	132	258,818	Wexford	10	3	4	7	21	32,886
Kalkaska	10	4	0	4	23	17,394							
Kent	1,070	431	489	920	146	629,237	**Detroit Metro**[£]	12,240	4,998	5,478	10,476	246	4,260,839
Keweenaw	10	0	0	0	0	2,217	**Out-State**[£]	5,860	2,486	2,534	5,020	89	5,649,038
Lake	20	5	8	13	115	11,341							
Lapeer	40	17	20	37	42	88,153	**Prisons**[¶]	700	314	379	693	N/A	N/A
Leelanau	10	0	6	6	27	21,915	**Unknown**	10	1	0	1	N/A	N/A
Lenawee	60	26	27	53	54	99,047	***TOTAL***	***18,800***	***7,799***	***8,391***	***16,190***	***163***	***9,909,877***

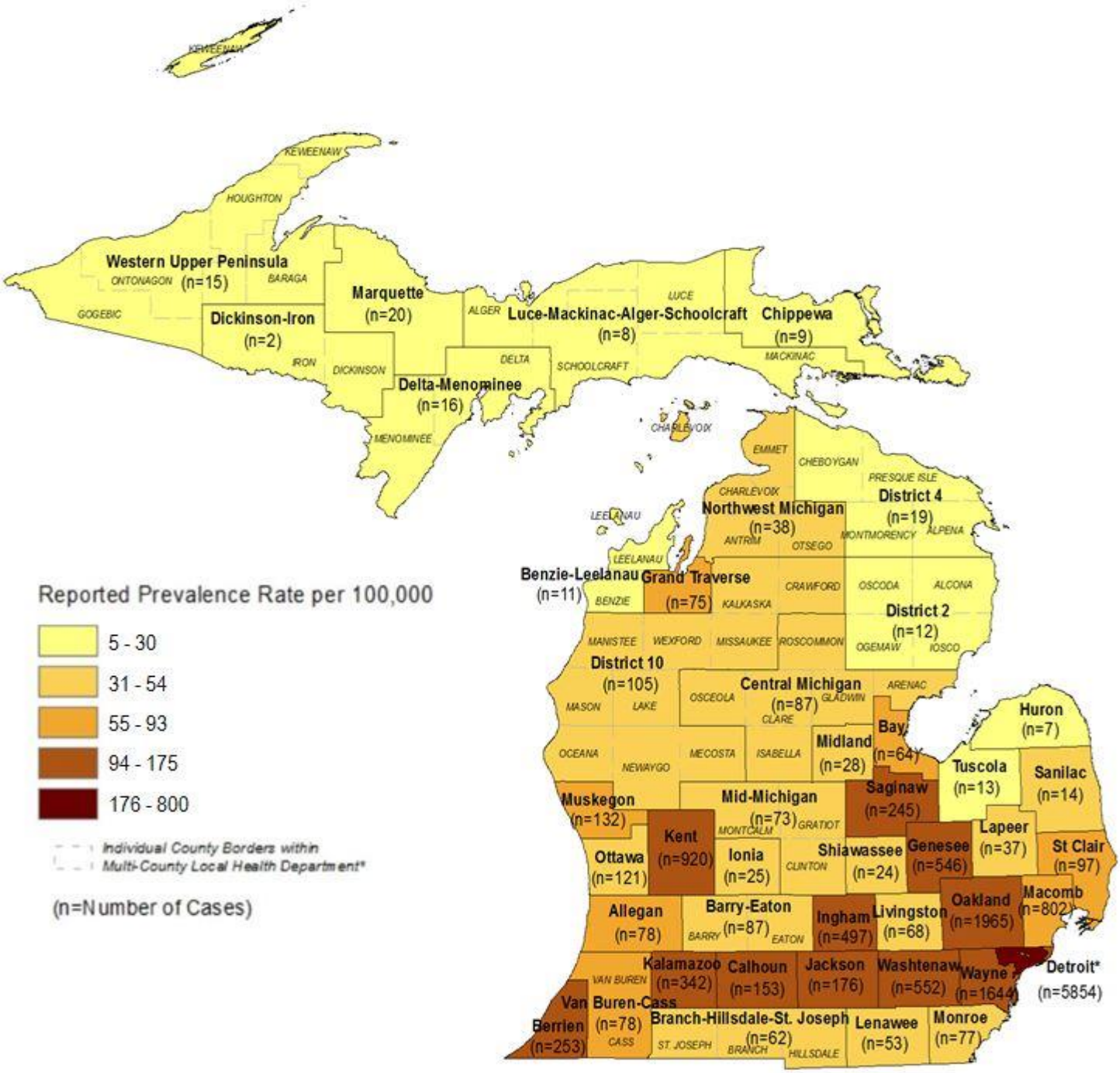
**Rate is reported prevalence per 100,000 and is not an estimate.*

[†] The prevalence rate for the City of Detroit is an overestimate due to significant population decline in the city between 2000 and 2010 (population loss of 25%). MDCH is currently developing a method to calculate estimates that adjust for this population change.

[£] 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.

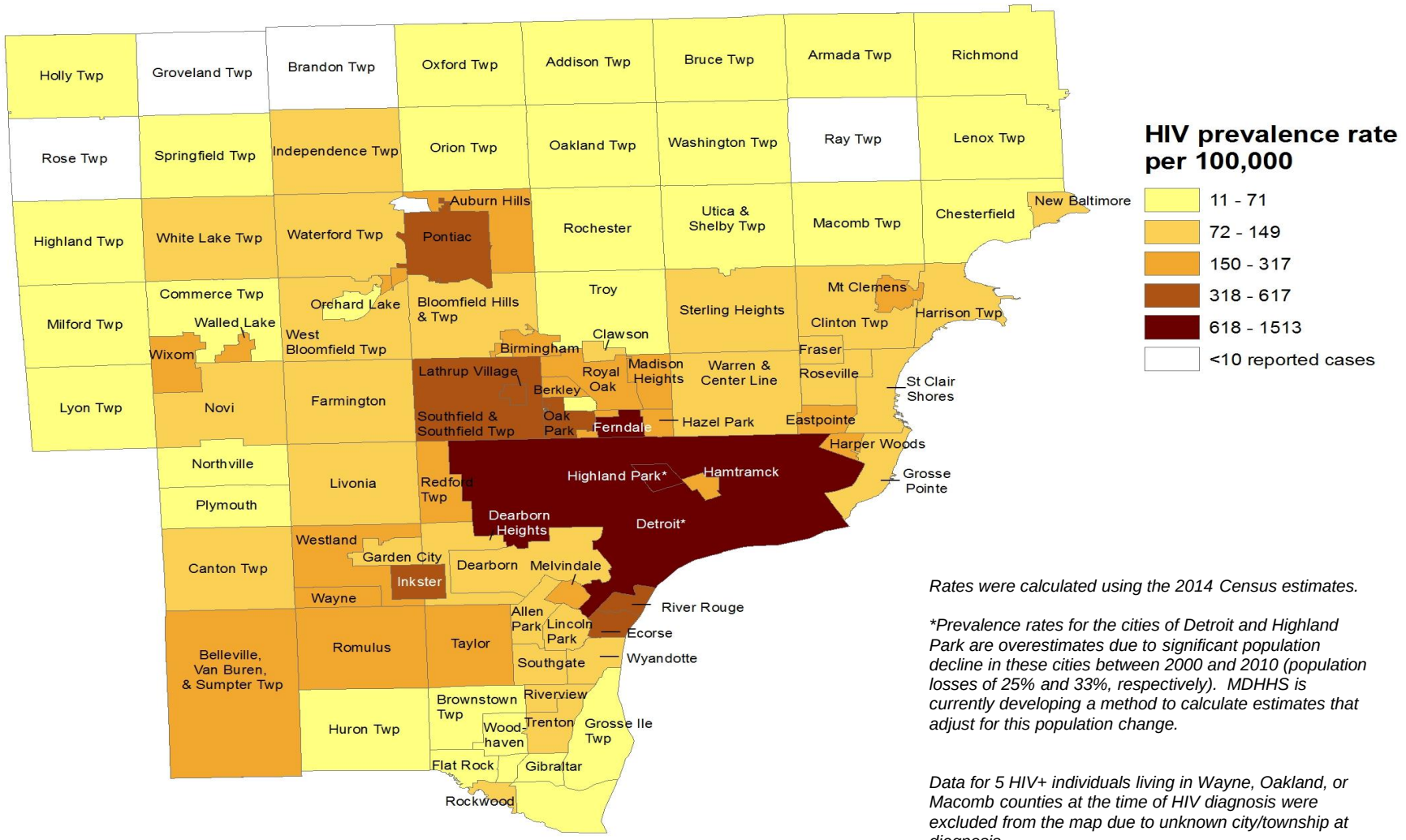
FIGURE 5. Reported HIV Prevalence and Prevalence Rates, by Residence at Diagnosis



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.

**The prevalence rate for the City of Detroit is an overestimate due to significant population decline in the city between 2000 and 2010 (population loss of 25%). MDHHS is currently developing a method to calculate estimates that adjust for this population change.*

FIGURE 6. Reported HIV Prevalence Rates, by City of Residence at Diagnosis in Wayne, Oakland, and Macomb Counties as of January 1, 2015 (N=10,265)



Rates were calculated using the 2014 Census estimates.

**Prevalence rates for the cities of Detroit and Highland Park are overestimates due to significant population decline in these cities between 2000 and 2010 (population losses of 25% and 33%, respectively). MDHHS is currently developing a method to calculate estimates that adjust for this population change.*

Data for 5 HIV+ individuals living in Wayne, Oakland, or Macomb counties at the time of HIV diagnosis were excluded from the map due to unknown city/township at diagnosis.

Table 8: Number of Deliveries and Births with Perinatal HIV Exposure, 2010 - 2014

	Mothers	Infants
2010	44	44
2011	63	63
2012	50	51
2013	26	26
2014	14	15

FIGURE 7. Perinatal HIV Exposures, by Residence at Birth

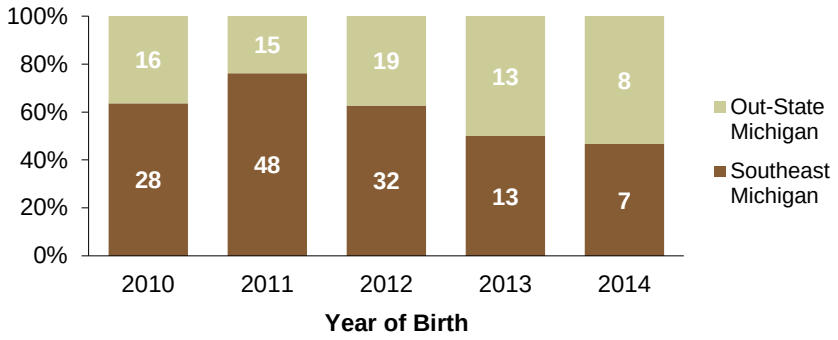


FIGURE 8. Perinatal HIV Exposures, by Infant Race

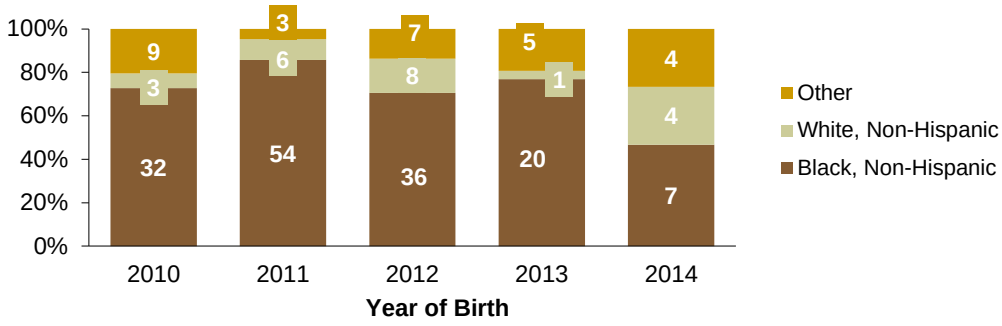


FIGURE 9. Perinatal HIV Exposures, by Maternal Risk†

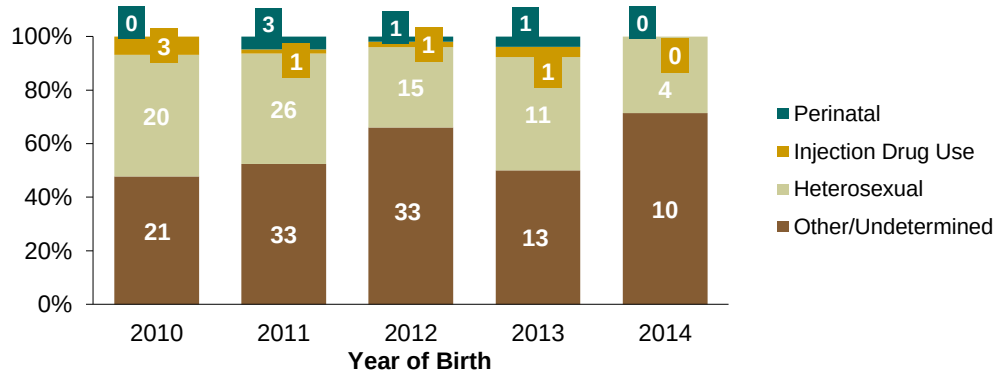


FIGURE 10. Infection Status of Perinatal HIV Exposures

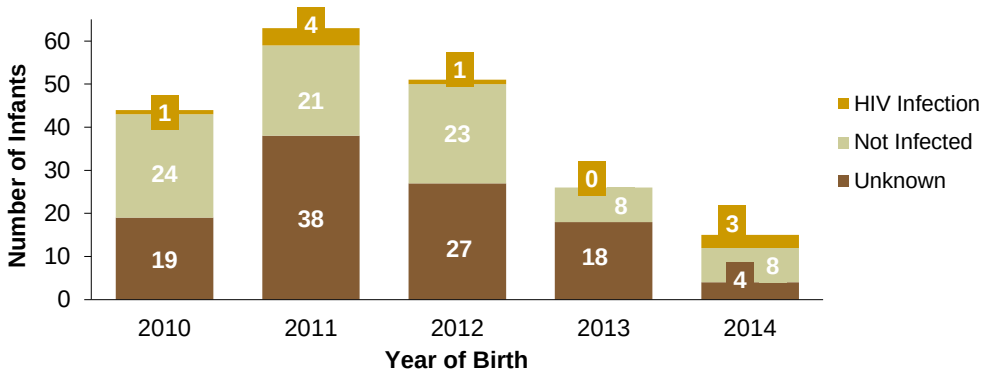


Figure 10 indicates the current infection status of infants born in Michigan to HIV-positive women: the top portion of the bars shows number of infants confirmed to be infected with HIV; the middle portion shows those not infected with HIV, based on laboratory testing or physician exam; and the bottom portion shows the number of infants whose HIV infection status is unknown due to loss to follow-up or infection status reporting delay.

†'Perinatal' indicates the mother was herself perinatally exposed to HIV. One mother with a birth in 2010 and one mother with a birth in 2014 had exposure to HIV-infected blood products; these cases were included in Other/Undetermined.