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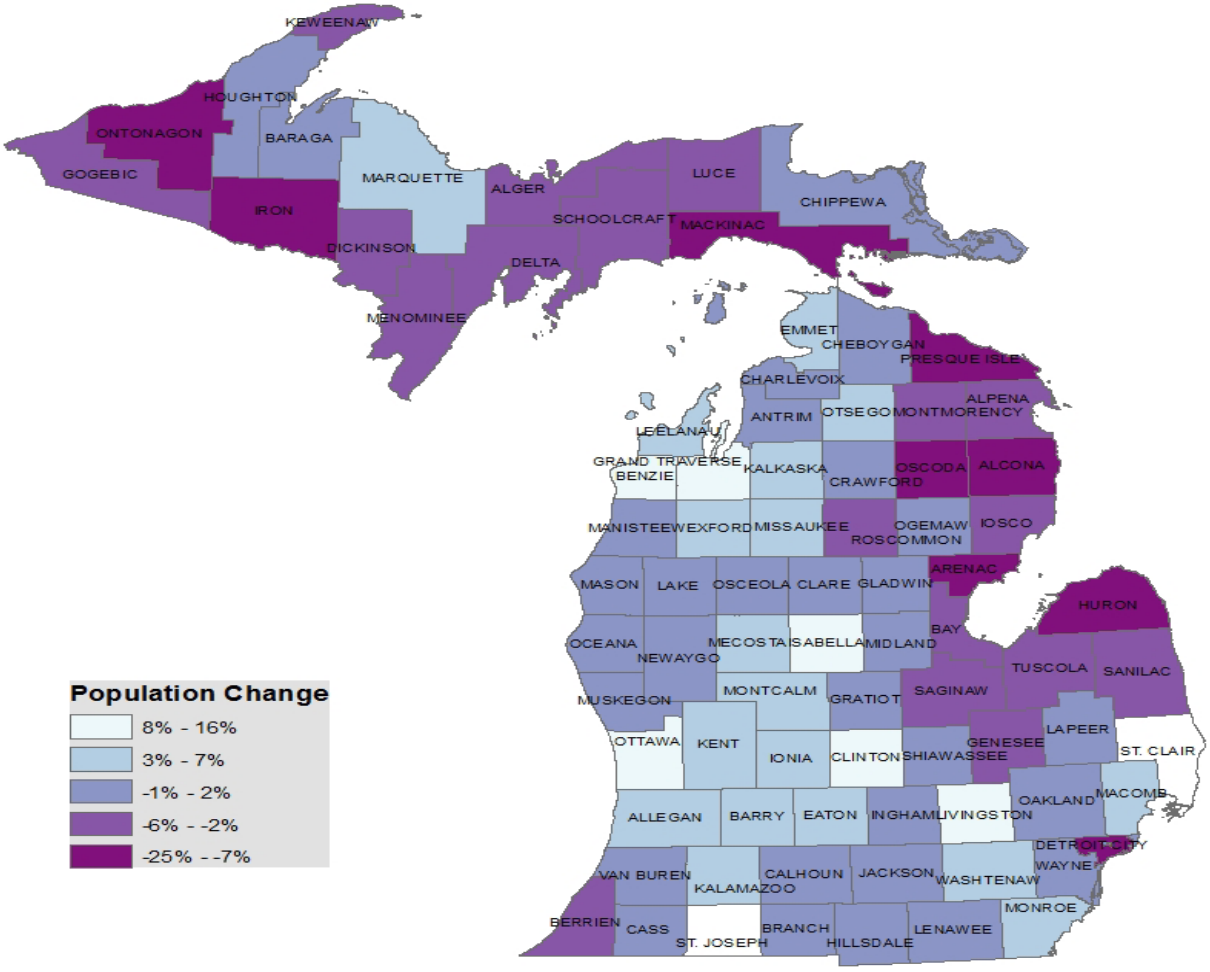
Sociodemographic Description of the Michigan Population

Population:

According to the 2010 Census, Michigan has the 8th largest population in the United States with a total of 9,883,640 persons. This is a decrease of 0.6 percent since the 2000 Census and the first time in history that Michigan had a net population loss between censuses. Michigan is composed of 83 counties. County populations range from a low of 2,156 persons in Keweenaw County to 1.8 million persons in Wayne County. The Detroit Metropolitan Area (DMA) (Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties) represents 43 percent of Michigan's population. Michigan cities with populations over 100,000, in order of descending population, are Detroit, Grand Rapids, Warren, Sterling Heights, Lansing, Ann Arbor, and Flint, with populations ranging from 713,777 to 102,434. Fifteen of Michigan's 20 most populous cities experienced a decrease in population between the 2000 and 2010 Census.

Figure 1 shows population change in Michigan between the 2000 and 2010 Census. Several counties in the upper peninsula and northeast Michigan experienced net loss while mid/west Michigan counties experienced either no change or a gain. The City of Detroit lost 25 percent of it's population between the 2000 and 2010 Censuses (237,493 persons). Michigan was the only state in the country to have a decrease in population during this time period.

Figure 1: Percent population change in Michigan counties between the 2000 and 2010 census



Source. Census 2010, US Census Bureau.

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Sociodemographic Description of the Michigan Population

Local health jurisdiction structure:
Michigan is divided into 45 local health departments (LHDs) (see map on page 18). Since many counties of Michigan have low population density, some district LHDs are composed of multiple counties. These multi-county LHDs each contain two to 10 counties and can deliver services more efficiently then single county LHDs in rural areas. LHD activities include clinical services for family planning, STD screening and treatment, maternal and child health services, special health care services for children, nutrition programs, and immunizations. Services also include sanitation, environmental monitoring, and epidemiologic investigations.

Age and sex:
According to the 2010 Census, the median age of Michigan residents is 40 years, two years older than the median age in the 2000 Census. Six percent of the population is under 5 years of age; 34 percent are younger than 24 years of age; and 14 percent of the population are 65 or older. The largest proportion of individuals is 45-64 years of age. The proportion of males in the overall population is lower than the proportion of females (49 vs. 51 percent, respectively). Table 1 shows the percent distribution of each age group, broken down by sex. Proportions in each age group are similar between males and females, except there is a higher proportion of males 5-14 years old than females. A larger proportion of females are 65 years of age and older than are males (15.4 percent vs. 12.1 percent, respectively). There was little change in any sex/age group between the 2000 to the 2010 Census.

Table 1: Age and sex distribution of the Michigan population, 2012

Age (years)	Male % (N = 4,848,114)	Female % (N = 5,035,526)	Total Population % (N = 9,883,640)
< 5	6	6	6
5—14	14	13	13
15—24	15	14	14
25—44	25	24	25
45—64	28	28	28
65 and older	12	15	14

Source. Census 2010, US Census Bureau.
Note: Percentages may not add to 100 percent due to rounding.

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Sociodemographic Description of the Michigan Population

Demographic composition:

According to the 2010 Census, the racial and ethnic composition of the state is 77 percent white, non-Hispanic; 14 percent black, non-Hispanic; four percent Hispanic; two percent Asian/Native Hawaiian or Other Pacific Islander; one percent American Indian/Alaska Native; and two percent multiracial or other race (table 2). Proportions of each racial/ethnic group are similar between males and females. There was little change in any racial or ethnic group between the 2000 and 2010 Census.

Table 2: Race/ethnicity and sex distribution of the Michigan population, 2012

	Male % (N = 4,848,114)	Female % (N = 5,035,526)	Total Population % (N = 9,883,640)
White, non-Hispanic	77	76	77
Black, non-Hispanic	14	14	14
Hispanic, all races	5	4	4
Asian/Native Hawaiian or Other Pacific Islander	<1	2	2
American Indian/Alaska Native	<1	<1	1
Multiracial/Other	2	2	2

Source. Census 2010, US Census Bureau.
Note: Percentages may not add to 100 percent due to rounding.

When broken down by geographic area, the racial/ethnic distribution of Michigan changes (table 3). In the Detroit Metro Area, non-Hispanic white persons make up 68 percent of the population compared to 83 percent in Out-State Michigan. The largest difference between the two areas of Michigan is among the distribution of non-Hispanic black persons, who make up 23 percent of the population in the Detroit Metro Area and only seven percent in Out-State Michigan. All other racial/ethnic groups (Hispanic, Asian/Native Hawaiian or Other Pacific Islander, American Indian/Alaska Native, and multiracial persons/persons of other race) have relatively equal representation throughout the state, although persons of other race make up a slightly higher proportion of the population in Out-State Michigan. The percent distributions of racial/ethnic groups by sex are relatively equal in both areas.

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Sociodemographic Description of the Michigan Population

Table 3: Race/ethnicity and sex distribution of the Michigan population, by geographic area, 2012

Detroit Metro Area	Male %	Female %	Total population %
Race/Ethnicity	(N = 2,066,529)	(N = 2,200,775)	(N = 4,267,304)
White, non-Hispanic	68	67	68
Black, non-Hispanic	22	24	23
Hispanic, all races	4	4	4
Other	6	6	6
Out-State Michigan	Male %	Female %	Total population %
Race/Ethnicity	(N = 2,781,585)	(N = 2,834,751)	(N = 5,616,336)
White, non-Hispanic	83	84	83
Black, non-Hispanic	7	7	7
Hispanic, all races	5	5	5
Other	4	5	5

Source. Census 2010, US Census Bureau.
Note: Percentages may not add to 100 percent due to rounding.

Poverty, income, employment, and insurance[1]:

In 2010, the median household income in Michigan was estimated to be $48,432, compared to the United States median income of $51,914. About 15 percent of Michigan residents' yearly incomes fell below the Federal Poverty Level (FPL), compared to 14 percent of all persons in the United States. Among persons under 18 years of age, 24 percent had family incomes that fell below the FPL in Michigan compared to 22 percent nationally. Fifteen percent of Michigan residents were unemployed in 2010 compared to 10.8 percent of all persons in the US. Michigan's unemployment rate was the highest of all 50 states (http://www.michigan.gov/documents/treasury/MEU-January2010_315716_7.pdf).

In 2010, 12 percent of Michigan residents did not have health insurance. Four percent of Michigan residents under 18 years of age were uninsured. These proportions are slightly lower than those seen nationally.

1. Data from US Census Bureau unless otherwise noted.

2012 Profile of HIV in Michigan (Statewide)

Summary of the HIV Epidemic in Michigan

Data from enhanced HIV/AIDS Reporting System (eHARS)

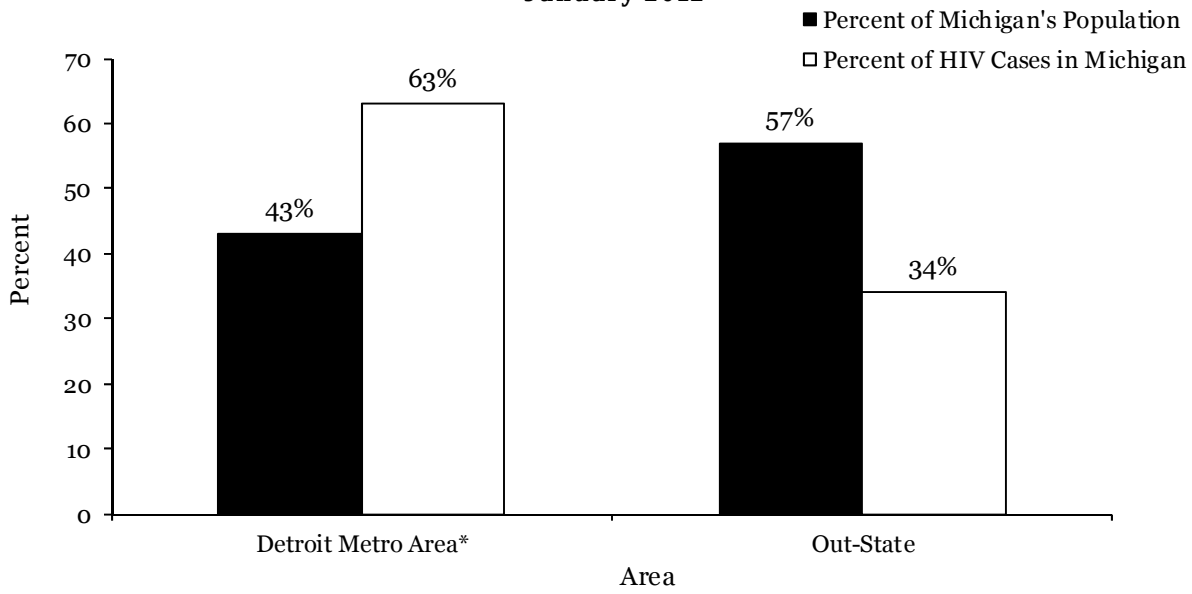
How many cases?

The Michigan Department of Community Health (MDCH) estimates that there are 20,600 persons currently living with HIV in the state of Michigan, of whom 15,753 were reported as of January 1, 2012 (table 8, page 101). The number and rate of new HIV diagnoses remained stable in Michigan between 2006 and 2010, with an average of 803 new cases each year and an average rate of 8.1 cases per 100,000 population (See pages v-vi for information on *2012 Annual Review of HIV Trends in Michigan*). Despite a stable number of new diagnoses each year, there are more new diagnoses of HIV infection than deaths. As a result, the reported number of persons living with HIV infection in Michigan is increasing.

How are the cases geographically distributed?

HIV infections are distributed disproportionately in Michigan. Sixty-three percent of those living with HIV reside in the Detroit Metro Area (DMA) (9,919 of the 15,753 cases currently living in Michigan), but the DMA has only 43 percent of the general population (figure 2). The rest of the state has 34 percent of Michigan HIV cases but 57 percent of the population. The number of new diagnoses remained stable in both geographic areas between 2006 and 2010 (Trends).

Figure 2: Michigan living HIV infection cases and population by area, January 2012



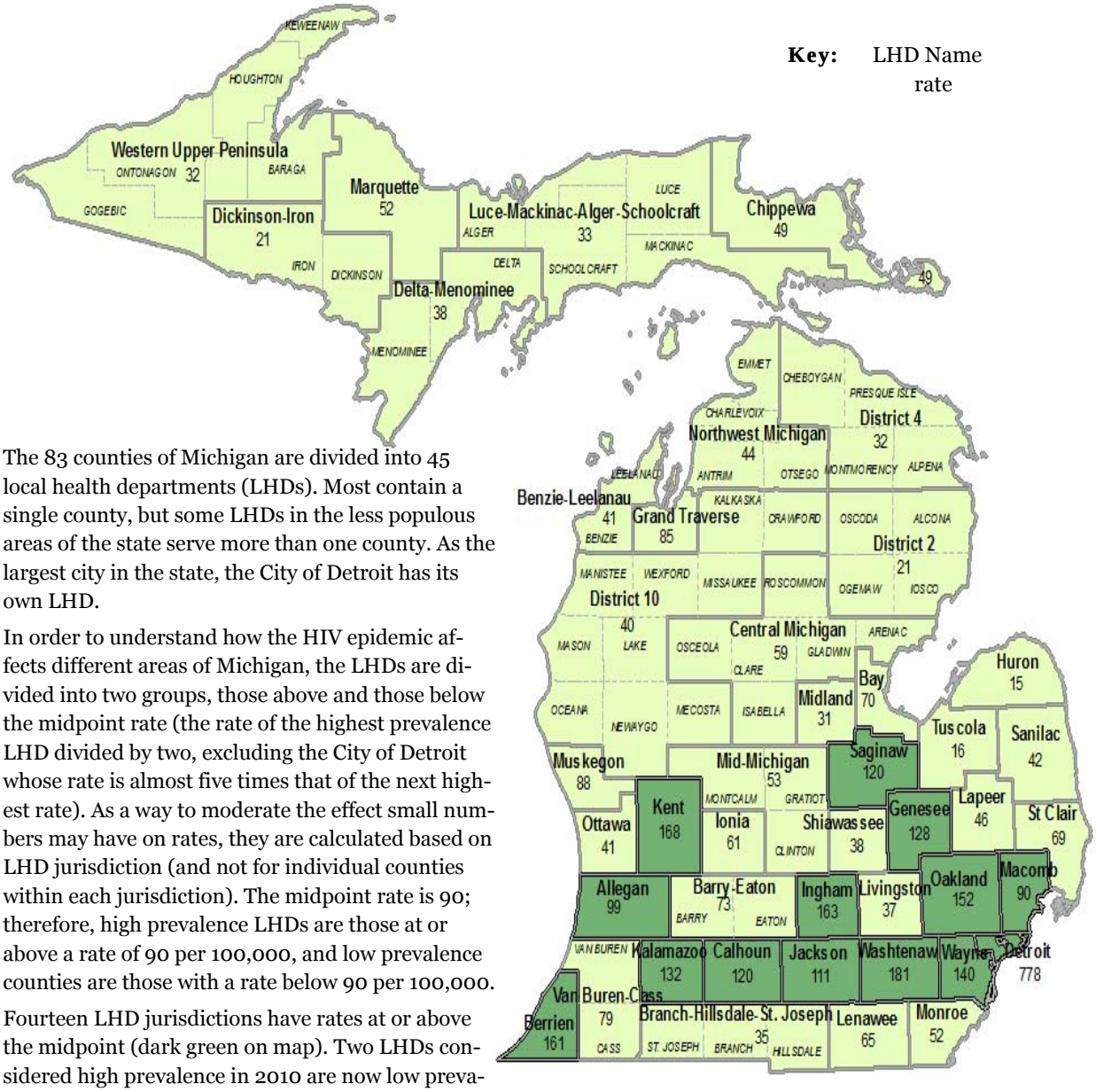
*Detroit Metro Area includes the City of Detroit, Lapeer County, Macomb County, Monroe County, Oakland County, St. Clair County, and Wayne County.

2012 Profile of HIV in Michigan (Statewide)

Distribution of HIV Cases by Local Health Department Jurisdiction

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 3: Reported HIV prevalence rate per 100,000 by local health department jurisdiction, January 2012



The 83 counties of Michigan are divided into 45 local health departments (LHDs). Most contain a single county, but some LHDs in the less populous areas of the state serve more than one county. As the largest city in the state, the City of Detroit has its own LHD.

In order to understand how the HIV epidemic affects different areas of Michigan, the LHDs are divided into two groups, those above and those below the midpoint rate (the rate of the highest prevalence LHD divided by two, excluding the City of Detroit whose rate is almost five times that of the next highest rate). As a way to moderate the effect small numbers may have on rates, they are calculated based on LHD jurisdiction (and not for individual counties within each jurisdiction). The midpoint rate is 90; therefore, high prevalence LHDs are those at or above a rate of 90 per 100,000, and low prevalence counties are those with a rate below 90 per 100,000.

Fourteen LHD jurisdictions have rates at or above the midpoint (dark green on map). Two LHDs considered high prevalence in 2010 are now low prevalence: Muskegon and Van Buren/Cass. The 14 high-prevalence LHDs account for 89 percent of Michigan HIV cases but just 66 percent of Michigan's population. Excluding the City of Detroit, Washtenaw and Kent LHDs have the highest rates at 181 and 168 cases per 100,000, respectively.

2012 Profile of HIV in Michigan (Statewide)

Recommendations: Ranking of Behavioral Groups

Data from enhanced HIV/AIDS Reporting System (eHARS)

To assist in prioritizing prevention activities, the MDCH HIV/STD/VH/TB Epidemiology Section ranks the three behavioral groups most at risk for HIV infection in Michigan. The guiding question used in this process is, "In which populations can strategies prevent the most infections from occurring?" Effectively reducing transmission in populations where most of the HIV transmission is taking place will have the greatest impact on the overall epidemic. The percentage of cases for each behavioral group and trends over time were used to determine the ranked order of the following three behavioral groups: MSM, heterosexuals, and IDU.

- **Men who have sex with men (MSM)*:** MSM make up 54 percent of all reported cases of HIV currently living in Michigan (8,470 out of 15,753 cases) (table 8, page 101). The MSM behavioral group continues to be the most affected behavioral group statewide. Between 2006 and 2010, the number of new diagnoses among MSM remained stable with an average of 388 new cases each year. Although the number of new MSM cases did not increase, the majority of new cases in this behavioral group continue to be among black MSM (Trends).
- **Heterosexuals**: Heterosexual cases constitute 17 percent of the total number of reported cases (2,754 out of 15,753 cases) currently living in Michigan (table 8). This behavioral group is comprised of males who had sex with females known to be at risk for HIV (heterosexual contact with female with known risk, HCFR) and females who had sex with males, regardless of what is known about the male partners' risk behaviors (heterosexual contact with male, HCM). HCFR is more completely defined as males who had sex with females known to be IDU, recipients of HIV-infected blood products, or HIV-positive persons. See the glossary in appendix A, page 223, for further description of the heterosexual risk transmission category. Eighty percent of all heterosexual cases are among females. The number of new HIV diagnoses in persons with heterosexual transmission decreased by eight percent between 2006 and 2010. This is the third consecutive trend analysis showing a decrease in new diagnoses among persons with heterosexual risk (Trends).
- **Injection drug users (IDU)*:** Of all reported cases of HIV currently living in Michigan, 14 percent are IDU (2,238 out of 15,753 cases) (table 8). The number of new HIV diagnoses among IDU decreased between 2006 and 2010 by an average of 12 percent per year. This is the seventh consecutive trend analysis showing significant decreases in new HIV diagnoses among IDU (Trends).

*Both MSM and IDU numbers and percentages include persons with a dual risk of MSM/IDU.

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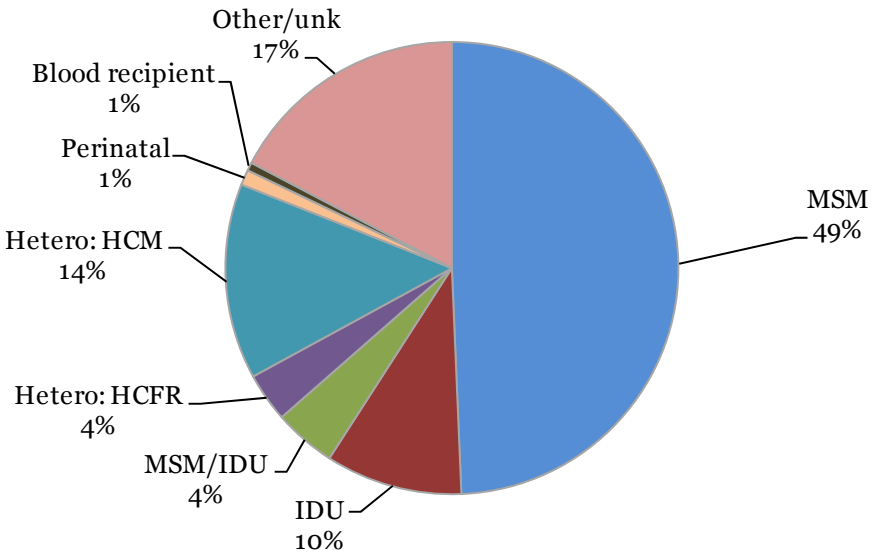
Distribution of Living HIV Cases by Risk Transmission Category

Data from enhanced HIV/AIDS Reporting System (eHARS)

Although case reporting includes ascertainment of multiple behaviors associated with HIV transmission, current surveillance methods cannot determine the specific route of HIV transmission in persons who have engaged in more than one risk behavior. For the purposes of analysis and interpretation, in the 1980s the Centers for Disease Control and Prevention created a risk hierarchy to classify people into risk transmission categories. The hierarchy is intended to account for the efficiency of HIV transmission associated with each behavior, along with the probability of exposure to an infected person within the population. The adult/adolescent categories, in order, are as follows: (1) men who have sex with men (MSM); (2) injection drug users (IDU); (3) men who have sex with men and inject drugs (MSM/IDU); (4) hemophilia/coagulation disorders; (5) heterosexual contact (HC); (6) receipt of HIV-infected blood or blood components; and (7) no identified risk (NIR). Figure 4 shows the distribution of risk for all persons currently living with HIV in Michigan as of January 2012 (data also found on table 8, page 101).

Figure 4: HIV infection cases currently living in Michigan by risk transmission category, January 2012 (N = 15,753)



- Over half (53 percent) of persons currently living with HIV in Michigan are men who have sex with men (MSM), including four percent who also inject drugs (MSM/IDU).
- Eighteen percent have a risk of heterosexual sex, 14 percent of whom are females who had sex with males (HCM) and four percent of whom are males who had sex with females with known risk (HCFR).
- Fourteen percent are injection drug users (IDU), including four percent who are also MSM (MSM/IDU).
- Two percent are other known risk, including perinatal transmission and receipt of HIV-infected blood products.
- Seventeen percent have unknown risk, which includes males who had sex with females of unknown risk.

Distribution of Living HIV Cases by Exposure Category

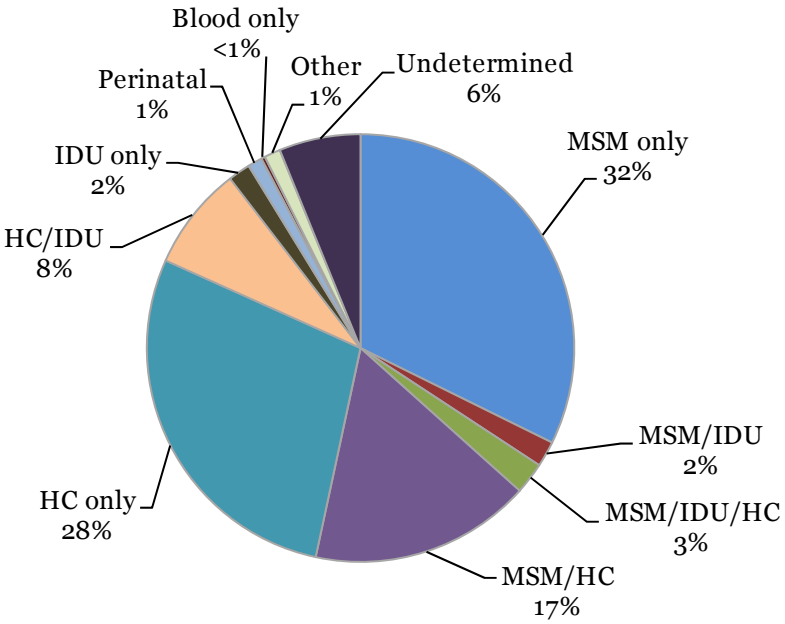
Data from enhanced HIV/AIDS Reporting System (eHARS)

When the risk transmission categories were created, the hierarchy was 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. Additionally, concerns have been raised that use of hierarchical categories masks the identification of multiple risks that a person may have. For this reason, Michigan also presents exposure categories, which convey all known modes of HIV exposure. Like the traditional risk transmission categories, the exposure categories are mutually exclusive, meaning that each case is included in only one category. Exposure categories, however, allow readers to see all the reported ways in which a person may have been exposed to HIV without stating definitively how the person was infected. Please see the glossary in appendix A (page 223) for more detailed definitions of exposure categories.

It is important to note that in the exposure categories, unlike the risk transmission categories, males are counted in the heterosexual contact (HC) category regardless of what is known about their female partners' risk behaviors. This results in an increased proportion of persons in the HC category.

Figure 5 below shows the distribution of exposures among HIV-positive persons currently living in Michigan as of January 2012 (data also found on table 10, page 104).

Figure 5: HIV infection cases currently living in Michigan by exposure category, January 2012 (N = 15,753)



- While over half of all prevalent HIV cases are classified as men who have sex with men (MSM) in the risk transmission hierarchy, nineteen percent are behaviorally bisexual, reporting sex with both males and females (MSM/HC and MSM/HC/IDU).
- Almost all injection drug users (IDU) reported additional risk behaviors, including eight percent reporting heterosexual contact (HC/IDU) and three percent reporting both heterosexual contact and male-male sex (MSM/IDU/HC).

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Distribution of Living HIV Cases by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figures 6 and 7 show the impact of the HIV epidemic on six race/sex groups.

Figure 6: Estimated prevalence of persons living with HIV in Michigan by race and sex, January 2012

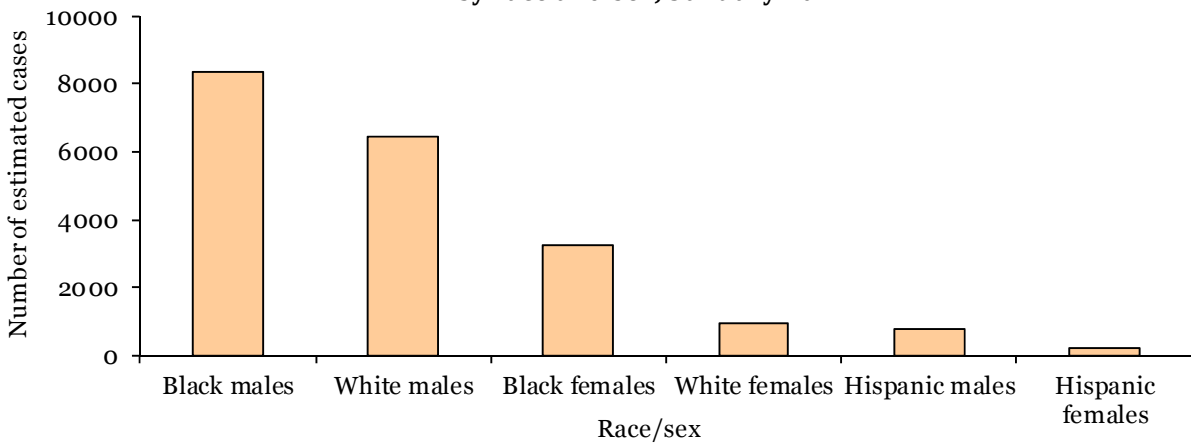
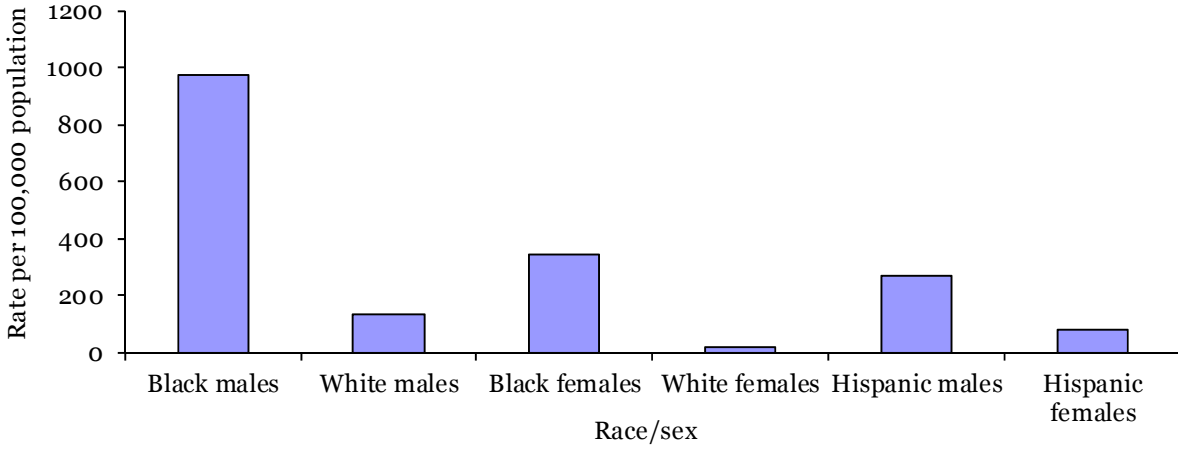


Figure 7: Reported prevalence rate of persons living with HIV in Michigan by race and sex, January 2012



- Black males have both the highest rate per 100,000 (973) and the highest estimated number (8,360) of HIV cases. This high rate means the impact of the epidemic is greatest on this demographic group.
- Black females have the second highest rate (343) and the third highest estimated number (3,260) of cases of HIV.
- Hispanic males have the third highest rate (272) and the fifth highest estimated number (790) of cases. This indicates the impact of the epidemic is high on a relatively small demographic group.
- White males have the fourth highest rate (133) and the second highest estimated number (6,470) of cases.
- Hispanic females have the fifth highest rate (76) and the second lowest estimated number (210) of cases.
- White females have the lowest rate (19) and the lowest estimated number (940) of HIV cases.
- Data can also be found on table 8, page 101.

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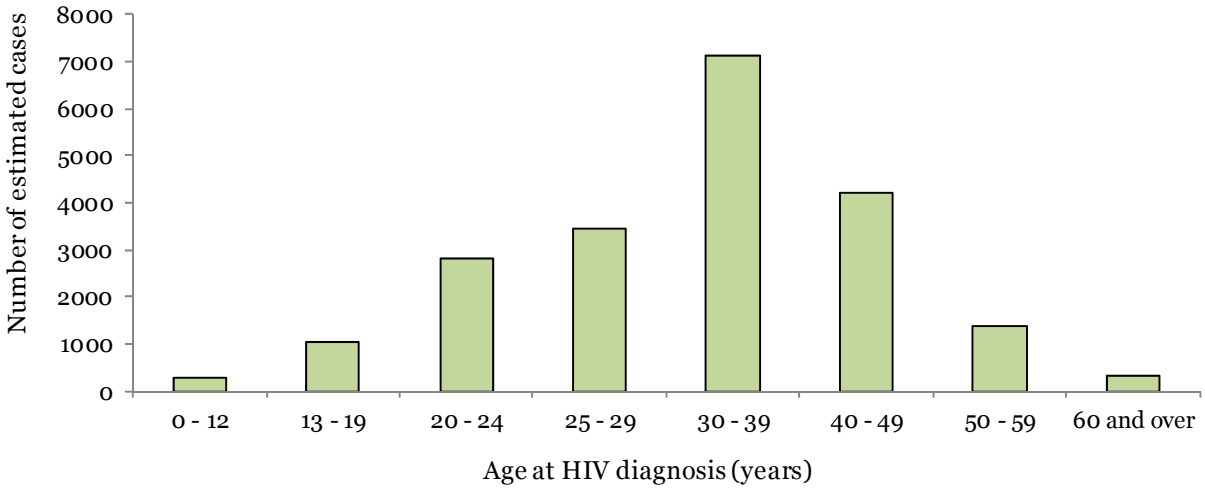
Distribution of Living HIV Cases by Age at Diagnosis

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figures 8 shows the breakdown of prevalent cases by age at diagnosis.

Figure 8: Estimated prevalence of persons living with HIV in Michigan by age at diagnosis, January 2012



- The majority of all prevalent cases (an estimated 7,140) were 30-39 years old at the time of diagnosis.
- The next highest number of estimated cases is among persons 40-49 years at diagnosis, followed closely by 25-29 year olds (4,200 vs. 3,440, respectively).
- The smallest number of estimated cases is among individuals diagnosed at 60 years and older, followed by individuals diagnosed between the ages of 0 and 12 years.
- There were an estimated 10 cases with unknown age at diagnosis not included in this figure.
- Data can also be found on table 8, page 101.

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Trends in HIV Data

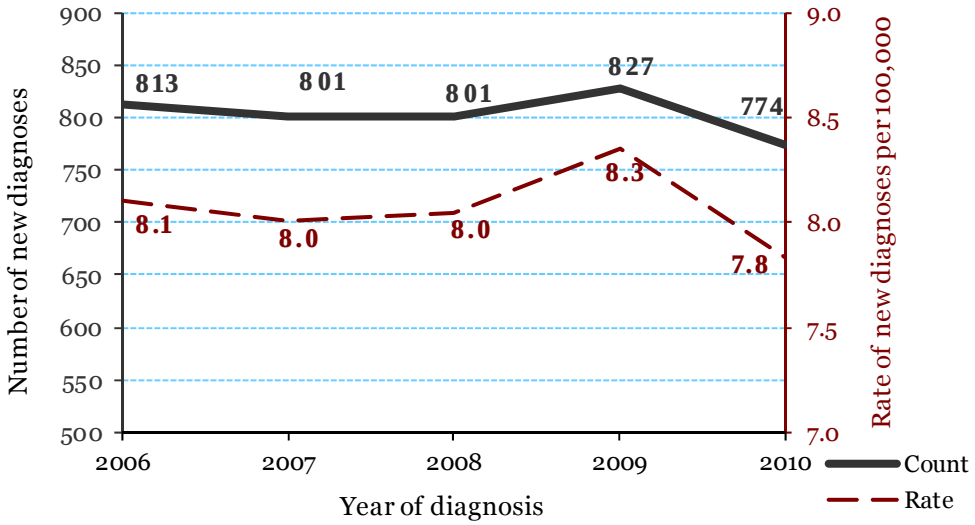
Data from enhanced HIV/AIDS Reporting System (eHARS)

To evaluate recent trends in new HIV diagnoses in Michigan, we estimated the number of persons newly diagnosed with HIV infection each year by adjusting the number of reported cases diagnosed between 2006 and 2010. This adjustment was applied to account for cases that may not have been reported to the health department by January 1, 2012. The adjustments were calculated by weighting the data. Please see the forward (pages v-vi) for an in-depth description of the methods used to evaluate trends. The full Trends documents can be found by visiting the following link: http://www.michigan.gov/mdch/0,4612,7-132-2940_2955_2982_46000_46003-36304--,00.html.

New diagnoses of HIV, 2006-2010:

The number and rate of new HIV diagnoses remained stable in Michigan between 2006 and 2010, with an average of 803 new cases each year (8.1 cases per 100,000 population) (figure 9).

Figure 9: Adjusted number and rate of new HIV diagnoses in Michigan, 2006-2010



New diagnoses by risk, 2006-2010:

Between 2006 and 2010, the number of newly diagnosed persons who were injection drug users (IDU) decreased by an average of 12 percent per year, and the number who were both men who have sex with men and injection drug users (MSM/IDU) decreased by 17 percent per year (figure 10). The decrease in new diagnoses among IDU has been seen for the past seven consecutive annual trend reports and the decrease among MSM/IDU for the past two reports. Data from Michigan's HIV Behavioral Surveillance suggest reductions among IDU may be partly attributable to the success of harm reduction programs, such as needle exchanges. The number of new diagnoses also decreased among persons with heterosexual risk by an average of eight percent per year. This is the third consecutive trend report to show decreases among persons with heterosexual risk. This is likely due to decreases among black females, who make up the majority of heterosexual infections. The number of new diagnoses among MSM remained stable.

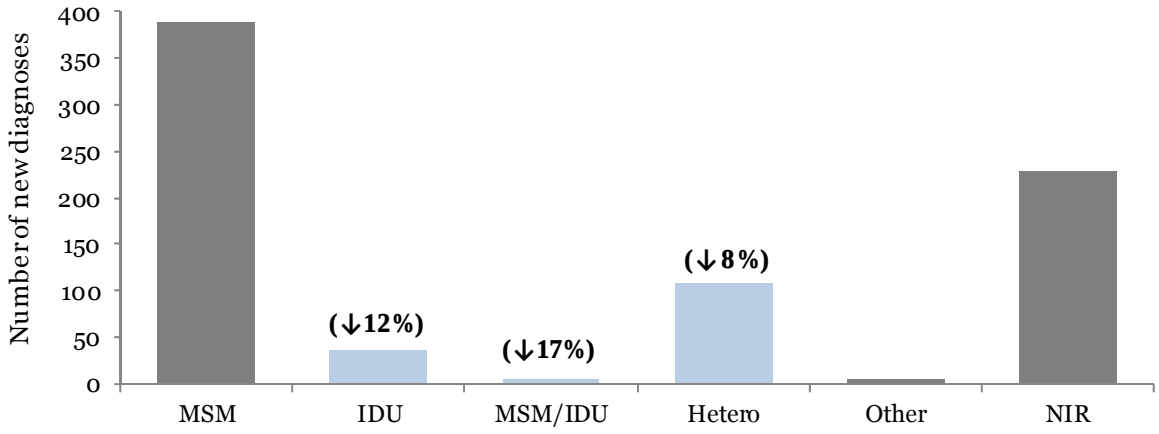
The "other known" risk category includes perinatal and blood product transmission. The numbers have been low in this group for many years due to programmatic successes in preventing perinatal and blood-borne transmissions.

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

Newly diagnosed persons with no identified risk (NIR) includes males who reported sex with females of unknown risk/HIV status as their only risk and males and females for whom no risk has yet been reported. This group accounts for about 28 percent of new diagnoses each year (Trends) but only 17 percent of all persons currently living with HIV in Michigan (regardless of year of diagnosis) (table 8, page 101).

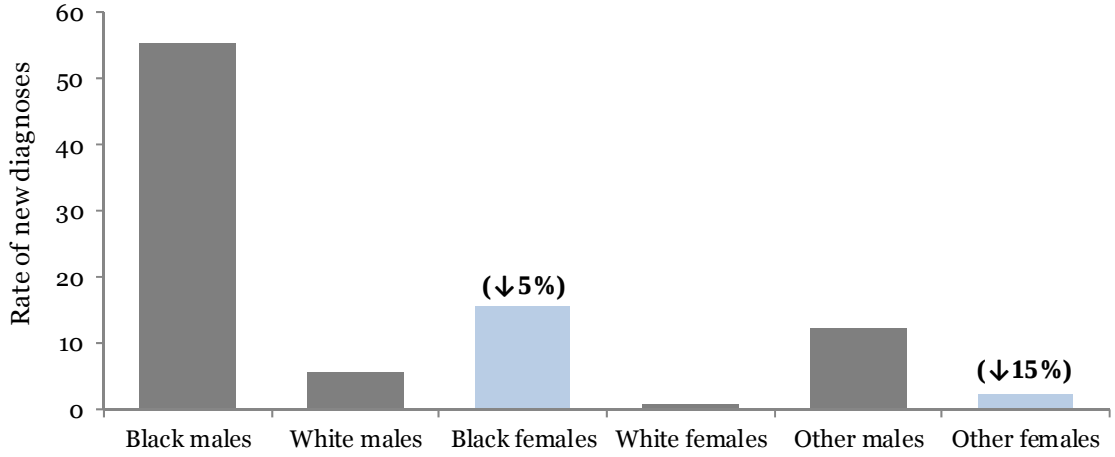
Figure 10: Adjusted number of new HIV diagnoses in Michigan in 2010 and trends between 2006-2010, by risk transmission category



New diagnoses by race and sex, 2006-2010:

The rate of new diagnoses decreased among black females (average 5 percent per year) between 2006 and 2010 (figure 11). This is the third consecutive trend report showing decreases in this group. The rate also decreased among females of other race (average 15 percent per year) and among females overall (6 percent per year). The rate increased among all males by an average one percent per year. Rates among all other race/sex groups were stable.

Figure 11: Adjusted rate of new HIV diagnoses in Michigan in 2010 and trends between 2006-2010, by race/sex



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Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

New diagnoses by age at HIV diagnosis, 2006-2010:
The rate of new HIV diagnoses increased significantly among persons 20-24 years of age at diagnosis (an average 12 percent per year) and among those 25-29 years of age (average 7 percent per year) (figure 12). For the first time in six annual trend reports, the rate did not increase among those 13-19 years of age at diagnosis. This is the second consecutive report, however, showing increases among 20-24 year olds. Additionally, rates in older age groups (35-39 year olds and 40-44 year olds) decreased significantly by an average seven percent per year and 12 percent per year, respectively. Although the majority of prevalent cases are still among persons 30-39 years at diagnosis (figure 8, page 23), twenty to twenty-four year olds now have the highest rate of new diagnoses of any age group.

Figure 12: Adjusted rate of new HIV diagnoses in Michigan in 2010 and trends between 2006-2010, by age at diagnosis

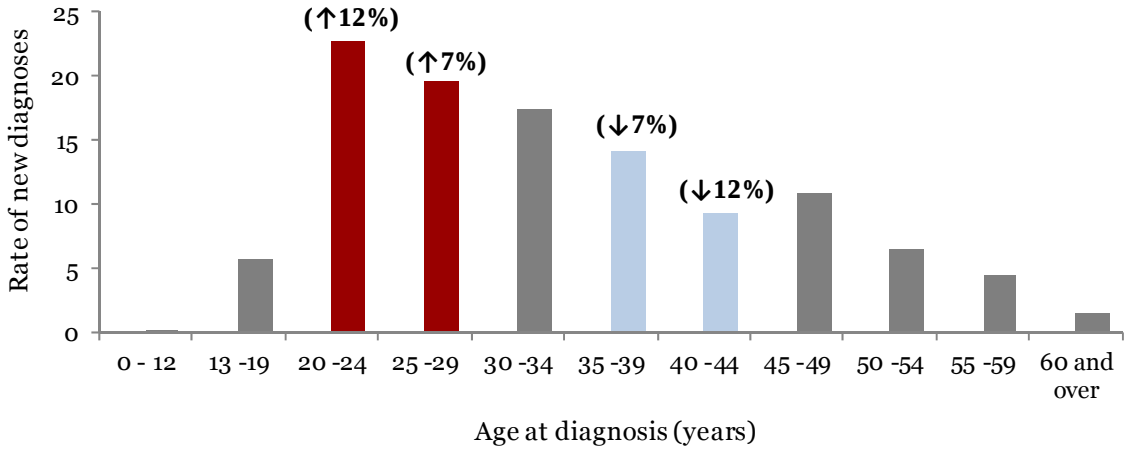
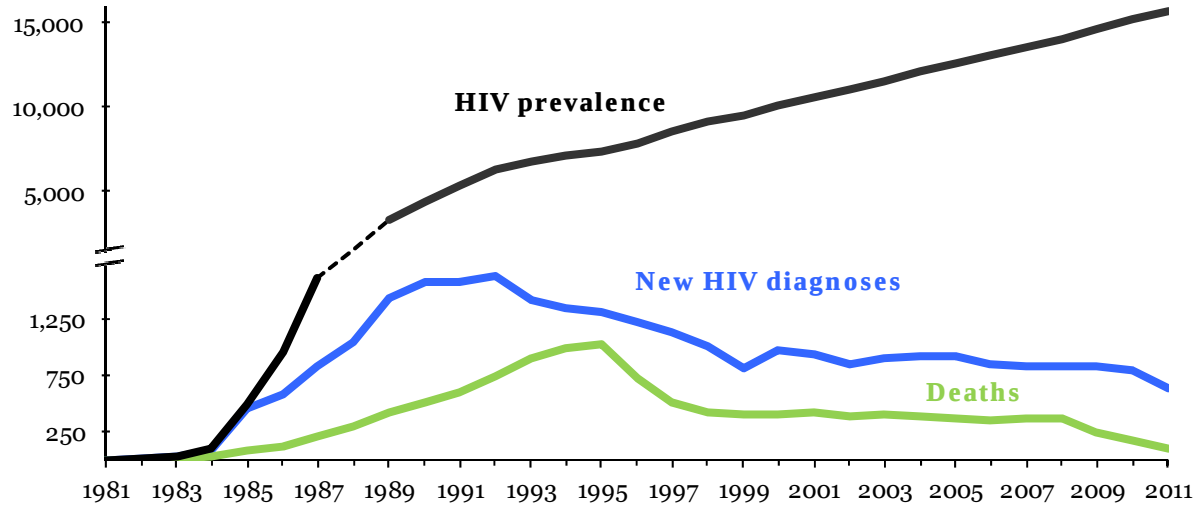


Figure 13: New diagnoses, deaths, and prevalence of HIV in Michigan by year, January 2012



2012 Profile of HIV in Michigan (Statewide)

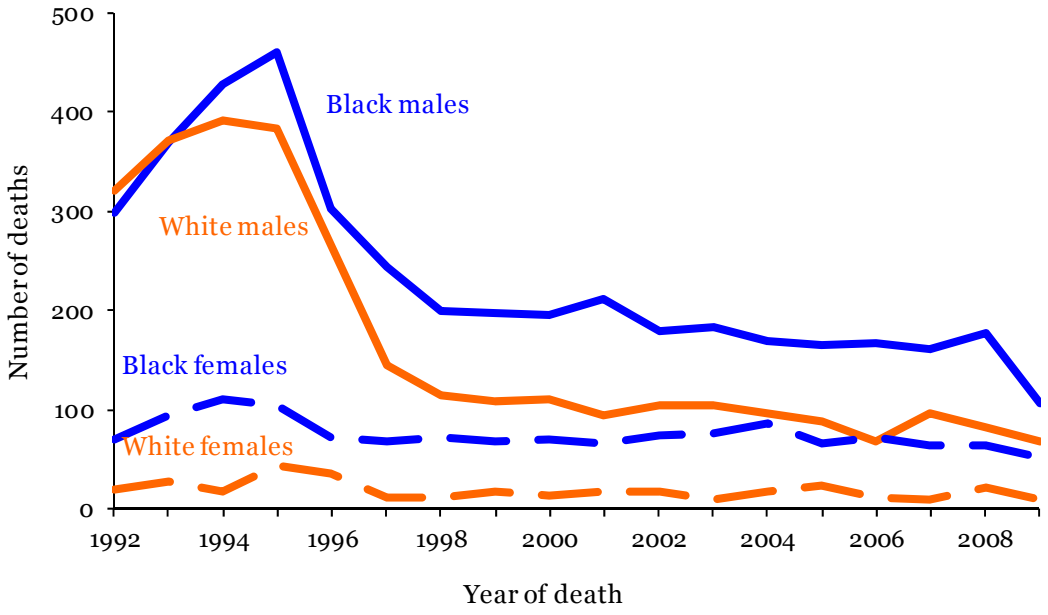
Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

New diagnoses, deaths and prevalence of HIV by year:
The unadjusted number of new HIV diagnoses, number of deaths among HIV-positive persons, and HIV prevalence are presented in figure 13. The trend among new HIV diagnoses reflects reported cases. These data were not adjusted for reporting delay as they were in figures 9-12. Consequently, the decreases in new diagnoses seen in the most recent years will likely level out as more cases diagnosed during those years are reported. Although the number of deaths among HIV-positive persons is decreasing, the number of new HIV diagnoses is stable. As a result, HIV prevalence (the number of people currently living with HIV in Michigan) continues to rise.

Deaths among HIV-positive persons by race and sex:
Figure 14 shows the number of HIV-positive Michigan residents reported as deceased by a local health department, the department of vital records (via a data match, death transcript, or death certificate), 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 due to the availability of much more effective treatment and were relatively stable until 2001. It should be noted that the percent decrease in deaths among white males (75 percent) between 1995 and 2001 was more pronounced than the percent decrease among black males (54 percent), and the percent decrease among white females (59 percent) was larger than the percent decrease among black females (37 percent). Encouragingly, the number of deaths in black males fell substantially between 2001 and 2009 (50 percent). The number of deaths among white males did not change as appreciably (29 percent), nor did the number of deaths among black females (23 percent). Deaths among white females decreased by 50 percent between 2001 and 2009, but this decrease is exaggerated as there is a small number of deaths in this group (data not shown in tables).

Figure 14: Michigan HIV deaths by race/sex, January 2012



2012 Profile of HIV in Michigan (Statewide)

HIV Incidence Estimates

Data from enhanced HIV/AIDS Reporting System (eHARS) & Incidence Data

Overview:

HIV incidence data provide estimates of new infections in a particular year compared to prevalence data, which measure everyone living with HIV (whether they were infected recently or years earlier). Michigan's HIV incidence rate was stable overall between 2006 and 2009. The state had an average of 754 new infections per year (range 674 - 924) for an overall HIV incidence rate of 9.0 cases per 100,000 population among those ages 13 and older (range 8.1 – 11.1). This rate is half the national rate for the same time period, which range from 19.0 to 22.5 infections per 100,000 population. Consistent with national rates, Michigan data show that males, blacks, 30 to 39 year olds, and MSM have higher incidence rates and counts than other groups.

Rates were calculated for all cases greater than 12 years of age at infection. Data are reported for subgroups (risk, sex, race, and age) where there are a minimum of 200 reported HIV cases, 40 incidence tests (or 20 percent completeness), and 10 recent incidence results. Some demographic groups must be combined to satisfy the minimum number of reported cases required to release estimates. Risk groups include men who have sex with men (MSM), injection drug users (IDU, including MSM/IDU), and heterosexuals. Since reliable denominator data are not available for risk groups, rates cannot be calculated.

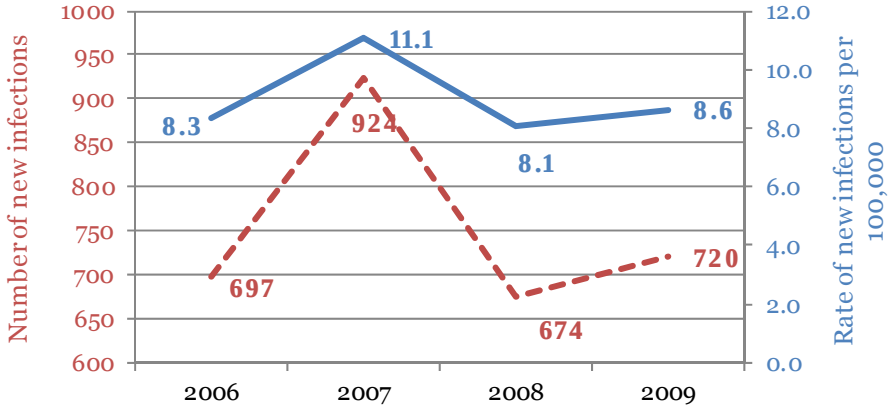
Note: In 2008, Michigan estimated HIV incidence rates for the year 2006, corresponding to a national report for the same time period. Since that time, more data have been collected and the estimation procedure used nationwide has undergone significant refinements. The revised estimate for 2006 should not be compared to the initial estimate for 2006, which was included in the 2010 Epi Profile.

Incidence estimates overall:

Figure 15 shows the number and rates of new infections between 2006 and 2009. Both nationally and in Michigan, a spike in HIV numbers and rates was seen in 2007, returning to more typical levels in 2008. An explanation has not been found for this spike, but it should be emphasized that rates remained stable overall between 2006 and 2009.

Figure 16 shows that numbers of new infections in Michigan did not change significantly over time by showing that the 95 percent confidence intervals (95 percent certainty that the true number falls between the upper and lower values) overlap from year to year. Confidence intervals provide the ranges seen in the graph. They are large due to the estimation process.

Figure 15: Estimated number and rate of new HIV infections in Michigan, 2006-2009



2012 Profile of HIV in Michigan (Statewide)

HIV Incidence Estimates

Data from enhanced HIV/AIDS Reporting System (eHARS) & Incidence Data

Risk:

As in the national data, MSM represent the largest number of new infections (figure 17). There were insufficient data on IDU in 2006 to produce reliable estimates for that year. There were no statistically significant changes in the estimated number of new infections per year for any risk group between 2006 and 2009. Although not shown, the 95 percent confidence intervals overlap, indicating that no significant changes occurred from year to year. The gradual increase in the number of IDU cases seen between 2007 and 2009, though not statistically significant, warrants close scrutiny in the future.

Race:

Estimated rates of new infections for black persons in Michigan ranged from 7.9 to 15.0 times higher than the rates among white persons. The disproportionate impact on black persons is seen between 2006 and 2009 and is more variable in Michigan than in national data. Nationally, rates among black persons were 7.1 to 8.4 times the rates among white persons. There were not enough data to report rates for Hispanics or other racial/ethnic groups. There were no statistically significant changes in estimated rates of new infections for any race group between 2006 and 2009 (figure 18).

Figure 16: Estimated number of new HIV infections and 95% confidence intervals in Michigan, 2006-2009

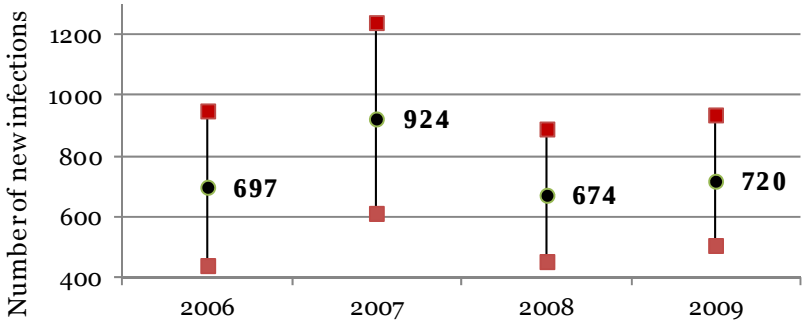


Figure 17: Estimated number of new HIV infections in Michigan, by risk, 2006-2009

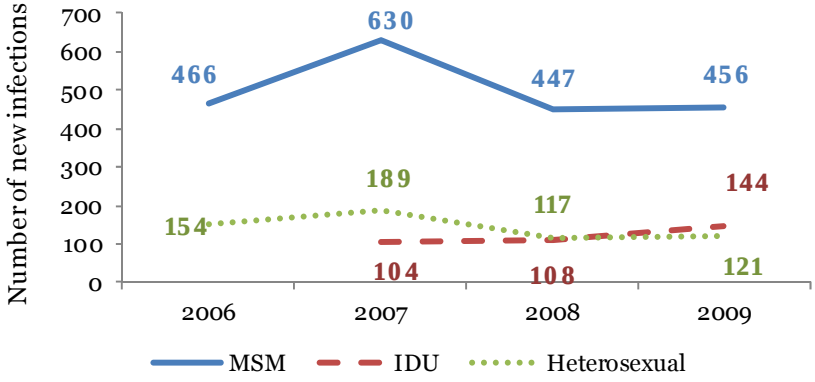
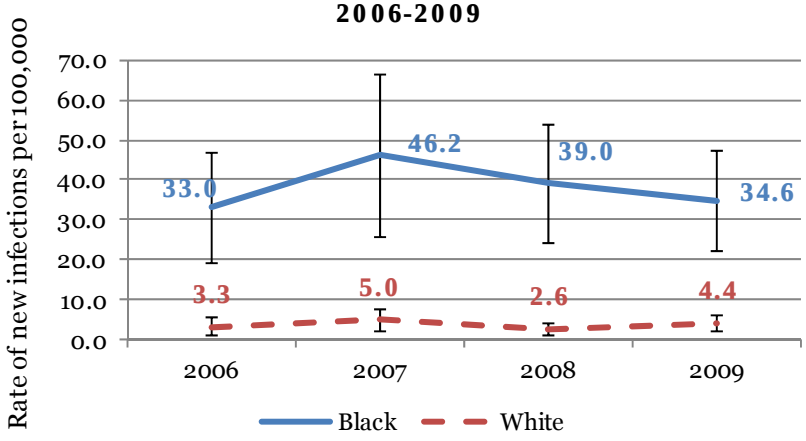


Figure 18: Estimated HIV incidence rate and 95% confidence intervals in Michigan, by race, 2006-2009



HIV Incidence Estimates

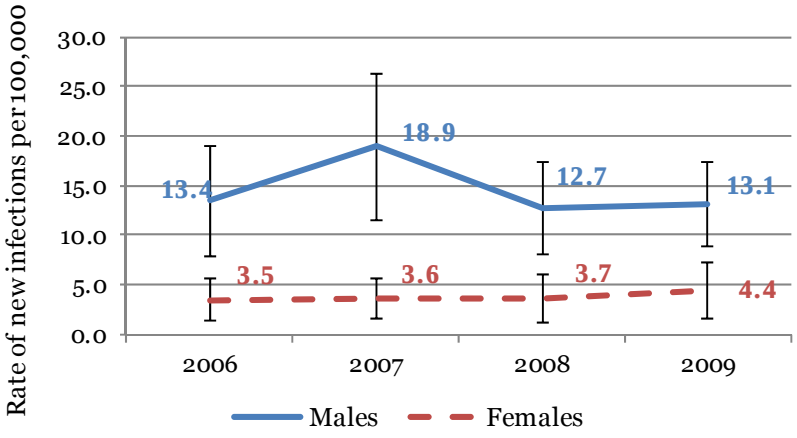
Data from enhanced HIV/AIDS Reporting System (eHARS) & Incidence Data

Note how 95 percent confidence intervals shown by brackets for each data point overlap, demonstrating no significant change from year to year.

Sex:

Estimated rates of recent HIV infection for males in Michigan ranged from 3.0 to 5.3 times the rates for females. This is a larger range than differences between the sexes nationally, where rates for males are 3.1 to 3.5 times the rates for females. There were no statistically significant changes in estimated rates of new infections for males or females between 2006 and 2009 (figure 19). Note how 95 percent confidence intervals shown by brackets for each data point overlap, demonstrating no significant change from year to year.

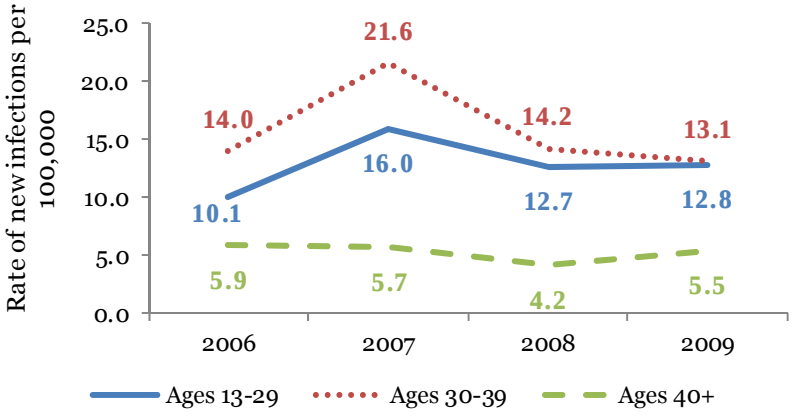
Figure 19: Estimated HIV incidence rate and 95% confidence intervals in Michigan, by sex, 2006-2009



Age at HIV infection:

In Michigan, as at the national level, the highest rates of new infections are among 30-39 year olds. There were no statistically significant changes in estimated rates for any age group between 2006 and 2009 (figure 20). 95 percent confidence intervals are not shown in Figure 20, but as in previous figures they overlap, indicating no significant changes from year to year.

Figure 20: Estimated HIV incidence rate in Michigan, by age at infection, 2006-2009



Summary and conclusions:

HIV incidence estimates are an additional tool to study the trajectory of the epidemic and help inform efforts to interrupt ongoing transmission.

Michigan's HIV incidence rates are lower than those seen nationally and were stable overall for the 2006 to 2009 time period. The most highly impacted groups in Michigan are also the groups most impacted nationally. For more MI incidence data, please see table 14 on page 108. For further analysis on national data or subgroups, please refer to "Estimated HIV Incidence in the United States, 2006-2009" in the online journal PLos One, August 2011, Volume 6, Issue 8, e17502 (www.plosone.org).

2012 Profile of HIV in Michigan (Statewide)

Ranked Behavioral Group: MSM

Data from enhanced HIV/AIDS Reporting System (eHARS) & National HIV Behavioral Surveillance (NHBS)

Overview:
Men who have sex with men (MSM) are the number one ranked behavioral group in Michigan for HIV infection. MSM remain the single largest behavioral group affected by the epidemic and account for over half (53 percent) of all reported HIV-positive persons, including MSM/IDU. MDCH estimates that there are approximately 11,070 MSM living with HIV infection in Michigan. This includes an estimated 910 HIV-positive males whose risk is a combination of having sex with other males and injecting drugs (table 8, page 101).

Race/ethnicity:
MSM account for most HIV infections among males in Michigan for all racial and ethnic groups. When considering reported cases among MSM and MSM/IDU of all races (8,470 reported cases), white males make up 47 percent (4,015 cases); black males account for 46 percent (3,883 cases); and Hispanic males account for four percent (367 cases) (table 11, page 105).

Age at HIV diagnosis:
Among MSM (including MSM/IDU), the highest proportion of all persons living with HIV infection were 30-39 years old at diagnosis (36 percent). MSM is the predominant mode of transmission for males ages 13 and up; male-male sex accounts for 76 percent and 78 percent of infections among those ages 13-19 years and 20-29 years at diagnosis, respectively (table 13, page 107).

Late HIV diagnoses:
Of the 15,753 persons living with HIV infection in Michigan, 54 percent (8,565 cases) have progressed to stage 3 HIV infection. Of these, 3,594 (42 percent) were diagnosed with stage 3 HIV infection at the time of their initial diagnosis (late HIV diagnosis). MSM make up 55 percent (4,725 cases) of persons living with stage 3 infection, of whom 41 percent (1,951 cases) had late HIV diagnoses (table 8, page 101). This is higher than among other behavioral groups, suggesting that MSM get tested for HIV later in the course of their infections.

Geographic distribution:
In both the Detroit Metro Area (DMA) and Out-State Michigan, MSM (including MSM/IDU) comprise the single largest mode of transmission. About two thirds (61 percent) of HIV-positive MSM statewide reside in the DMA, which is similar to the proportion of all cases that reside in the DMA. Within high prevalence counties, MSM comprise 53 percent of persons living with HIV infection, while in the lower prevalence counties 60 percent of reported persons living with HIV infection are MSM (data not shown in tables; see figure 3 on page 18 for high/low prevalence county classification).

Sex partners and condom use:
MSM were interviewed about their sexual partners and condom use for the National HIV Behavioral Surveillance (NHBS) project. It is important to note that HIV status is not a requirement for participation; thus, the majority of NHBS participants are HIV-negative. Among 362 males who reported having sex with another male in the 12 months prior to their NHBS interviews in 2008, 52 percent (n=190) reported having sex with a main partner and 44 percent (n=159) reporting sex with a casual partner at last sexual encounter. The remaining four percent (n=13) reported last sexual encounter with an exchange partner (a partner with whom goods, such as drugs or money, were exchanged for sex) (see footnote of figure 23 for definitions of partner types). Sixteen percent (n=58) reported having

both insertive and receptive anal sex at last sexual encounter. As shown in figures 21 and 22, of the 156 male respondents who reported receptive anal sex, 63 percent (n=98) reported their partners used condoms the last time they had sex. Of the 187 male respondents who reported having insertive anal sex, 65 percent (n=121) reported using condoms.

Figure 21: Condom use during receptive anal sex among MSM (NHBS, 2008) (n=156)

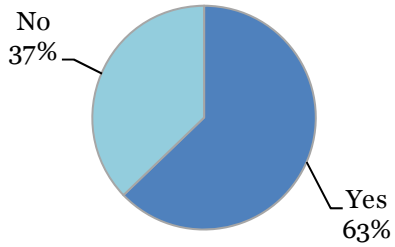
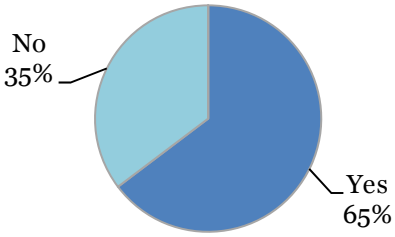
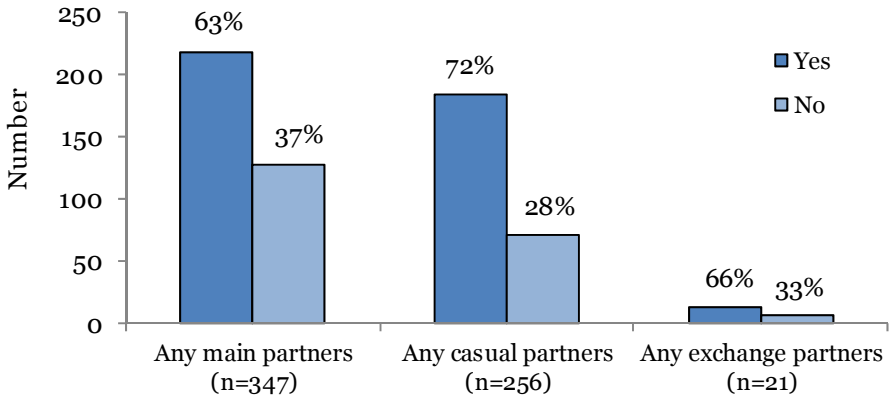


Figure 22: Condom use during insertive anal sex among MSM (NHBS, 2008) (n=187)



Male respondents classified their sexual partners in the 12 months prior to interview by partner type. Sixty-eight percent (n=246) reported having sex with a main partner(s), 61 percent (n=222) reported having sex with a casual partner(s), and 7 percent (n=25) reported sex with an exchange partner(s). Figure 23 shows condom use by sexual partner type for MSM reporting anal sex in the 12 months prior to interview. Note that the graph takes into consideration all partners that a respondent listed; therefore, only 246 respondents said they had one or more main partners, but there were 347 partnerships considered for condom use. Thirty-seven percent of respondents (n=128) reported not using condoms with main partner(s) and 28 percent (n=72) reported unprotected sex with casual partner(s).

Figure 23: Condom use during anal sex by partner type*† among MSM (NHBS, 2008)



*Categories are not mutually exclusive, meaning one person may be represented in more than one category.
†A main partner was defined as a man you have sex with and who you feel committed to above anyone else; a partner you could call your boyfriend, significant other, or life partner. A casual partner was defined as a man you have sex with but do not feel committed to or don't know very well. An exchange partner was defined as a man you have sex with in exchange for things like money or drugs.

2012 Profile of HIV in Michigan (Statewide)

Ranked Behavioral Group: MSM

Data from Medical Monitoring Project (MMP) & enhanced HIV/AIDS Reporting System (eHARS)

Table 4: Number of sexual partners in the past 12 months of HIV-positive persons in care*† (MMP, 2009)

	MSM (n= 53)	MSW only (n=25)	WSM (n=23)
One	26 (53%)	19 (76%)	22 (96%)
Two or more	25 (47%)	6 (24%)	1 (4%)
No. of partners (range)	1-30	1-4	1-4

*Men who have sex with men (MSM), men who have sex with women only (MSW Only), women who have sex with men (WSM); note that these MSM and MSW are mutually exclusive categories.
†Includes oral, anal, and vaginal sex.

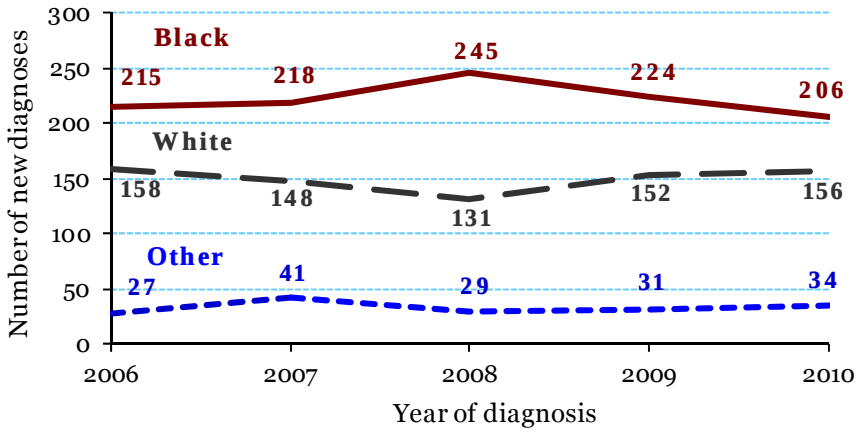
Data from the Medical Monitoring Project (MMP) show that MSM were more likely to report two or more different partners in the 12 months prior to interview than persons in other risk groups (table 4). Half of all MSM reported unprotected sex with at least one partner in the 12 months prior to interview.

It is important to note that both the NHBS and MMP are conducted in the Detroit Metro Area and therefore may not be representative of all MSM in the state. Please see the data source descriptions (pages x and xi) in the Forward for further information on these projects.

Behaviorally bisexual males:

Case reporting data are collected statewide but have only limited information on male bisexual behavior. Case reports are completed by health care providers and surveillance staff reviewing medical records rather than through interviews with HIV-positive persons. Only 57 percent of all completed case reports have complete 'yes' or 'no' answers to both of the following: "Before the 1st positive HIV test/AIDS diagnosis, patient had: Sex with male" and "Before the 1st positive HIV test/AIDS diagnosis, patient had: Sex with female." Based on these complete forms, 57 percent of all MSM (including MSM/IDU) reported also having sex with females. These more complete forms also show that three percent of females report having sex with behaviorally bisexual males. These data should be viewed as minimum estimates of these behaviors as 43 percent of case reports did not have the two questions answered completely.

Figure 24: New HIV diagnoses among MSM by race, 2006-2010



Trends and conclusions:

The estimated number of new HIV infections among men who have sex with men (MSM) remained stable from 2006 to 2010, while the estimated number of new HIV infections among MSM who were also IDU (MSM/IDU) decreased an average of 17 percent per year. MSM and MSM/IDU together constituted 51 percent of all new diagnoses in 2010 (Trends). The majority of new MSM and MSM/IDU cases are black (figure 24). There were no statistically significant increases or decreases in number of new diagnoses in MSM or MSM/IDU in any racial/ethnic group. "Other" in this figure includes Hispanics and individuals of other or unknown race.

2012 Profile of HIV in Michigan (Statewide)

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:
Heterosexual risk is the second highest ranked behavioral group in Michigan. Persons with heterosexual risk account for 17 percent of reported HIV infection cases. MDCH estimates that 3,600 persons living with HIV infection in Michigan have a risk factor of heterosexual contact (HC). Heterosexual contact is comprised of heterosexual contact with female with known risk (HCFR) and heterosexual contact with male (HCM). HCFR is only applicable to males and constitutes persons who had sex with females with known risk factors for HIV, including IDU, recipients of HIV-infected blood products, and/or HIV-positive individuals with unknown risk. HCM is composed of all females whose only reported risk is sex with males, regardless of what is known about the male partners' risk factors. Currently there are an estimated 720 HIV-positive persons who are HCFR (males) and 2,880 persons who are HCM (females) (table 8, page 101).

Race/ethnicity and sex:
Among the 2,754 persons currently living with HIV infection in Michigan with a risk of heterosexual contact, the majority (80 percent) are female. While females account for 22 percent of all reported HIV infection cases in Michigan, they have consistently accounted for over three-quarters of cases with heterosexual risk. The overall proportion of HIV-positive males with heterosexual risk is four percent. However, many males report heterosexual sex in addition to other risk factors, such as male-male sex (MSM) or injection drug use (IDU). See table 10, page 104 for data on exposure categories, which represent all reported modes of HIV exposure.

Most heterosexual cases of HIV infection are among black persons (70 percent), largely driven by the high number of black females with heterosexual risk. Nearly two thirds of all HIV-positive black females have heterosexual risk (62 percent). Sixty-five percent of white female cases, 70 percent of Hispanic female cases, and 66 percent of female cases of other or unknown race have heterosexual risk (table 11, page 105).

Expanded risk:
Of the 2,754 HIV-positive persons with heterosexual risk currently living in Michigan, 18 percent report their heterosexual partners are injection drug users (73 percent of whom are female, 27 percent male); five percent have partners who are behaviorally bisexual males (this applies to females only); and two percent have partners who are persons infected with HIV through blood products (75 percent female, 25 percent male). Forty-five percent of HIV-positive persons with heterosexual risk report having sex with HIV-positive persons of unknown risk (30 percent female, 70 percent male) (expanded risk data not shown in tables). As the majority of cases with heterosexual risk are female, it is useful to examine this expanded risk among different female subgroups. Figures 25 and 26 show detailed risk information for black females and white females, respectively. While the risk distribution between black and white females is similar, of note is the fact that white females more frequently report having partners with known risks (such as IDU or behaviorally bisexual males). Black females have a higher proportion of heterosexual contact without specific risk factors indicated.

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 25: Black females living with HIV infection in Michigan by expanded risk transmission category, January 2012 (n = 2,494)

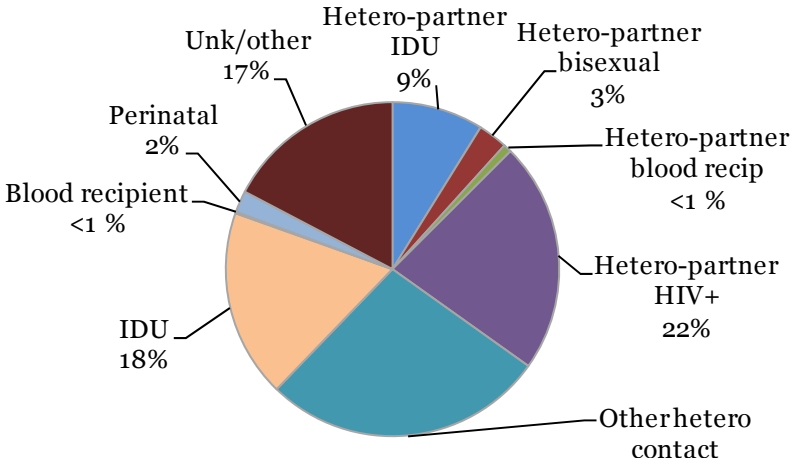
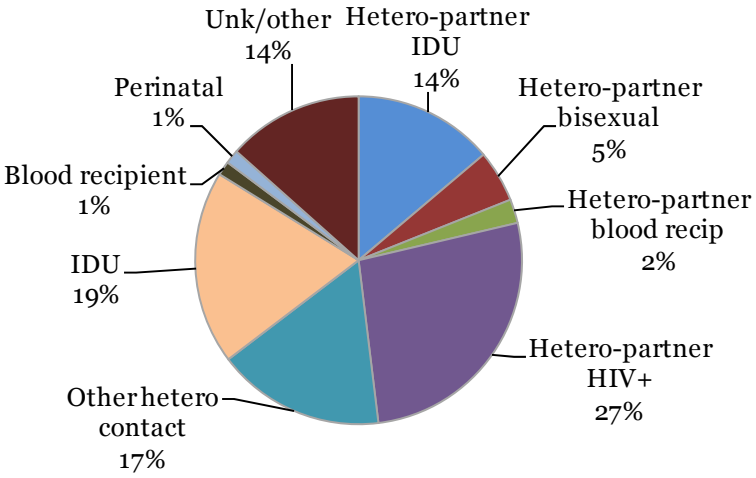


Figure 26: White females living with HIV infection in Michigan by expanded risk transmission category, January 2012 (n = 722)



Age at HIV diagnosis:

Heterosexual contact is the predominant reported risk factor for females who were 13 years of age and older at the time of HIV diagnosis. Over three-quarters (78 percent) of females 13-19 at the time of HIV diagnosis report heterosexual sex. As age increases, the proportion of HIV-positive females with heterosexual risk decreases, but it remains at least four times higher than injection drug use (IDU) for all age groups 13 years and older (table 13, page 107).

Among HIV-positive males, the proportion with a risk factor of heterosexual sex is low overall (4 percent). However, as age at diagnosis increases, heterosexual contact becomes a larger proportion of the overall risk (with 7 percent of males 60 years and over reporting a risk of heterosexual contact) (table 13). It is important to note that for males to be classified as heterosexual risk, they must have female partners with known HIV risk factors (such as IDU). When considering exposure categories, which represent all possible HIV exposures a person had, 47 percent of all males report heterosexual contact (with or without partners with known risk) (table 10, page 104).

2012 Profile of HIV in Michigan (Statewide)

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS) & National HIV Behavioral Surveillance (NHBS)

Late HIV diagnoses:

Of the 15,753 persons living with HIV in Michigan, 54 percent (8,565 cases) have progressed to stage 3 HIV infection. Of these, 3,594 (42 percent) were diagnosed as stage 3 HIV infection at the time of their initial HIV diagnoses. Persons with a risk of heterosexual sex make up 17 percent (1,437 cases) of persons living with stage 3 infection, of whom 37 percent (534 cases) had late HIV diagnoses. Overall, heterosexuals are more likely than IDU and less likely than MSM to have late HIV diagnoses (table 8, page 101).

Geographic distribution:

In the Detroit Metro Area, persons living with HIV infection with heterosexual risk comprise 17 percent of the total reported cases. In the Out-State areas, they comprise 18 percent of the total reported cases. The distribution is similar when considering high and low prevalence counties, with persons with heterosexual risk comprising 18 percent of all HIV-positive persons in high prevalence counties and 15 percent of those in low prevalence counties (data not included in tables; see figure 3 on page 18 for high/low prevalence county classification).

Sex partners and condom use:

In the 2010 NHBS heterosexual cycle, 619 persons (57 percent female, 42 percent male, and less than 1 percent transgender) completed the survey. Ninety-five percent (n=591) of participants reported vaginal sex at last sexual encounter prior to interview. Nineteen percent (n=66) of female participants and 16 percent (n=40) of male participants reported using a condom during vaginal sex. Thirteen percent (n=79) of participants reported using a condom the whole time during vaginal sexual intercourse. Figures 27 and 28 show unprotected vaginal sex by partner type(s) among participants for females and males, respectively. Additionally, 14 percent (n=88) of NHBS participants reported anal sex at last sexual encounter prior to interview (fifteen percent (n=53) of females and 14 percent (n=35) of males). Seven percent reported using condoms at least part of the time. Fifty-six percent (n=199) of female participants and 70 percent (n=182) of males reported having vaginal, oral, and/or anal sex with three or more partners in the 12 months prior to the interview.

Figure 27: Unprotected vaginal sex (UPS) among female heterosexuals by partner type* (NHBS, 2010) (n=277)

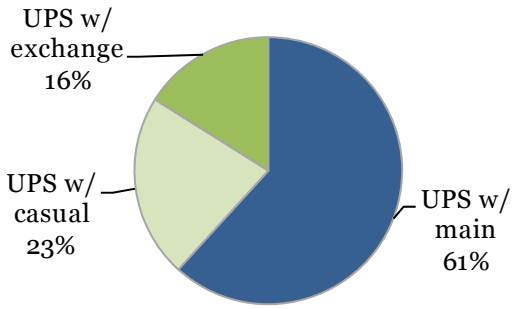
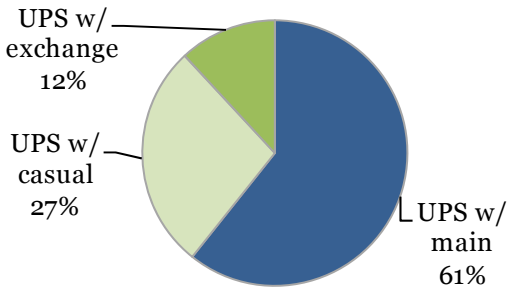


Figure 28: Unprotected vaginal sex (UPS) among male heterosexuals by partner type* (NHBS, 2010) (n=208)



*A main partner was defined as a person you have sex with and who you feel committed to above anyone else; a partner you could call your boyfriend, girlfriend, significant other, or life partner. A casual partner was defined as a person you have sex with but do not feel committed to or don't know very well. An exchange partner was defined as a person you have sex with in exchange for things like money or drugs.

Ranked Behavioral Group: Heterosexuals

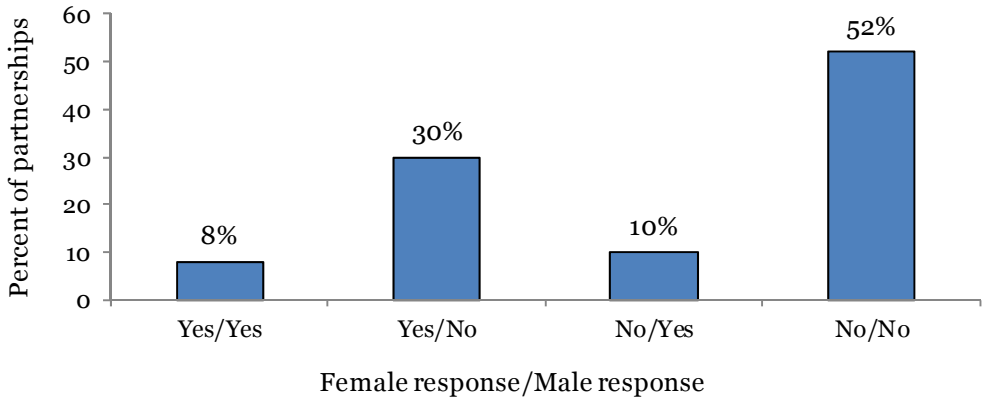
Data from National HIV Behavioral Surveillance (NHBS) & enhanced HIV/AIDS Reporting System (eHARS)

Partner study:

Data from the NHBS Partner Study explored minority female's perceptions of their male partner's risk behaviors. Each partner was asked the same questions separately, and their responses were compared. The partners were considered in agreement when both gave the same response. Sixty-five percent of couples were in agreement regarding whether they discussed using condoms with their partner in the past three months. Thirty-four percent agreed that they discussed, 32 percent agreed they had not discussed, and 35 percent were in disagreement as to whether or not the discussion took place. There was low agreement on condom use in the three months prior to interview. Thirty-six percent of couples disagreed on how often they used condoms. Half of the females said they never asked their male partner to use a condom in the three months prior to interview. Only three percent were not comfortable asking their male partners to use condoms. Forty percent were very comfortable asking their male partner to use a condom. Interestingly, of this 40 percent, 33 percent of partners agreed that they never use condoms, and only nine percent agreed that they always use condoms for vaginal sex.

There was a high proportion (74 percent) of males who said they had another sex partner while in sexual relationships with female Partner Study participants (concurrent partnerships). Twenty-nine percent of couples had females unaware of their male partners' concurrency. Fifty-six percent of couples were in agreement about whether or not they discussed the male partner's HIV status. Eighteen percent discussed male partner's HIV status and 38 percent had not discussed. Eight percent of couples agreed that they discussed whether or not the male ever had sex with another male, 52 percent had not discussed, and 40 percent were in disagreement about whether they had this discussion (figure 29). After further data analysis, males and females may have different perceptions of what constitutes a conversation about the male partner ever having sex with a male.

Figure 29: Discussed whether male partner ever had sex with another male (NHBS Partner Study, 2007)



Trends and conclusions:

Between 2006 and 2010, the number of new HIV diagnoses among persons with heterosexual risk decreased by an average of eight percent per year (Trends). The majority of HIV-positive females in Michigan, regardless of race or age, have heterosexual risk. A small proportion of males have heterosexual risk, but a large proportion (47 percent) of males who have other risks, such as MSM, also had heterosexual contact (table 10, page 104). Cases with heterosexual risk have surpassed the proportion of cases attributed to IDU (table 8, page 101), and the number of new cases each year among persons with heterosexual risk is over three times that of IDU (Trends).

2012 Profile of HIV in Michigan (Statewide)

Ranked Behavioral Group: IDU

Data from enhanced HIV/AIDS Reporting System (eHARS) & National HIV Behavioral Surveillance (NHBS)

Overview:
Injection drug users (IDU) are the third ranked behavioral group in Michigan and account for 14 percent (2,238 cases) of reported HIV-positive persons (including MSM/IDU). MDCH estimates that there are 2,920 IDU currently living with HIV in Michigan. This estimate includes 910 HIV-positive males whose risk is a combination of having sex with other males and injecting drugs (MSM/IDU) (table 8, page 101).

Race/ethnicity and sex:
Of the 2,238 IDU and MSM/IDU living with HIV, 72 percent are male (1,603 cases). Black males make up the largest proportion of the total number of IDU and MSM/IDU currently living with HIV in Michigan (43 percent), followed by white males (22 percent), black females (20 percent), white females (6 percent), Hispanic males (4 percent) and Hispanic females (1 percent). In total, two-thirds (63 percent, 1,414 cases) of all IDU and MSM/IDU cases occur among black persons (table 11, page 105).

Age at HIV diagnosis:
Among males diagnosed in their 30s and 40s, IDU (including MSM/IDU) is nearly tied with undetermined risk for the second most common risk (15 percent vs. 19 percent, respectively). As age at diagnosis increases, the proportion with a risk of IDU increases (as opposed to MSM, where the proportion decreases with age). This proportion peaks, however, with males 40-49 years at diagnosis and then begins to decrease (table 13, page 107).

Overall, IDU is the second most common risk for HIV-positive females. However, this is true only for females 30-39 and 40-49 years at the time of HIV diagnosis (22 percent and 25 percent, respectively). For females in all other age groups, IDU falls behind undetermined risk and becomes the third most common mode of transmission. When considering males and females together, there are few HIV infection cases with a risk of IDU among persons who were teens (13-19 years) at the time of HIV diagnosis (4 percent). Half of these cases are MSM/IDU (table 13).

Late HIV diagnoses:
Of the 15,753 persons living with HIV infection in Michigan, 54 percent (8,565 cases) have progressed to stage 3 infection. Of these, 3,594 (42 percent) were diagnosed as stage 3 at the time of their HIV diagnoses. IDU make up 16 percent (1,351 cases) of persons living with stage 3 infection, of whom 33 percent (440 cases) were diagnosed with stage 3 infection at the time of their initial HIV diagnosis (late HIV diagnosis). These data indicate that IDU are less likely then either heterosexuals or MSM to get tested later in the progression of HIV infection (table 8).

Geographic distribution:
The majority (63 percent) of IDU and MSM/IDU currently living with HIV infection reside in the Detroit Metro Area (DMA), which is similar to the proportion of all cases living in the DMA. Within high prevalence counties, 14 percent of reported cases are IDU (including MSM/IDU), while in the lower prevalence counties 12 percent of persons living with HIV infection are IDU (data not included in tables; see figure 3 on page 18 for high/low prevalence county classification).

Hepatitis C infection:
Of the 413 injection drug users interviewed for NHBS in 2009, 34 percent (n=142) reported ever being told by a doctor or health care provider that they had hepatitis C; 69 percent of those with hepatitis C were males (n=98) and 30 percent were females (n=43).

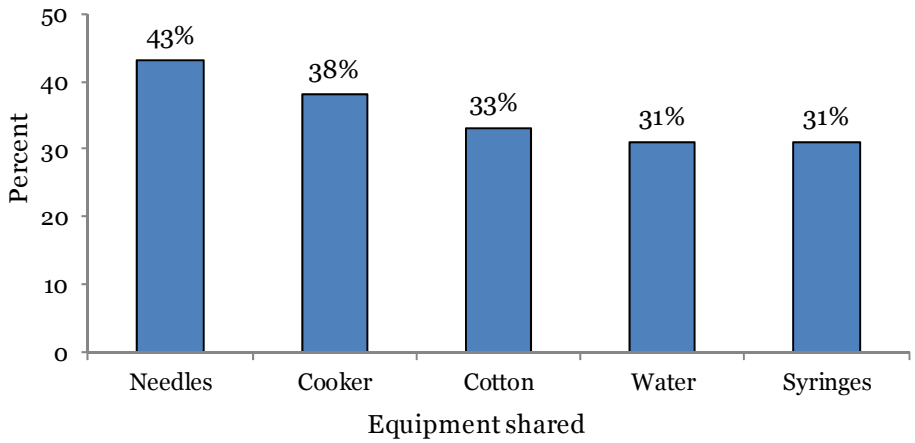
Ranked Behavioral Group: IDU

Data from National HIV Behavioral Surveillance (NHBS) & Medical Monitoring Project (MMP)

Injection drug use and equipment sharing:

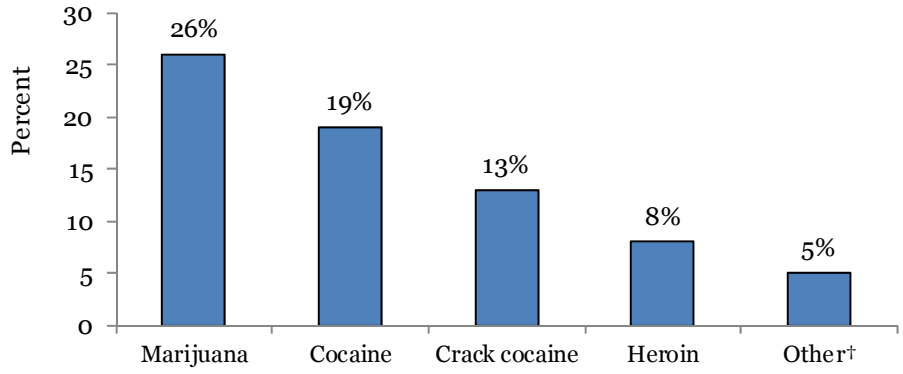
Forty-three percent (n=178) of injection drug users interviewed during the IDU2 cycle of NHBS in 2009 in Wayne County shared some form of drug equipment, while 33 percent (n=137) reported using a new sterile needle for all injections in the 12 months prior to interview. Thirty-five percent (n=145) used a new sterile needle most of the time and 23 percent (n=94) about half of the time. There was no consistent pattern among which equipment was or was not shared: 43 percent shared needles, 38 percent shared cookers, 31 percent shared water, 33 percent shared cotton, and 31 percent shared syringes for dividing drugs (figure 30). Among respondents that reported sharing any injection equipment during the previous 12 months (n=178), 71 percent did not know their last injection partner's HIV status and 83 percent did not know their last injection partner's hepatitis C status. However, 31 percent of respondents got sterile needles for free (not including items given by a friend, relative , or sex partner) and 19 percent received free drug use materials/kits. Free needles and drug paraphernalia were most commonly obtained from needle exchange programs.

Figure 30: Equipment sharing among IDU who share drug equipment (NHBS, 2009) (N=413)



Data from the Medical Monitoring Project (MMP), which includes only HIV-positive persons in care, show that the majority of medical records reviewed did not indicate injection drug use (90 percent). The most commonly used substance was marijuana (26 percent) followed by cocaine (19 percent) (figure 31). About 39 percent of participants had documentation of use of one or more non-

Figure 31: Top five most commonly used substances* noted in medical records of HIV-positive persons in care (MMP, 2009) (N=149)



*Categories are not mutually exclusive.
†'Other' includes opiates, mescaline, diet pills, depressants, speed, morphine, and Demerol.

prescription drug since entry into HIV care. Additionally, among participants who reported consuming alcohol in the 12 months prior to the interview (75 percent), 28 percent of males and 33 percent of females reported binge drinking at least one day in the last month. Fifty-four percent of those who drank consumed alcohol before or during sex.

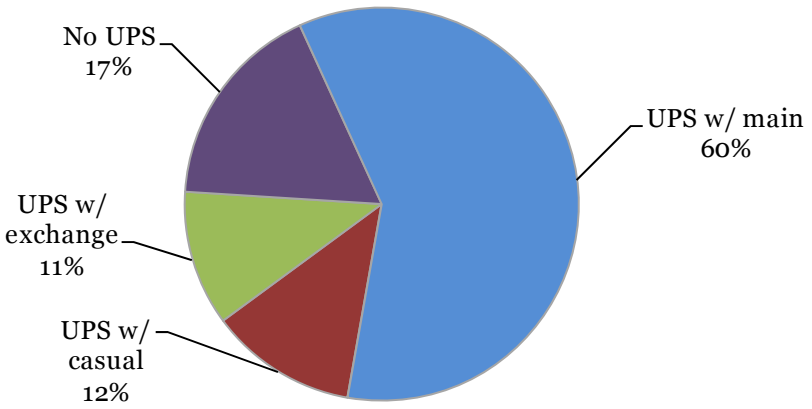
Non-injection drug use:

Among NHBS IDU2 participants (2009), 57 percent (n=234) of respondents reported drinking alcohol in the 12 months prior to interview. Of these respondents, 49 percent (n=115) revealed drinking 11 or more days in the 30 days prior to interview and 35 percent (n=82) reported drinking 4-5 drinks on a typical day when drinking. NHBS participants were asked about ever being in a drug or alcohol treatment program; 318 persons (n=77 percent) had ever been in a treatment program and 31 percent (n=98) participated in alcohol or drug treatment programs in the 12 months prior to interview. Eleven percent (n=44) reported trying to get into an alcohol or drug treatment program but being unable to (for reasons unknown).

Condom use:

Data were collected on condom use during the IDU2 cycle of NHBS. Sixty-eight percent (n=282) of injection drug users reported having unprotected vaginal sex 12 months prior to the interview, and of the 85 respondents reporting anal sex, only 24 percent (n=20) reported using condoms during anal sex in the 12 months prior to interview. Sixteen percent of respondents reported no partners and 34 percent reported one partner (n=64 and n=139, respectively) in the 12 months prior to interview. Of the 321 participants reporting vaginal sex at last sexual encounter prior to interview, 17 percent (n=55) reported using a condom. Figure 32 shows condom use by sexual partner type at last vaginal sex. Forty-five percent (n=184) of this mainly HIV-negative sample did not have knowledge of their partner's HIV status at last sexual encounter prior to interview.

Figure 32: Unprotected vaginal sex (UPS) among IDU at last sexual encounter by partner type (NHBS, 2009) (n=321)



Trends and conclusions:

Between 2006 and 2010, the proportion of newly diagnosed persons who were injection drug users (IDU) decreased by an average of 12 percent per year, and the proportion who were MSM/IDU decreased by an average of 17 percent per year (Trends). This a continuation of the decreasing trend seen in the past seven annual trend analyses. Data from Michigan's HIV Behavioral Surveillance suggest reductions among IDU may be partly attributable to the success of harm reduction programs, such as needle exchange.

2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS) & US Census Bureau

Overview:

The majority of those living with HIV infection in Michigan are black persons, who make up 14 percent of Michigan's population yet over half (56 percent) of all Michigan HIV cases. MDCH estimates 11,620 black persons are living with HIV in Michigan. The reported prevalence rate among black persons is 642 cases per 100,000, and the rate among black males is 973. Over one out of 100 black males and one out of 290 black females are known to be living with HIV (table 8, page 101).

White persons comprise over a third (36 percent) of reported HIV infection cases and 77 percent of Michigan's population. MDCH estimates 7,410 whites are living with HIV in the state. Since these cases occur among a larger overall population, they have a lower reported prevalence rate (75 per 100,000 persons) than black or Hispanic persons. One out of every 750 white males and one out of 5,320 white females are known to be living with HIV (table 8).

Hispanic persons comprise five percent of HIV cases and four percent of the population. MDCH estimates that 1,000 Hispanic persons are living with HIV infection in Michigan. The prevalence rate (176 per 100,000 persons) is higher than that among white persons as a result of a smaller overall population. One out of 370 Hispanic males and one out of 1,300 Hispanic females are known to be living with HIV (table 8). See page 42 for a more in-depth analysis of Hispanic persons.

Arab, Asian/Native Hawaiian or Other Pacific Islander, and American Indian/Alaska Native persons living with HIV are discussed further on pages 86-89.

Most persons living with HIV infection in Michigan are male (78 percent). The majority of the 12,269 male cases are black (52 percent), 40 percent are white, five percent are Hispanic, and three percent are other or unknown race. The majority of the 3,484 female HIV cases are also black (72 percent), 21 percent are white, five percent are Hispanic, and three percent are other or unknown race (table 8).

Racial and ethnic health disparities:

The state of Michigan is similar to the rest of the country in that large racial and ethnic disparities are seen in HIV prevalence rates and rates of new diagnoses. The epidemic disproportionately impacts black persons. The HIV prevalence rate among blacks is 642 cases per 100,000 persons, almost nine times higher than the rate among whites (75 per 100,000) (table 8). Black persons are also disproportionately represented in new diagnoses. Between 2006 and 2010, the rate of new diagnoses among black males was over 10 times that of white males, and the rate among black females was 25 times that of white females (Trends).

Michigan's population is currently 77 percent white, non-Hispanic, 14 percent black, non-Hispanic, four percent Hispanic, and five percent other minorities and multiracial persons. This equates to 23 percent of persons in the state who identify as a race or ethnicity other than white (table 2, page 15). Given that HIV disproportionately impacts minorities, and Michigan has a large proportion of persons who identify as a racial or ethnic minority, it is important to focus attention on these disparities in order to reduce them.

2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Exposure:

Since the majority of HIV-positive males have a risk of male-male sex (MSM), it is particularly useful to examine exposure categories (as many other exposures may be masked if a person is MSM). Figures 33 and 34 show black and white male cases by exposure category, which show all possible exposures a person had. A smaller proportion of HIV-positive black males have an exposure of MSM only compared to white males (32 percent vs. 55 percent, respectively). Twenty-seven percent of black male cases reporting MSM also report heterosexual contact (MSM/HC and MSM/HC/IDU) compared to 22 percent of white males. Twenty-one percent of black male cases report heterosexual contact as their only exposure, compared to eight percent of white males. A larger proportion of black male cases report both injection drug use and heterosexual contact (seven percent compared to three percent of white males).

Figure 33: Black male HIV infection cases currently living in Michigan by exposure category, January 2012 (n = 6,394)

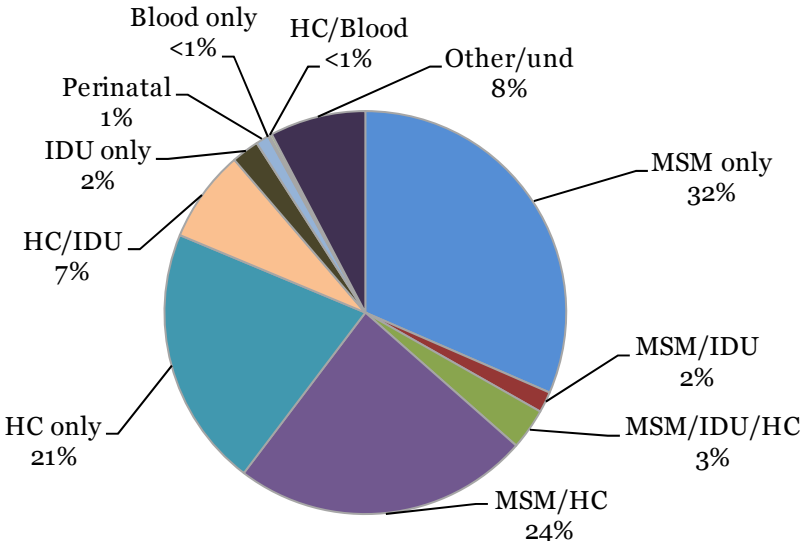
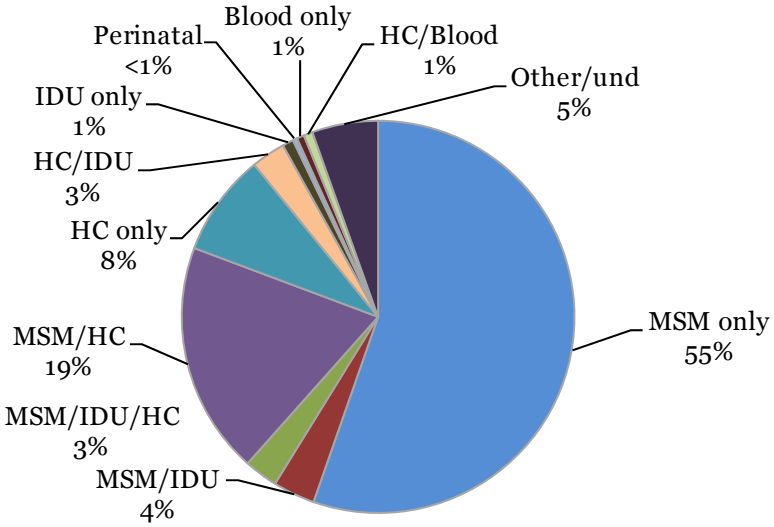


Figure 34: White male HIV infection cases currently living in Michigan by exposure category, January 2012 (n = 4,944)



Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

See figures 25 and 26 on page 35 for expanded risk among black and white female cases. For females, expanded risk transmission categories are examined as the majority of female cases have heterosexual risk. The large number of male cases who report both MSM and heterosexual contact is interesting, given that just three percent of females report sex with behaviorally bisexual males. This is likely an underestimate due to incomplete information in the medical record and/or incomplete answers to the risk factor questions on the case report form (data not shown in tables).

Late HIV diagnoses:

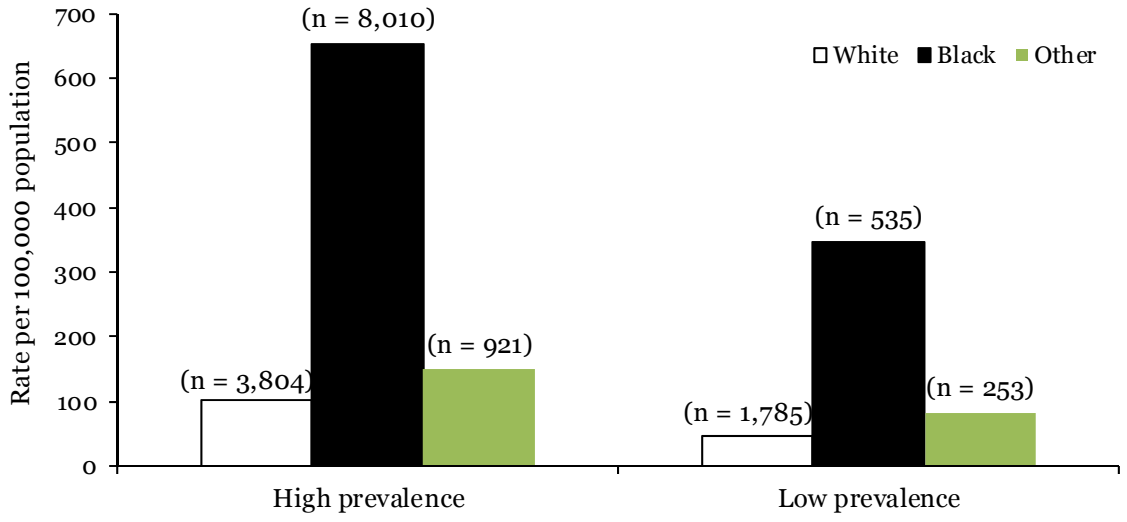
Of the 15,753 persons living with HIV infection in Michigan, 54 percent (8,565 cases) have progressed to stage 3 infection. Of these, 3,594 (42 percent) were diagnosed as stage 3 at the time of their initial HIV diagnoses (late HIV diagnoses). Males make up 80 percent of stage 3 cases, of whom 43 percent had late HIV diagnoses. Females make up 20 percent of stage 3 cases, of whom 37 percent had late HIV diagnoses (table 8, page 101).

Although black persons make up a larger proportion of persons living with stage 3 compared to white persons (56 vs. 36 percent, respectively), a larger proportion of white persons living with stage 3 had late HIV diagnoses than black persons (45 vs. 40 percent). Hispanic persons make up five percent of stage 3 cases, of whom 48 percent had late HIV diagnoses. Other minorities make up roughly four percent of stage 3 cases, but Asians/Native Hawaiians or Other Pacific Islanders have the highest proportion of stage 3 cases that were late HIV diagnoses (55 percent) (table 8).

Geographic distribution:

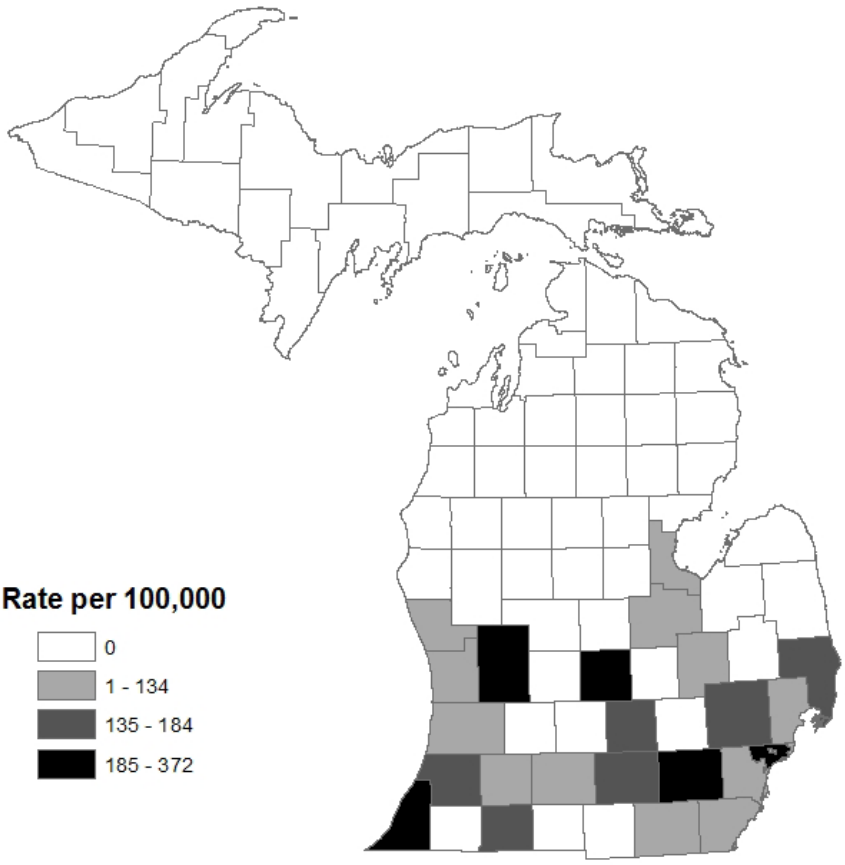
The distribution of HIV among various racial groups differs throughout the state. The impact of HIV, regardless of race, is greater in high prevalence areas than in low prevalence areas of the state (see figure 3 on page 18 for high/low prevalence county classification). Figure 35 shows that the HIV prevalence rate in high prevalence areas is nearly twice as high as the rates in low prevalence areas for all racial groups. Additionally, the HIV infection prevalence rate among black persons is over six times higher than white persons in high prevalence areas and seven and a half times higher than the rate

Figure 35: Prevalence rates of persons living with HIV infection in high and low prevalence areas of Michigan, by race, January 2012



among white persons in low prevalence areas. This disparity exists despite the fact that there are fewer cases among black persons in low prevalence areas. The HIV infection prevalence rates among persons of other races/ethnicities (including Hispanics, Asians/Native Hawaiians or Other Pacific Islanders, American Indians/Alaska Natives, and persons of other, multi-, or unknown race) is nearly twice as high as the rate among white persons in both high and low prevalence areas.

Figure 36: HIV infection prevalence rates among Hispanic persons by Michigan county, January 2012



Hispanics:

Hispanic persons comprise five percent of all persons living with HIV infection in Michigan (table 8, page 101). Figure 36 shows the HIV prevalence rate of Hispanic persons by county for those counties with five or more reported Hispanic cases. Eight of the 23 counties that meet this definition are either on the Lake Michigan shoreline or just east of it. This is most likely due to the large population of migrant workers in this area. The City of Detroit has both the highest number and the highest rate of Hispanic cases at 372 cases per 100,000 persons. The individual rates for the remaining counties are as follows, in order of decreasing rate: Clinton (271), Washtenaw (253), Berrien (241), Kent (228), Oakland (184), Van Buren (180), St. Joseph (174), St. Clair (170), Ingham (151), Jackson (145), Allegan (134), Macomb (126), Genesee (123), Muskegon (121), Bay (118), Wayne (114), Monroe (107), Lenawee (105), Kalamazoo (100), Calhoun (97), Saginaw (90), and Ottawa (88). Data not shown in tables.

Trends and conclusions:

The rate of new HIV diagnoses increased among males (average one percent per year) between 2006 and 2010, while the rate among females decreased by six percent per year for the third consecutive trend report (Trends). This was largely due to a decrease among black females (average five percent per year), who make up the majority of female cases. The rate also decreased among females of other race (average 15 percent per year) (figure 11, page 25). Diagnosis and prevalence rates remain highest among blacks of both sexes compared to all other race/sex groups (table 8).

2012 Profile of HIV in Michigan (Statewide)

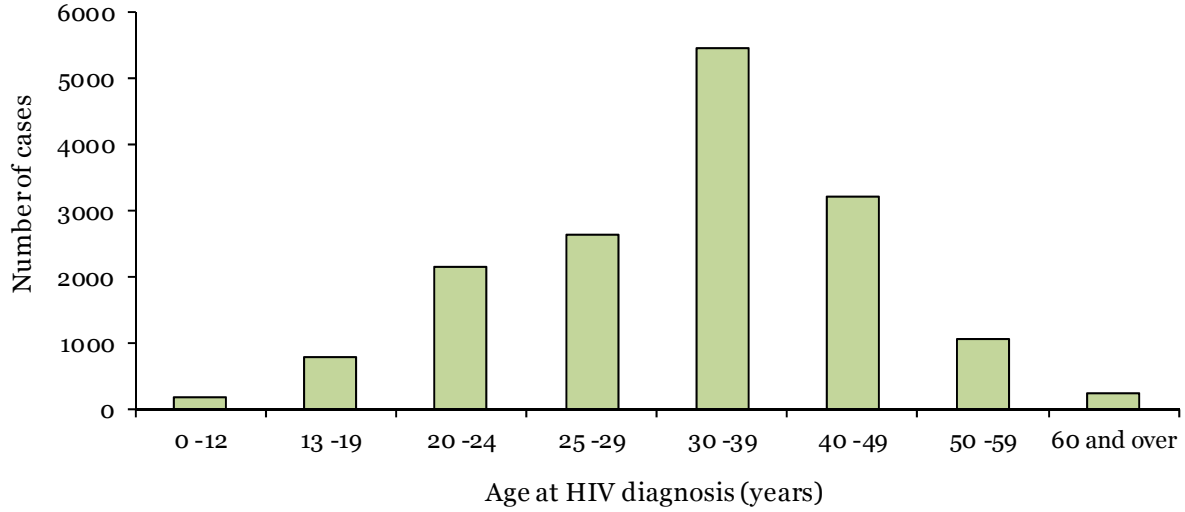
Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Age at diagnosis:

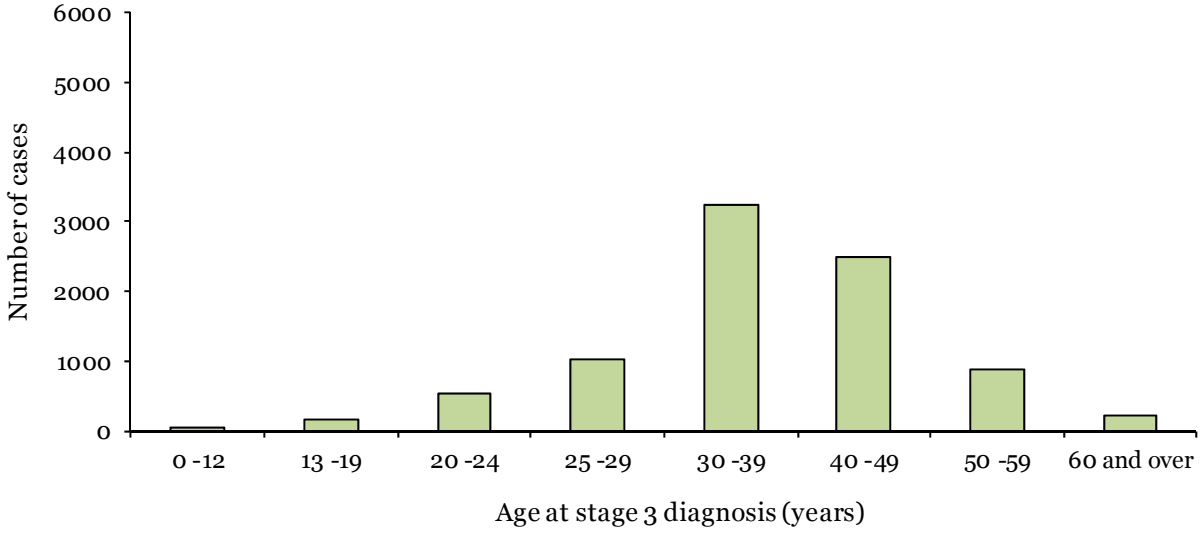
The majority of persons newly diagnosed with HIV are between 30 and 39 years old, followed by persons 40-49 years of age (figure 37). The pattern changes when looking at age at stage 3 diagnosis in figure 38, where 40-49 year olds make up a higher proportion of new stage 3 diagnoses than all new HIV diagnoses (29 percent vs. 20 percent, respectively), and 20-24 and 25-29 year olds make up smaller proportions of stage 3 diagnoses than all new HIV diagnoses (18 vs. 30 percent, respectively). This is because many years may pass between HIV diagnosis and progression to stage 3 infection (data on age at HIV diagnosis found on table 8, page 101; data on age at stage 3 diagnosis not shown in tables).

Figure 37: Age at HIV diagnosis of persons living with HIV infection in Michigan, January 2012 (N = 15,751*)



*Not included are 3 HIV infection cases with missing date of birth/age information.

Figure 38: Age at stage 3 diagnosis of persons living with HIV infection in Michigan, January 2012 (n = 8,565)

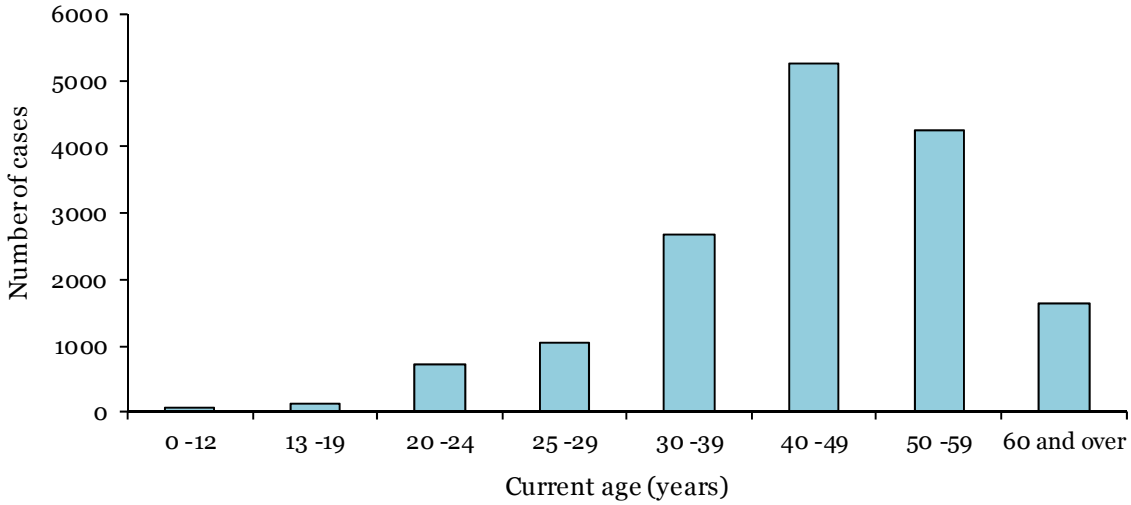


2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 39: Current age of persons living with HIV infection in Michigan, January 2012 (N = 15,751*)



*Not included are 3 HIV infection cases with missing date of birth/age information.

Current age:
Since use of Highly Active Anti-Retroviral Therapy (HAART) became widespread in 1996, HIV-positive persons have been living longer. This is evident in figure 39, which shows the current age of persons living with HIV in Michigan as of January 1, 2012. Those currently in their forties make up the largest proportion of persons living with HIV (33 percent). While persons who were 50 years and older at the time of HIV diagnosis represent only eight percent of newly diagnosed cases (figure 37), they make up over one third (37 percent) of persons living with HIV when considering current age (data on current age not shown in tables).

Late HIV diagnoses:
Of the 15,753 persons living with HIV infection in Michigan, 54 percent (8,565 cases) have progressed to stage 3 infection. Of these, 3,594 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). When examining persons living with stage 3 infection by age at diagnosis, the proportion of cases with late HIV diagnoses increases as age increases. Among persons 60 years and older at stage 3 diagnosis, 71 percent had late diagnoses (table 8, page 101).

Trends and conclusions:
The rate of new HIV diagnoses increased significantly among persons 20-24 years of age (an average 12 percent per year) and among those 25-29 years of age (average seven percent per year). This is the second consecutive report showing increases among 20-24 year olds. Additionally, rates in older age groups (35-39 year olds and 40-44 year olds) decreased significantly by an average seven percent per year and 12 percent per year, respectively. Twenty to twenty-four year olds now have the highest rate of diagnosis of any age group (figure 12, page 26). The largest number of new diagnoses and highest prevalence, however, remains\ among persons 30-39 years old at the time of diagnosis (table 8). When considering current age, persons 40-49 years, followed by persons 50-59 years, make up the largest proportion of persons living with HIV infection (figure 39).

2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Children (0-12 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:
As of January 2012, there were 203 individuals living with HIV in Michigan who were 0-12 years old at diagnosis. They comprise one percent of all reported HIV infection cases (table 8, page 101). Most 0-12 year olds (83 percent) were infected perinatally, i.e., before, during, or shortly after birth (table 13, page 107). Those infected after birth were infected via breastfeeding. Of the remaining individuals, seven percent were infected via exposures to HIV-infected blood products before 1985. Four individuals were infected through sexual assault. The majority of the remaining individuals (eight percent) have suspected perinatal exposures but were born in countries other than the U.S., and thus their risk cannot be confirmed (data not shown in tables).

Race/ethnicity and sex:
Of the 203 individuals living in Michigan who were ages 0-12 when diagnosed with HIV, 58 percent are male and 42 percent are female. About two thirds are black (65 percent), 22 percent are white, and six percent are Hispanic. The remaining seven percent are of other or unknown race (table 12, page 106).

Of the 173 individuals with confirmed perinatal exposures, 56 percent are male and 44 percent are female. Sixty-nine percent are black, 16 percent are white, and 15 percent are Hispanic or other or unknown race (table 11, page 105). For all but one of these perinatally infected cases, the only information about the mother is that she was HIV-positive; no additional maternal risk information was available.

Late HIV diagnoses:
Children make up less than one percent of persons living with stage 3, of whom 30 percent (23 cases) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). A slightly higher proportion of persons with a risk of perinatal transmission had late HIV diagnoses (38 percent) (table 8).

Geographic distribution:
Seventy-one percent of the 203 children diagnosed with HIV between the ages of 0-12 years are currently residents of high prevalence counties (see figure 3, page 18 for high/low prevalence county classification). Twenty-eight percent reside in low prevalence counties, while one percent are currently in prison. Fifty-nine percent of HIV cases that were diagnosed as children are currently residents of the Detroit Metro Area (DMA) (data not shown in tables).

Trends and conclusions:
Among the best measurable successes in reducing HIV transmission has been prevention of mother to child (perinatal) transmission. Without Zidovudine (ZDV) prophylaxis, about 25 percent of children born to HIV-positive females could expect to become HIV-positive themselves. In Michigan, the proportion of children who become infected perinatally has dropped precipitously, from 29 percent prior to 1997 to six percent between 1997 and 2009. As of January 1, 2012, one of the 39 children born in Michigan in 2008 and three of the 40 children born in 2009 to HIV-positive females were diagnosed with HIV infection. None of the 70 children born in Michigan in 2010 or 2011 to HIV-positive females have been diagnosed with HIV, although data are not complete at this time (data not shown in tables). NOTE: numbers in this paragraph are based on residence at *birth*, NOT current residence.

2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Children (0-12 years)

Data from Michigan Birthing Hospital Assessment & enhanced HIV/AIDS Reporting System (eHARS)

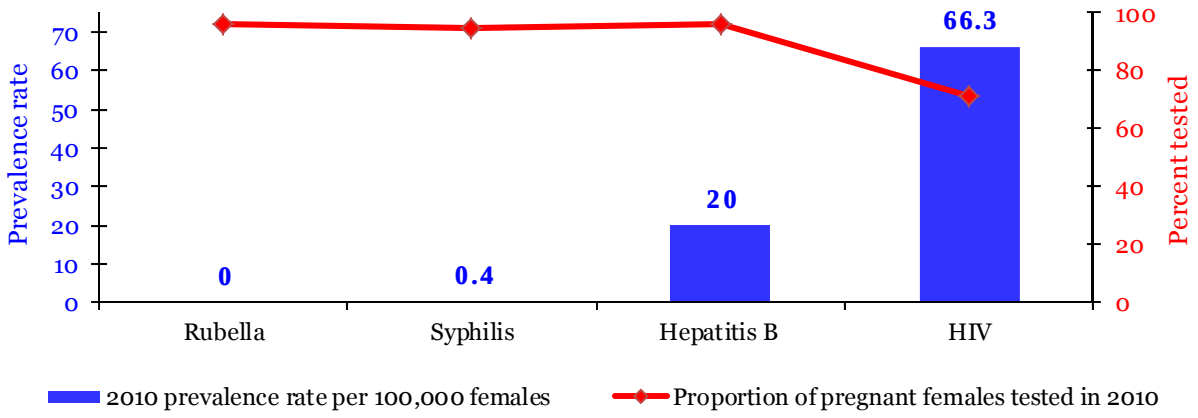
Perinatal testing for HIV in Michigan:

The majority (83 percent) of persons diagnosed with HIV between the ages of 0-12 years were infected perinatally (table 13, 107). Of the 4,560 females estimated to be living with HIV in Michigan, approximately 730 (21 percent) are unaware of their HIV status. The predominant risk factor for females diagnosed with HIV during child-bearing age (15-49 years) is heterosexual contact (table 13). This HIV prevalence data, coupled with the fact that nearly 50 percent of pregnancies in the US are unplanned (Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion. http://www.cdc.gov/reproductivehealth/unintendedpregnancy/), underscore the importance of screening females for HIV during pregnancy.

In August 2010, MDCH updated its Guidelines for Testing and Reporting Perinatal Human Immunodeficiency Virus (HIV), Hepatitis B and Syphilis to include routinized third trimester HIV testing. All pregnant females in Michigan are to be tested as early as possible at diagnoses of pregnancy and again at 26-28 weeks gestation, regardless of perceived risk and/or whether they had a previous negative test result. It is recommended that females who are considered high-risk be tested again at 36 weeks gestation or at delivery. The addition of third trimester testing as a best practice guideline in Michigan is consistent with MDCH's commitment to being a part of the national effort to eliminate maternal to child transmission of HIV. The Michigan Statewide Perinatal Prevention Working Group (PPWG) works to ensure that there is provider compliance with Public Health Code 333.5123, requiring prenatal HIV testing unless a woman refuses to consent or testing is medically inadvisable.

Despite these recommendations and requirements, HIV is tested for less frequently than other infectious diseases (figure 40). Data from surveillance and the Michigan Birthing Hospital Assessment show that the prevalence rate of disease among females is inversely proportional to the proportion of pregnant females tested for it. In 2010, the HIV prevalence rate per 100,000 females was 66.3 (3,370 cases), the hepatitis B rate was 20 (1,017 cases), the syphilis rate was 0.4 (20 cases), and there were no cases of rubella. Only 71 percent of pregnant females had a documented HIV test in their hospital chart compared to 95-96 percent of all pregnant females for the other three infections.

Figure 40: Testing and prevalence rates of select STDs and other infections among females in Michigan, 2010



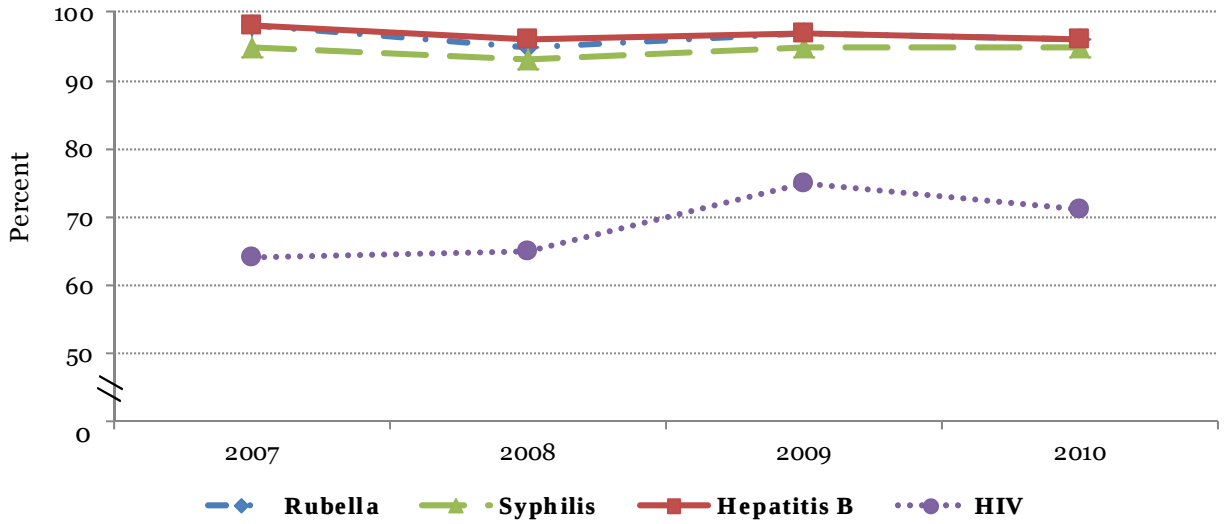
Description of the Epidemic by Age: Children (0-12 years)

Data from Michigan Birthing Hospital Assessment

Data also show that only 63 percent of Michigan birthing hospitals had written policies (WP) or standing orders (SO) in place to verify a mother's HIV testing upon admission. While this represents an increase from 43 percent in 2007, the number of hospitals with WP/SO for HIV testing continues to be less than those with WP/SO in place for hepatitis B and syphilis screening (83 percent and 73 percent, respectively).

These differences are reflected in testing practices, as evidenced by paired maternal-infant chart reviews. From 2007-2010, an average 97 percent of charts reviewed included documentation of maternal screening for hepatitis B and rubella, and 95 percent had documented syphilis test results (figure 41). Only 69 percent of charts reviewed documented a maternal HIV test result. While there was an apparent increase in testing for HIV between 2007 and 2010, the levels are still well below the levels for other infectious diseases, even though HIV is more prevalent in this population than other diseases (see 2010 Epi Profile for 2003 perinatal testing data). The differences in documentation of maternal test results in the infant's chart were even more striking, with 80 percent of infant charts having the mother's hepatitis B test documented, 64 percent having the syphilis test, and 43 percent having the HIV test documented.

Figure 41: Proportion of pregnant females tested for select STDs and other infections in Michigan, 2007-2010



In recent years, MDCH has become aware of several cases of late perinatal HIV diagnosis. These were cases in which the mother tested negative in early pregnancy, and the infant (prompted by the presence of AIDS-defining illnesses) was later tested and diagnosed HIV-positive. Four such cases, referred to the Children's Hospital of Michigan/Wayne State University Pediatric HIV Clinic, are examined in an article in the May 2012 edition of the Journal of the International Association of Physicians in AIDS Care by doctors Faghih and Secord. None of the four mothers met any of the indicators for high HIV risk, emphasizing the importance of both first trimester and 26-28 week screening of all pregnant females for HIV.

2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS), Michigan Profile for Healthy Youth (MiPHY), & Youth Risk Behavioral Survey (YRBS)

Overview:

As of January 2012, there were 2,935 persons living in Michigan who were ages 13-24 years old at HIV diagnosis. They comprise 19 percent of all persons reported with HIV infection in Michigan (five percent ages 13-19 years; 14 percent ages 20-24 years). The number of prevalent cases among persons ages 13-24 years at diagnosis is now higher than the number of prevalent cases among persons ages 25-29 years at diagnosis (table 8, page 101).

General risk behaviors:

Every two years, the Youth Risk Behavior Survey (YRBS) is conducted in Michigan high schools using a nationally standardized survey. Presented below are data from the 2011 survey on sexual risk behaviors and substance use behaviors that may be risk factors for acquiring HIV. Forty-one percent of all Michigan high school students (9-12th grade) have had sexual intercourse, 29 percent having had intercourse in the three months prior to taking the survey. Three percent of 9-12th graders have used heroin and three percent have used methamphetamines one or more times during their life. Three percent of 9-12th graders have used a needle to inject any illegal drug into their body one or more times during their life. Focusing on 12th graders, 54 percent reported having had intercourse. Fifteen percent of 12th graders report having had four or more sexual partners. Of students who had sexual intercourse during the past three months, 61 percent used a condom during last sexual intercourse. Of students who had ever had sexual intercourse, 20 percent drank alcohol or used drugs before their last sexual intercourse.

There were disparities among students based on race/ethnicity. Black students (grades 9—12) were more likely to have had sexual intercourse than Hispanic and white students (53, 47, and 38 percent respectively), although these differences were not statistically significant. Black students were more likely than white students to have four or more lifetime sexual partners (28 and 10 percent, respectively) and to have sex before the age of 13 (12 and 3 percent, respectively). Black and Hispanic students were more likely than white students to have had sex before age 13 (12, 12, and 2 percent, respectively), but white students were more likely than black students to have used alcohol or other drugs before sex (21 and 12 percent) (data not shown in tables).

Sexual minority youth:

Michigan first obtained information on sexual minority youth via the state Youth Risk Behavior Survey (YRBS) in 2011. Sexual minority students were identified as those who had any same-sex sexual contact (this includes persons who had sexual contact with same-sex partners only, as well as persons who had sexual contact with both sexes). A study was conducted to assess health risk behaviors associated with these students. Only sexually active students (students who had at least one sexual experience in their lifetimes) were included in the analysis. A total of 236 students (11 percent of all sexually active students) had experienced a same-sex sexual encounter. These students were more likely to stay home from school because they believed they would be unsafe. Students who had same-sex sexual contact were at a higher risk fir reporting bullying at school or online compared to students who had opposite-sex sexual encounters only. They were also more likely to report being the victims of forced sexual intercourse. Associations were also found between sexual minority students and physical fights and physical abuse by a significant other. However, these associations may have been confounded by the students also reporting being forced to have sexual intercourse. The relationship between sexual minority

Description of the Epidemic by Age: Teens and young adults (13-24 years)

students, physical abuse, and forced sex may require more research to fully understand the associations.

Sexual minority students were more likely to report being depressed compared to students who had opposite-sex sexual encounters only. Risk factors, such as feeling sad or hopeless almost every day for two weeks or more, seriously considering suicide, attempting suicide, or being injured from a suicide attempt were highly associated with students who had same-sex sexual contact. Compared to students who experienced opposite-sex sexual contact only, sexual minority students reported trying substances such as cigarettes, alcohol, and marijuana before the age of 13 significantly more often. Students who had same-sex sexual contact were also more likely to report injecting illegal drugs and/or using drugs such as heroin, methamphetamines, club (rave) drugs, or prescription drugs without a doctor's prescription compared to students who had opposite-sex sexual encounters only.

Reporting sexual intercourse for the first time before the age of 13 and sexual intercourse for the first time with a partner three or more years older were highly associated with sexual minority students. Sexual minority students were also less likely to report using a condom during their last sexual intercourse compared to students who had opposite-sex sexual encounters only.

Sexual minority students were more likely to be overweight or obese (>85th percentile for body mass index, by age and sex) compared to students who had opposite-sex sexual encounters only. Not surprisingly, a higher proportion of this group viewed themselves as overweight or obese and were trying to lose weight. Sexual minority students were more likely to report attempted weight loss by fasting for more than 24 hours, vomiting, or taking laxatives than students who had opposite-sex sexual encounters only (data not shown in tables).

STDs:
STD rates in Michigan are highest among teens and young adults (13-24 year olds). The STD data are shown on tables 17 and 18 (pages 111-112). In persons ages 20-24 years, the rate of chlamydia is five and a half times higher and the rate of gonorrhea is over five times higher than the rate among the rest of the population. Although those ages 15-24 make up only 14 percent of the population, they represent 67 percent of gonorrhea cases and 76 percent of chlamydia cases.

Teen pregnancy:
Teen (ages 15-19) pregnancy rates in Michigan have decreased over time, from 63.5 pregnancies per 1,000 females ages 15-19 years in 2000 to 51 pregnancies per 1,000 in 2010. Since 2005, however, the rate has remained relatively stable. The 2010 rate among teens in Wayne County (including the City of Detroit) was the highest of any county in Michigan (76 pregnancies per 1,000). Wayne County is followed closely by Clare, Oceana, and Lake counties with 68 pregnancies per 1,000 each, demonstrating that teen pregnancy is a rural as well as an urban concern.

In the Detroit Metro Area (DMA), the 2010 range was from 30 pregnancies per 1,000 females ages 15-19 (Oakland County) to 76 pregnancies per 1,000 in Wayne County. In Out-State Michigan, the 2010 rates ranged from 16 to 76 pregnancies per 1,000 females ages 15-19 (data not shown in tables).

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Description of the Epidemic by Age: Teens and young adults (13-24 years)

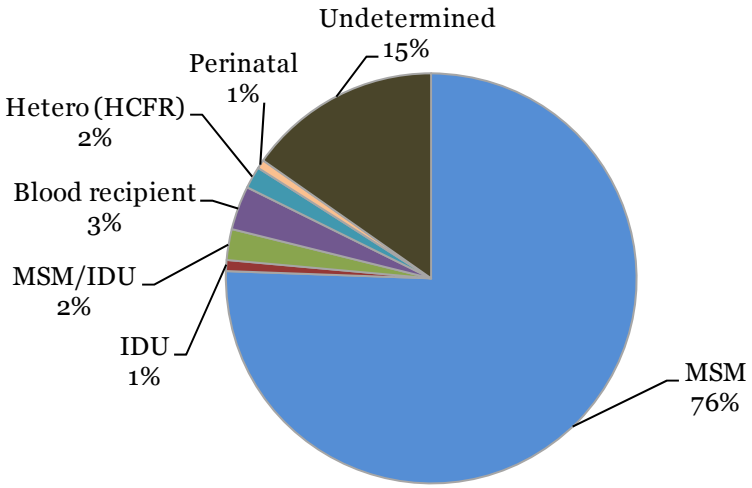
Data from Vital Records & enhanced HIV/AIDS Reporting System (eHARS)

Risk-teens (13-19 years):
In the 1980s, most HIV-positive teenagers were recipients of HIV-infected blood or blood products. However, since screening of all blood products began in 1985, this proportion has steadily declined.

Among the 784 persons living with HIV in Michigan who were ages 13-19 at the time of HIV diagnosis, 577 (74 percent) are male (table 13, page 107). Among these male cases, over three-quarters are males who have sex with males (MSM) (78 percent), including those who also inject drugs (MSM/IDU) (figure 42). Three percent were recipients of HIV-infected blood products prior to 1985, and another three percent were injection drug users (including MSM/IDU). Two percent had heterosexual contact with females with known risk (HCFR). Fifteen percent of 13-19 year old males had undetermined risk.

The other 207 persons living with HIV in Michigan who were ages 13-19 at the time of diagnosis are female (26 percent). This is slightly higher than the proportion of all HIV-positive persons in Michigan who are female (22 percent; table 8, page 101). Of females who were 13-19 years at the time of diagnosis, over three-quarters (78 percent) have a risk of heterosexual contact (HCM). Six percent are injection drug users (IDU), and 15 percent had undetermined risk (figure 43).

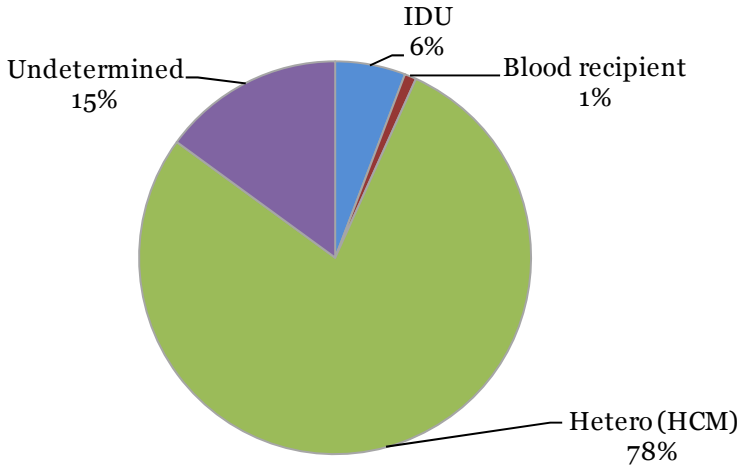
Figure 42: Males ages 13-19 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 577)



Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 43: Females ages 13-19 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 207)

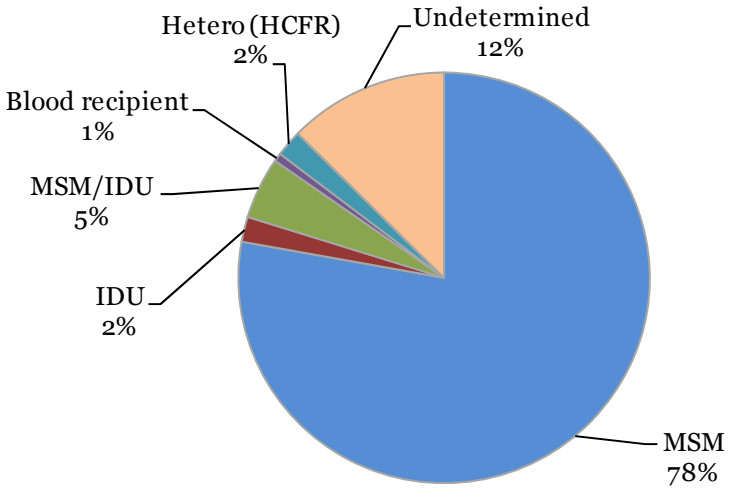


Risk-young adults (20-24 years):

Among the 2,151 persons living with HIV in Michigan who were ages 20-24 at the time of HIV diagnosis, over three-quarters (78 percent) are male (figure 44). Eighty-three percent of these HIV-positive male young adults report sex with other males (including MSM/IDU); 12 percent had undetermined risk; seven percent reported IDU (including MSM/IDU); two percent had heterosexual risk (HCFR); and one percent received HIV-infected blood products.

Figure 45 shows that, among the 483 females living with HIV who were ages 20-24 at the time of diagnosis, almost three-quarters (72 percent) had heterosexual risk (HCM). Fifteen percent of HIV-positive females in this age group had undetermined risk, 13 percent were IDU, and less than one percent received HIV-infected blood products..

Figure 44: Males ages 20-24 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 1,668)

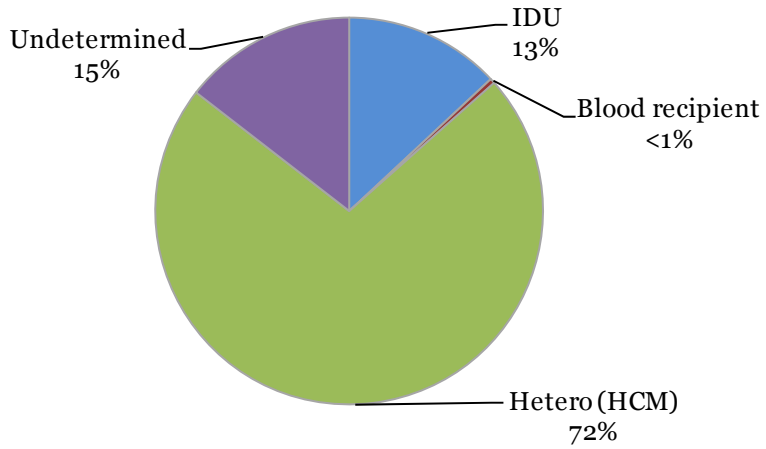


2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 45: Females ages 20-24 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 483)



Race/ethnicity:

Seventy-six percent of persons ages 13-19 at the time of HIV diagnosis are black, 17 percent are white, four percent are Hispanic, and two percent are of other or unknown race. Sixty-five percent of persons ages 20-24 at the time of HIV diagnosis are black, 28 percent are white, five percent are Hispanic, and three percent are of other or unknown race. Comparing these proportions with the racial/ethnic breakdown of those over 24 years at diagnosis (54 percent black, 39 percent white, five percent Hispanic, and 3 percent other or unknown race) shows that HIV-positive youth are disproportionately black (table 12, page 106).

Geographic distribution:

The majority (82 percent) of persons 13-24 years old at diagnosis live in high prevalence counties. They make up a slightly higher proportion of the total number of HIV-positive persons in high prevalence counties compared to low prevalence counties (19 percent vs. 17 percent, respectively) (see figure 3 on page 18 for high/low prevalence county classification). Two-thirds of teen (ages 13-19) cases live in the Detroit Metro Area (DMA) (data not shown in tables). While nearly two thirds of persons living with HIV in Michigan are living in the DMA, nearly three fourths of the new diagnoses among persons 13 to 19 years old are residents of the DMA (Trends). Of these DMA teens, 62 percent are living in City of Detroit.

Trends and conclusions:

The rate of new diagnoses remained stable among persons 13-19 years of age between 2006 and 2010. This is the first time in six consecutive annual trend analyses that there was not a significant increase in the rate of new diagnoses among this group. However, the rate of new diagnoses among 20-24 year olds increased for the second consecutive trend report. Additionally, decreasing rates among 35-39 year and 40-44 year olds have resulted in 13-24 year olds representing a larger proportion of new diagnoses and prevalent cases (Trends). The majority of male teen and young adult cases are males who have sex with males (MSM), while the majority of female teen and young adult cases have heterosexual risk. The majority of HIV-positive persons diagnosed in these age groups are black and live in the DMA.

2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2012, there were 1,311 persons living with HIV infection in Michigan who were 50 years and older at the time of diagnosis. They comprise eight percent of all reported HIV-positive persons, and over three-quarters (77 percent) are male. Fifty-four percent are black, 39 percent are white, and seven percent are Hispanic or other/unknown race (table 12, page 106).

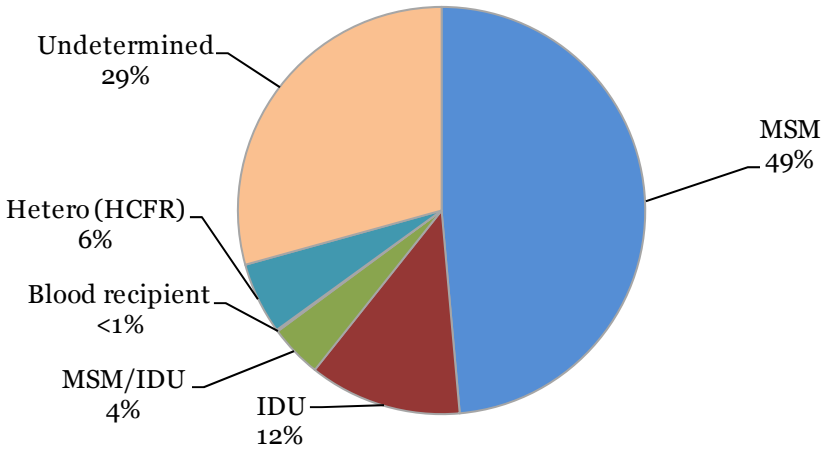
Risk-males:

When examining risk, those who were in their fifties at the time of HIV diagnosis have a different risk profile than those who were ages 60 and older. Therefore, the risks of these two populations are discussed separately.

As of January 2012, there were 809 males currently living with HIV in Michigan who were diagnosed in their 50s (76 percent of all persons 50-59 years at diagnosis). Of all persons 60 and over at HIV diagnosis, 197 are males (78 percent).

As with all other age groups (excluding 0-12 year olds), over half of the HIV-positive males in both groups report male-male sex (including those who also injected drugs, or MSM/IDU). Males who were in their 50s at HIV diagnosis are more likely to be injection drug users (IDU) compared to males 60 years and older at diagnosis (16 percent vs. eight percent, respectively; figures 46 and 47). This includes males with a dual risk of male-male sex and IDU (MSM/IDU). A larger proportion of males 60 years and older have undetermined risk than those in their 50s at diagnosis.

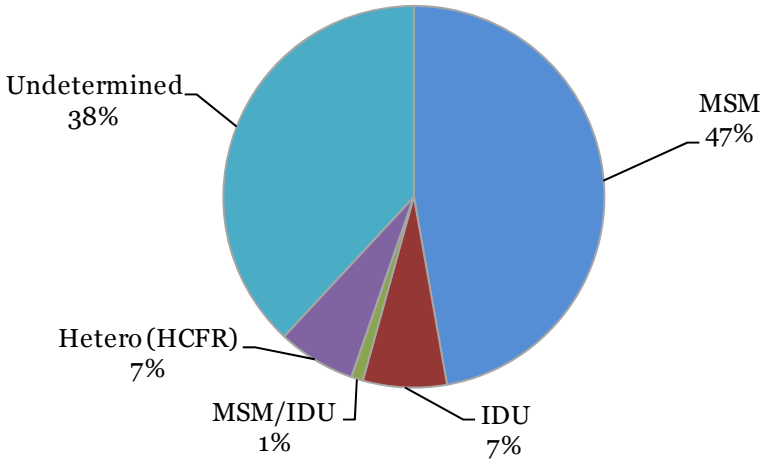
Figure 46: Males ages 50-59 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 809)



Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS)

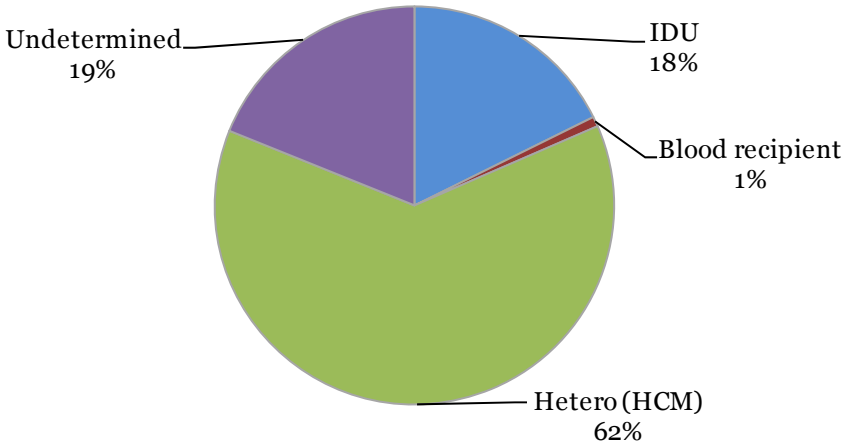
Figure 47: Males ages 60 and older at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 197)



Risk-females:

Overall, females who were in their 50s at HIV diagnosis have similar risks as females who were 60 years and older at diagnosis (figures 48 and 49). As with females in other age groups, the most common risk is heterosexual contact (HC) (62 percent and 57 percent, respectively). HIV-positive females 60 years and older at diagnosis are more likely to be blood recipients than females in their 50s at diagnosis (6 percent vs. 1 percent, respectively), and females in their 50s at diagnosis are more likely to be injection drug users than females who were 60 and older at diagnosis (18 percent vs. 14 percent, respectively). Females 60 and older at diagnosis have a larger proportion of undetermined risk than females in their 50s at diagnosis.

Figure 48: Females ages 50-59 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 249)

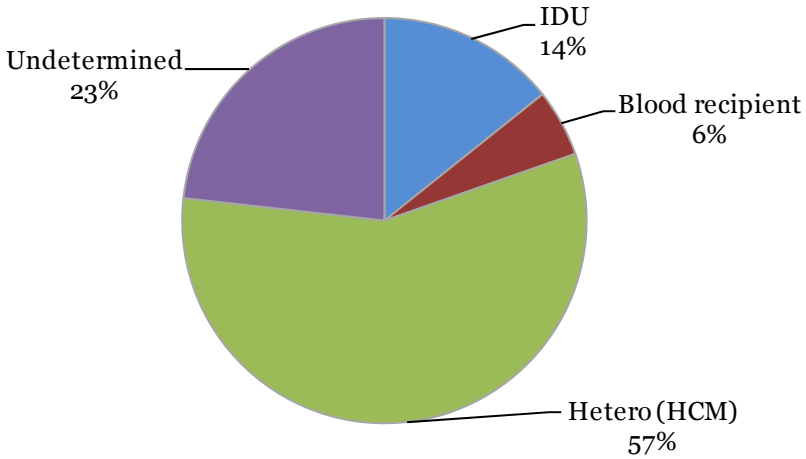


2012 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: 50 years and older

Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

Figure 49: Females ages 60 and older at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 56)



STDs:

Gonorrhea and chlamydia are largely epidemics affecting young people, with less than one percent of chlamydia cases and just over two percent of gonorrhea cases being among persons 50 years and older at diagnosis. In contrast, ten percent of primary and secondary syphilis cases are over the age of 50 at diagnosis. These individuals are more likely to be male than persons diagnosed at other ages (100 percent vs. 90 percent, respectively) and are more likely to be white than black (64 percent vs. 34 percent, respectively). Of primary and secondary syphilis cases, the highest proportion of cases ages 50 and older lived in Kent, Macomb, and Wayne counties (10 percent each) and the City of Detroit (28 percent) (age breakdown and specific geographic data not shown in tables).

Late HIV diagnoses:

Of the 15,753 persons living with HIV infection in Michigan, 54 percent (8,565 cases) have progressed to stage 3 infection. Of these, 3,594 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Persons who were in their fifties at HIV diagnosis make up seven percent (620 cases) of persons living with stage 3 infection, of whom 62 percent had late HIV diagnoses. Those who where 60 years and older at diagnosis make up two percent of persons living with stage 3 infection (157 cases), of whom 71 percent had late HIV diagnoses. These two age groups have the highest proportion of late diagnoses of all age groups (table 8, page 101).

Trends and conclusions:

In Michigan, the rate of HIV diagnoses among persons who were 50 years and older at the time of diagnosis remained level between 2006 and 2010 (Trends). Although persons 50 years and older have the lowest rates of new diagnoses (except for those 0-12 years), it is important to understand the specific challenges faced by older Michiganders and to ensure that they receive information and services to help protect them from infection.

Although it is low (6 percent), males who were 50 years and older at HIV diagnosis have the highest proportion of heterosexual risk of males in any age group (table 13, page 107). This is an important distinction when preparing targeted HIV prevention and interventions.

2012 Profile of HIV in Michigan (Statewide)

Service Utilization of HIV-Positive Persons in Care

Data from Uniform Reporting System (URS) & enhanced HIV/AIDS Reporting System (eHARS)

Table 5: Characteristics of Ryan White clients who received services compared to All living HIV infection cases in Michigan, January 2012

Characteristic	RY clients	Cases
White	34%	36%
Black	55%	56%
Hispanic	5%	5%
Other	4%	3%
Unknown*	1%	N/A
Male	76%	78%
White male	*30%*	*31%*
Black male	*38%*	*41%*
Hispanic male	*5%*	*4%*
Other male	*3%*	*2%*
Unknown male	*1%*	*N/A*
Female	24%	22%
White female	*5%*	*5%*
Black female	*17%*	*16%*
Hispanic female	*1%*	*1%*
Other female	*1%*	*1%*
Unknown female	*<1%*	*N/A*
0-12 years†	1%	<1%
13-19 years†	2%	1%
20-24 years†	5%	5%
25-44 years†	43%	38%
45+ years†	48%	56%
Unknown age†	N/A	<1%
Infants: 0-1 years†	<1%	0%
Children: 2-12 years†	1%	<1%
Youth: 13-24 years†	7%	5%
Women 25+ years†	17%	21%
Total	**100% (N = 7,278)**	**100% (N = 15,753)**

*"Unknown" included in "Other" category for surveillance.

†"Years" within this table refers to current age, not age at diagnosis.

Overview:

The Ryan White HIV/AIDS Treatment Extension Act of 2009 (Ryan White), which replaced the Treatment and Modernization Act of 2006, provides federal funds to help communities and states increase the availability of primary health care and support services for people living with HIV/AIDS (PLWH/A). Ryan White funds are funds of last resort. Ryan White Part A funds are allocated to Eligible Metropolitan Areas (EMA) heavily impacted by the epidemic, and in Michigan the Detroit EMA receives Part A funds. States and U.S. Territories receive Ryan White Part B funds, including resources earmarked for AIDS Drug Assistance Programs (ADAP). Part C funds are allocated to local clinics for outpatient HIV early intervention services and Part D is used to coordinate and enhance services for women, infants, children, and youth (WICY).

The Uniform Reporting System (URS) is a statewide client-level data system designed to document the quantity and types of services provided by agencies receiving Ryan White funds and to describe the populations receiving services. A wide range of clinical and supportive services are reported in the URS, including outpatient medical care, dental care, mental health services, case management, and use of the ADAP. URS data may include HIV services that are not directly funded by Ryan White, as long as the reported service is eligible to be funded. However, most services reported in the URS are at least partially funded by Ryan White resources, and all services are provided by agencies receiving Ryan White funds.

There are several client-level data systems in Michigan that collect URS data. Demographic and service data from all these systems were extracted into a standard format, and these data were then combined and unduplicated to produce a statewide URS dataset for analysis. The statewide dataset includes records from all Ryan White

Service Utilization of HIV-Positive Persons in Care

Data from Uniform Reporting System (URS) & enhanced HIV/AIDS Reporting System (eHARS)

Parts A-D funded programs in Michigan, including ADAP.

Comparing services with cases:
Table 5 compares Ryan White clients served during 2011 to all persons currently living with HIV in Michigan. In 2011 there were 7,278 HIV-positive persons who received Ryan White services in the state of Michigan. Ryan White clients represent 46 percent of the total reported living cases in Michigan. Overall, the comparison table shows that persons receiving Ryan White care services are similar demographically to reported cases; however, reported cases are slightly older and more likely to be black males. Additionally, the Ryan White Treatment Modernization Act puts a priority on providing services to women, infants, children and youth (WICY) with HIV infection. As a result, the proportion of youth ages 13 to 24 served is somewhat higher than among all reported cases. Despite these differences, it appears that Ryan White-funded programs are generally serving clients who are representative of all persons living with HIV infection in Michigan.

It is important to note that URS data have a higher proportion of records with unreported race than surveillance data due to lack of client self-report and/or lack of documentation at the provider level. Additionally, the service utilization data available for this report are limited to the HIV care service programs contained in the four Ryan White CAREWare data systems in Michigan. Services provided by private physicians or HIV Service programs not funded by Ryan White or Michigan Health Initiative (MHI) resources are not included.

Core services:
Table 6 gives additional detail about the core services of outpatient medical care, oral health care, mental health care, medical case management, and ADAP delivered by these HIV service programs in 2011. The service counts in the table are visits, not units of time. Only one "visit" per day is counted for any one service category in URS summary data.

Table 6: Core services received by Ryan White clients in Michigan, 2011 (N=7,278)

	Outpatient medical care	Oral health care	Mental health care	Medical case management	ADAP (medication assistance)
No. of unduplicated clients served*	5,683	702	724	4,228	3,512
Percent receiving service	78%	10%	10%	58%	48%
Total days of service (visits)†	25,342	2,784	4,626	74,237	75,335
Average no. of visits per client	4.8	3.9	4.4	18.1	32.5
Median no. of visits per client	4	3	2	11	25
Range of visits per client	1-47	1-45	1-51	1-286	1-231

*Clients are unduplicated for a particular service across all providers but may be counted in more than one service category.
†The Drug Assistance service unit is a prescription filled rather than a visit or day of service.

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Service Utilization of HIV-Positive Persons in Care

Data from Uniform Reporting System (URS) & Medical Monitoring Project (MMP)

Outpatient medical care services in this table are for outpatient ambulatory medical care visits, ranging from a complete physical with a physician to a brief or repeat visit with a physician or nurse practitioner. This may include adherence counseling with a medical practitioner. The average of 4.8 visits per client, with a median of four, is consistent with HIV care standards that recommend monitoring of health status every three to four months (table 6).

Oral health care services reported in the URS are provided primarily through the statewide Michigan Dental Program (MDP), administered by the Division of Health, Wellness and Disease Control of MDCH. The University of Detroit/Mercy Dental School provides many of these services for MDP clients in the Detroit area. Dental services for clients may be extensive and require multiple visits, but they may also be for annual or more frequent prophylaxis. The average of 3.9 visits per client is consistent with an initial exam to plan the care needed and one or more treatment visits following approval of the care plan (table 6).

The AIDS Drug Assistance Program (ADAP), administered by the Division of Health, Wellness and Disease Control of MDCH, pays for medications dispensed to eligible HIV-positive clients throughout Michigan. ADAP covers all HIV medications and many other medications, in addition to CD4 and viral load tests. The unit of service reported in table 6 for ADAP is each prescription filled rather than a day of service. In 2011, 48 percent of Ryan White clients in Michigan received medications or tests through ADAP services at an average of 32.5 prescriptions filled per year (or slightly less than 3 per month). The need for ADAP services continues to increase, because more people are living with HIV each year, more are entering into care where drugs are prescribed to treat the disease, and fewer have access to prescription drug coverage through other sources.

Mental health care services encompass mental health assessments, individual counseling, and group sessions for HIV-positive clients with mental health diagnoses. They must be conducted by a licensed mental health professional. Mental health services do not include substance abuse treatment. In 2011, 10 percent of statewide clients received mental health care services at an average of 4.4 visits per person (table 6).

Health insurance coverage:

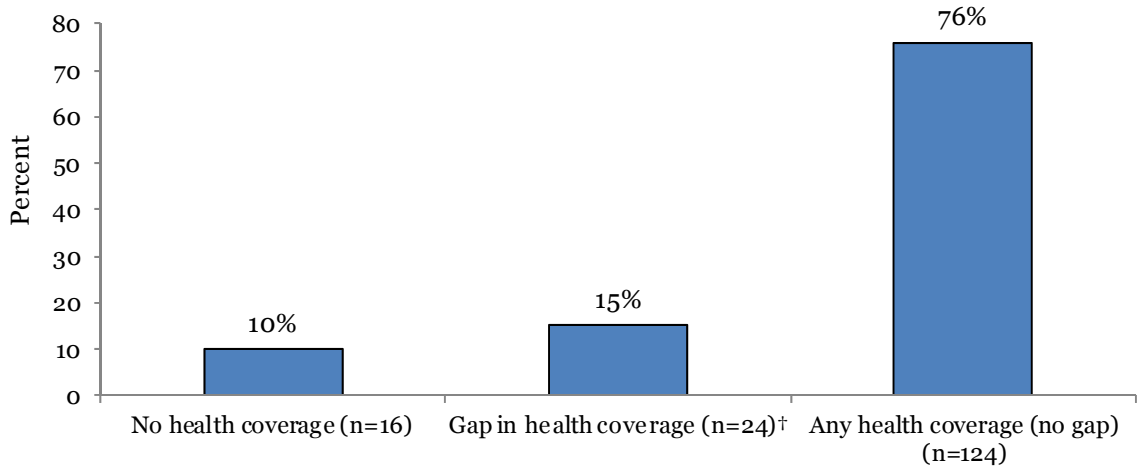
Among HIV-positive persons interviewed for the Medical Monitoring Project (MMP), the majority (76 percent) had health insurance coverage and no gap in coverage in the past 12 months (figure 50). Some persons had a gap in health coverage in the past 12 years (15 percent), while 10 percent had no health coverage in the past 12 months. This was consistent with data found through medical record abstractions, which indicated that 81 percent (n=96) of persons had at least one documented source of medical coverage. Private insurance was the most frequently documented source of medical coverage, followed closely by Medicaid (figure 51). Ten percent of persons had documentation of self-pay.

2012 Profile of HIV in Michigan (Statewide)

Service Utilization of HIV-positive-Persons in Care

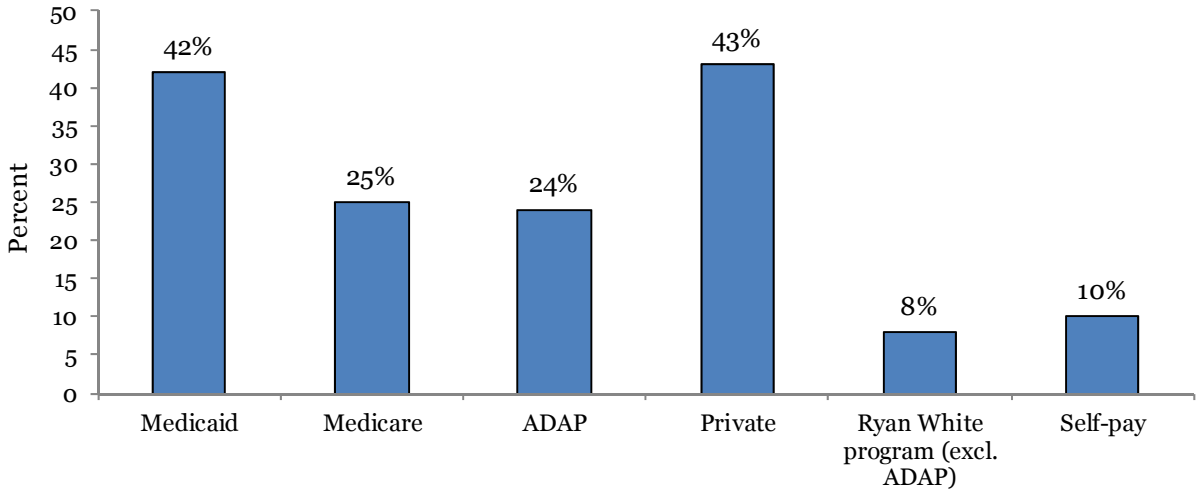
Data from Medical Monitoring Project (MMP)

Figure 50: Health coverage* in the 12 months prior to interview among HIV-positive persons in care (MMP, 2009) (N=164)



*Self-reported health coverage in response to the question, "During the past 12 months, have you had any kind of health insurance or health coverage? This includes Medicaid and Medicare."
† Self-reported gap in health coverage in response to the question "During the past 12 months, was there a time that you didn't have any health insurance or health coverage?"

Figure 51: Type of medical coverage* noted in medical records of HIV-positive persons in care (MMP, 2009) (n=118)



*Categories are not mutually exclusive.

2012 Profile of HIV in Michigan (Statewide)

Service Utilization of HIV-Positive Persons in Care

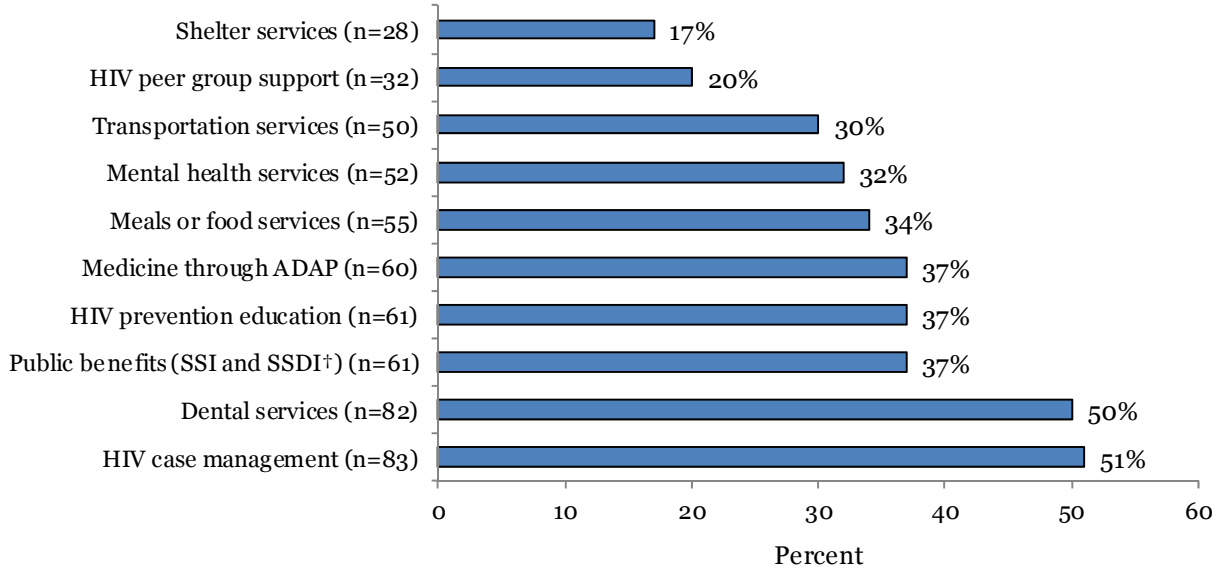
Data from Medical Monitoring Project (MMP)

Use of services:

In the 12 months prior to MMP interview, the median number of outpatient visits among HIV-positive persons in care was seven (range: 1-42 visits). Thirteen percent of persons interviewed had a HIV-related ER visit, and 10 percent had a HIV-related hospitalization. Fourteen percent had at least one inpatient hospital stay, with the median length of stay being three days.

Persons interviewed for MMP were also asked about services other than health care. Figure 52 shows the most commonly used services named by HIV-positive persons during their interviews, which were HIV case management (51 percent) and dental services (50 percent). Shelter services were the least frequently named service.

Figure 52: Top 10 most commonly used services in the 12 months prior to interview among HIV-positive persons in care (MMP, 2009) (N=164)*



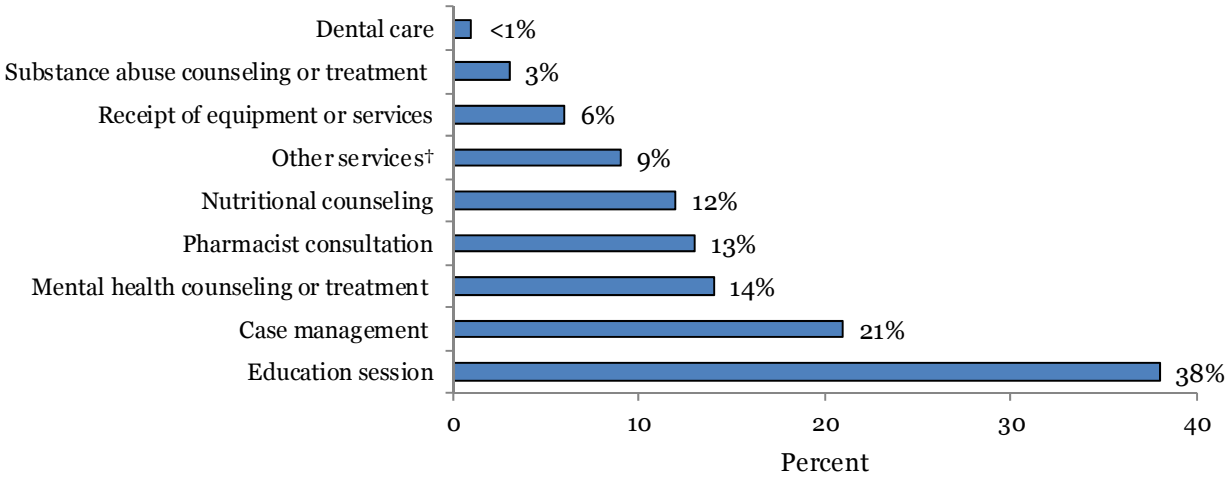
*Categories are not mutually exclusive.
†Supplemental Security Income/Social Security (SSI) and Social Security Disability Insurance (SSDI).

Medical records were also reviewed for documentation of auxiliary services provided during visits to HIV care providers (figure 53). The auxiliary service most frequently documented in the medical record was an education session (38 percent), followed by case management (21 percent). Dental care was the least frequently noted service. Education sessions referred to any individual or group sessions specifically designed to educate the patient about a particular behavior and/or health issue; it did not have to be HIV-related.

Service Utilization of HIV-Positive Persons in Care

Data from Medical Monitoring Project (MMP)

Figure 53: Other services noted in medical record and provided at HIV care facilities to HIV-positive persons in care (MMP, 2009) (N=149)*

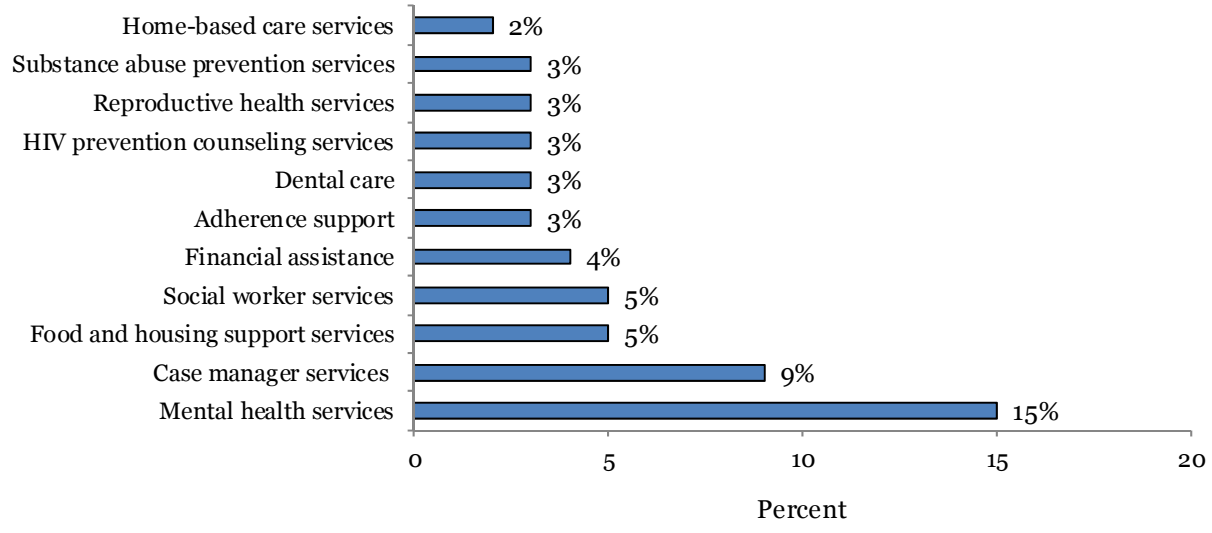


*Categories are not mutually exclusive.

†Other services included medication adherence counseling, hepatitis C treatment follow-up, and smoking cessation counseling.

About 29 percent (n=43) of medical records reviewed had documentation of at least one referral provided during the surveillance period. The most common referral was for mental health services (15 percent), followed by case manager services (9 percent) (figure 54). Home-based care was the least frequent referral (2 percent).

Figure 54: Referrals noted in medical records of HIV-positive persons in care (MMP, 2009) (N=149)*



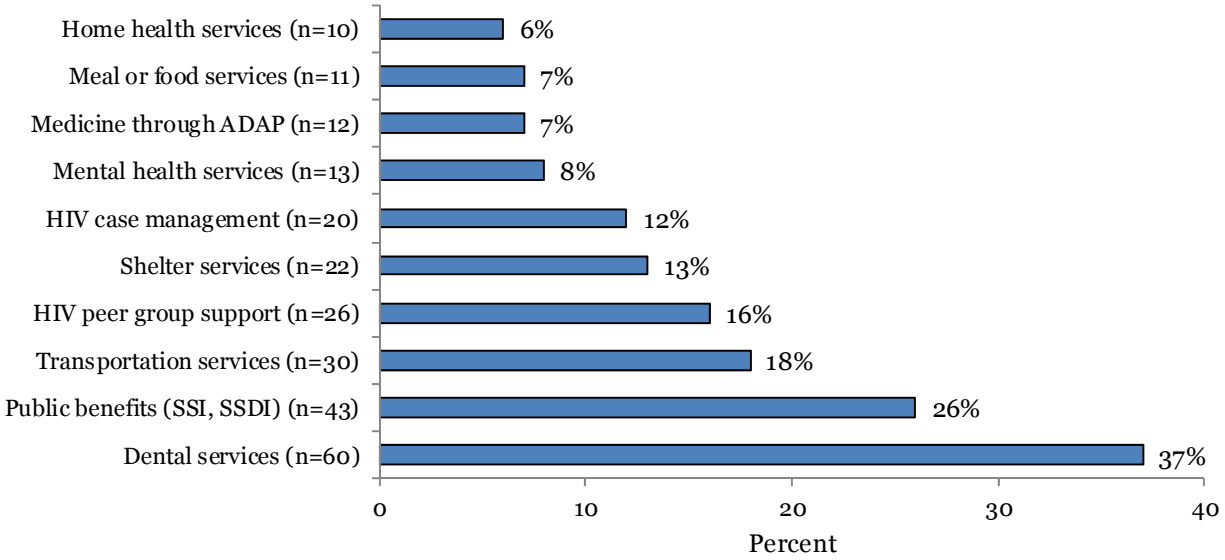
*Categories are not mutually exclusive.

Service Utilization of HIV-Positive Persons in Care

Data from Medical Monitoring Project (MMP)

About 70 percent (n=114) of HIV-positive persons interviewed had at least one unmet service need in the 12 months prior to interview (figure 55). The most common service needed but not received was dental services (37 percent of persons interviewed), followed by public benefits such as SSI (26 percent).

Figure 55: Top 10 services needed but didn't receive in 12 months prior to interview among HIV-positive persons in care (MMP, 2009) (N=164)*



*Categories are not mutually exclusive.

2012 Profile of HIV in Michigan (Statewide)

Unmet Need and Time to Care

Data from enhanced HIV/AIDS Reporting System (eHARS)

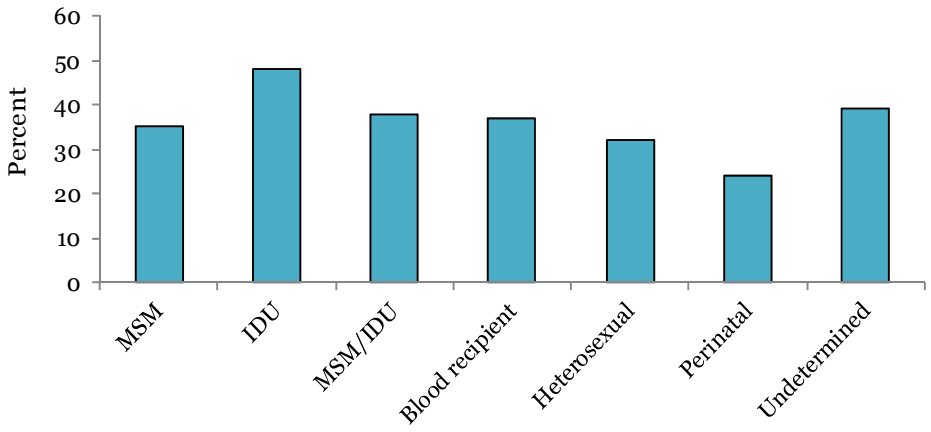
Overview:

Primary Medical Care (PMC) for persons living with HIV infection is having a laboratory result for a CD4 count and/or CD4 percent and/or a viral load (VL) test during a 12-month time period. Those who did not receive PMC were considered to have unmet need. For this report, unmet need was calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2010 and had not received a VL or CD4 test between October 1, 2010 and September 30, 2011 (fiscal year 2011). Table 15 on page 109 shows the overall proportion of unmet need for various demographic groups. In total, 36 percent of HIV-positive persons in Michigan had unmet need. The highest levels of unmet need were among persons with HIV non-stage 3 (44 percent), Hispanics (50 percent), American Indians/Alaska Natives (46 percent), injection drug users (IDU) (48 percent), persons who were 20-24 years at diagnosis (45 percent), persons 65 years of age and older as of November 2011 (44 percent), and persons currently living in Berrien County and Genesee County (excluding prisoners).

Risk:

Injection drug users (IDU) had the highest proportion of unmet need (48 percent), followed by persons with undetermined risk (39 percent) (figure 56). The lowest proportion of unmet was among persons infected perinatally or through blood products (24 percent and 37 percent, respectively).

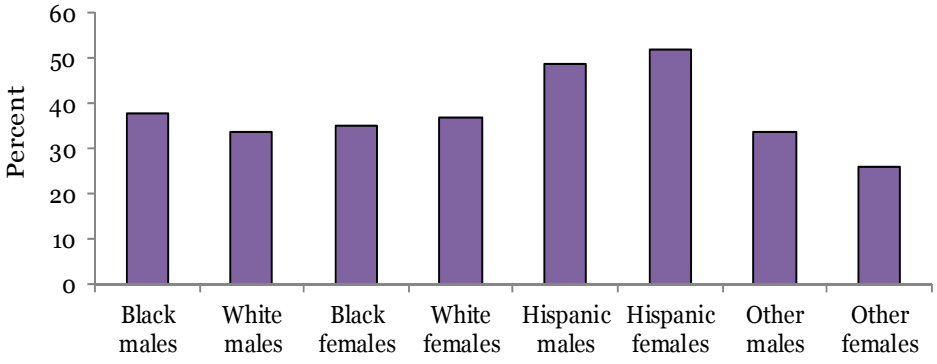
Figure 56: Persons living with HIV in Michigan with unmet need, by risk transmission category, November 2011



Race/ethnicity and sex:

Hispanics had the highest proportion of unmet need of any racial/ethnic group (50 percent), followed by American Indians/Alaska Native (46 percent). Overall, males and females had equivalent levels of unmet

Figure 57: Persons living with HIV in Michigan with unmet need, by race/sex, November 2011

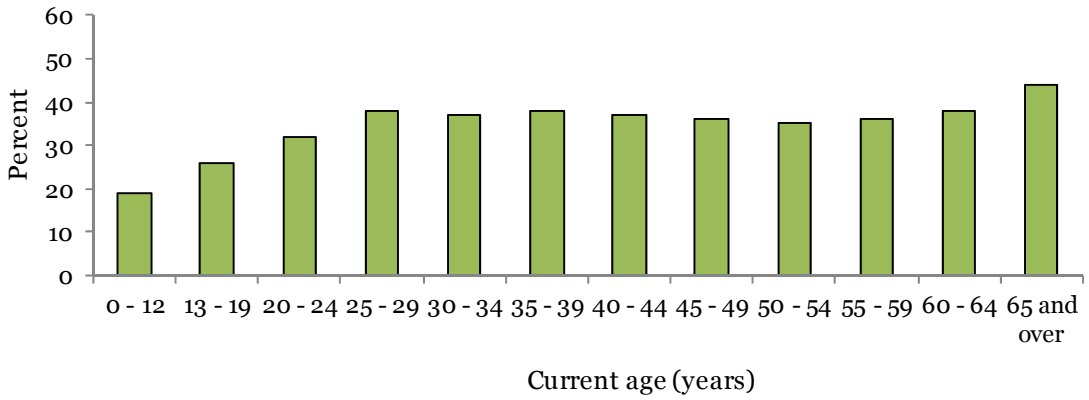


Unmet Need and Time to Care

need (36 percent). Examining race/sex breakdowns, however, reveals the disproportionate levels of unmet need among different groups (figure 57). The highest proportion of unmet need during this period was among Hispanics of both sexes, with 52 percent of HIV-positive Hispanic females and 49 percent of Hispanic males not having received care during FY 2011. The lowest proportion of unmet need was among females of multi-, other, or unknown race/ethnicity (26 percent).

Current age:
The highest proportion of unmet need was among persons who were 65 years of age and older as of November 2011, while the lowest proportion was among persons who were 0-12 years (figure 58). Children may be eligible to receive care through their parents' insurance or may qualify for government-funded health care, such as Medicaid, reducing the likelihood of unmet need (data not shown in tables).

Figure 58: Persons living with HIV in Michigan with unmet need, by current age, November 2011



Age at diagnosis:
Persons who were diagnosed between the ages of 20 and 24 years had the highest proportion of unmet need (45 percent), with 25-29 year olds having the second highest proportion at 42 percent. Persons who were diagnosed when they were 0-12 years had the lowest proportion of unmet need (24 percent) (table 15, page 109).

Geographic distribution:
In Michigan, 63 percent of HIV-positive persons reside in the Detroit Metro Area (DMA), 34 percent reside in Out-State Michigan, and the remaining three percent are in prison or have an unknown residence (table 8, page 101). The level of unmet need in the DMA was 35 percent, which is comparable to the unmet need in Out-State Michigan (38 percent). When broken down by county, Berrien had the highest proportion of unmet need at 46 percent, followed by Genesee County at 43 percent. Washtenaw had the lowest proportion (33 percent) (table 15).

2012 Profile of HIV in Michigan (Statewide)

Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

Entry into care:

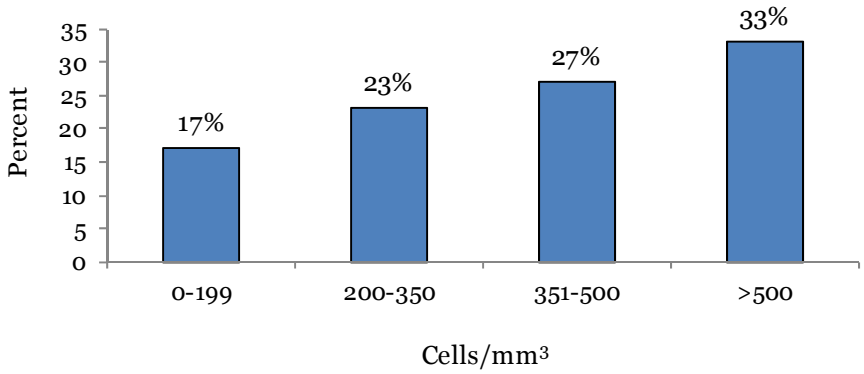
Among HIV-positive persons in care and interviewed for the medical monitoring project (MMP), five percent could not recall the year they received an HIV diagnosis. Seventy-four percent received an HIV diagnosis over five years prior to the interview date while 21 percent received their diagnosis within five years of the interview. Among persons who received their HIV diagnosis within five years of the interview, 82 percent entered HIV care within three months following diagnosis, nine percent entered HIV care between three and twelve months following diagnosis, and nine percent could not recall when they entered HIV care (data not shown in tables).

CD4 and viral load tests:

The Department of Health and Human Services recommends that CD4 count and viral load tests for HIV-positive persons be conducted every 3-4 months. In the 12 months before the Medical Monitoring Project (MMP) interview, five percent of persons did not have a CD4 count test documented in their medical record, 14 percent did not have a documented CD4 percentage test, and nine percent did not have a documented viral load test.

Of the 141 persons who had a CD4 count test documented during the surveillance period, 17 percent had values below 200 cells/mm^3 (a criterion for stage 3 HIV infection (AIDS) diagnosis) (figure 59). Twenty-three percent of participants had CD4 counts in the range of 200-350. The majority (33 percent) had CD4 counts above 500, indicating little immunosuppression.

Figure 59: Lowest CD4 count in medical records of HIV-positive persons in care (MMP, 2009) (n=141)*



*Excludes persons with no documentation of a CD4 count value during the surveillance period (n=8).

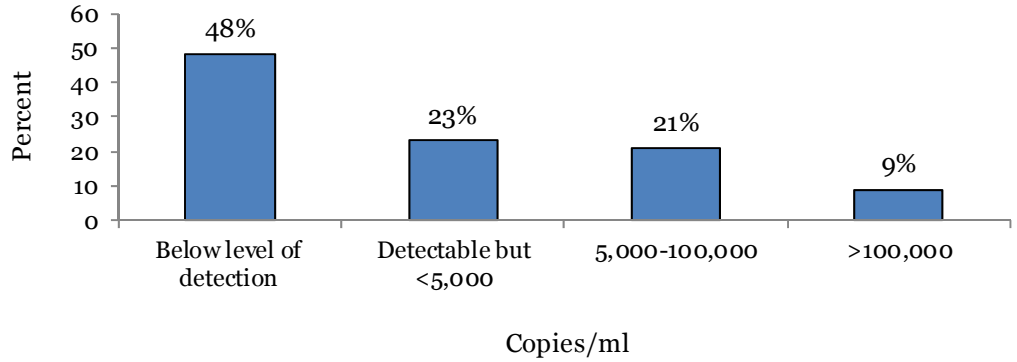
†Not all persons with a CD4 count documented had a CD4 percent, but all persons with a CD4 percent had a CD4 count (due to differences in laboratory testing). For this reason, only CD4 counts are shown.

Of the 136 persons with a viral load test result during the surveillance period, 48 percent had viral load results below the level of detection, indicating adequate HIV suppression (figure 60). Twenty-three percent had values that were detectable but less than 5,000 copies/ml, and 29 percent had one or more viral load test values of >=5,000 copies/ml (indicating inadequately suppressed and rapidly progressing HIV infection). Seventy-five percent of those persons (n=30) had documentation of ARV prescription(s) prior to the viral load test value of >=5,000. Of the 10 remaining persons, nine had no documentation of ARV prescriptions at any time (during the medical history period or the surveillance period), and one person had documentation of receiving an ARV prescription during the visit with the viral load value of >=5,000.

Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

Figure 60: Highest viral load value noted in medical records of HIV-positive persons in care (MMP, 2009) (n=136)*

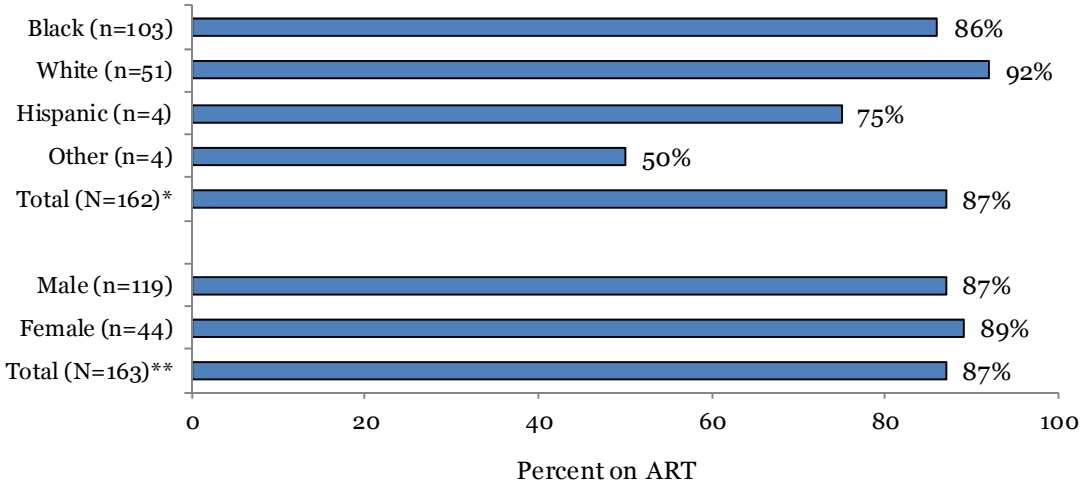


*Excludes persons with no documentation of a viral load test during the surveillance period (n=13); summarizes the highest viral load result for outpatient and inpatient visits during the surveillance period.

ART use:

About 92 percent of persons had documentation of a prescription for antiretroviral (ART) medication, while nine percent had no documentation of a ART prescription. The main reason why persons were not currently on ART was that the doctor advised a delay or discontinuation of treatment. Figure 61 shows ART use by demographic characteristics. A slightly larger proportion of white persons reported current ART use during the interview than did black persons. Numbers for Hispanics and persons of other race are small and should therefore be interpreted with caution. A roughly equivalent proportion of males and females reported current ART use.

Figure 61: Current ART use by sex and race/ethnicity among HIV-positive persons in care (MMP, 2009) (N=164)



*Two participants refused to answer and were excluded.
**One participant identified as transgender and so was excluded from this analysis.

Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

Among persons who were on ART, 65 percent achieved consistent viral suppression (viral load tests <=200 copies/ml); 35 percent of persons had one or more viral loads of >200 copies/ml.

One third of persons interviewed for MMP reported never skipping any ART medicine (34 percent); however, 51 percent reported skipping their ART medication within the past 3 months (figure 62).

Figure 62: Last time missed any ART medication among HIV-positive persons in care (MMP, 2009) (n=143)

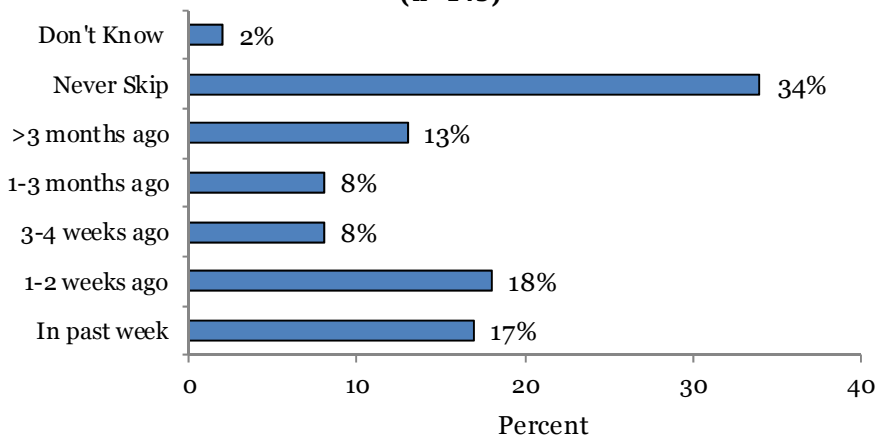
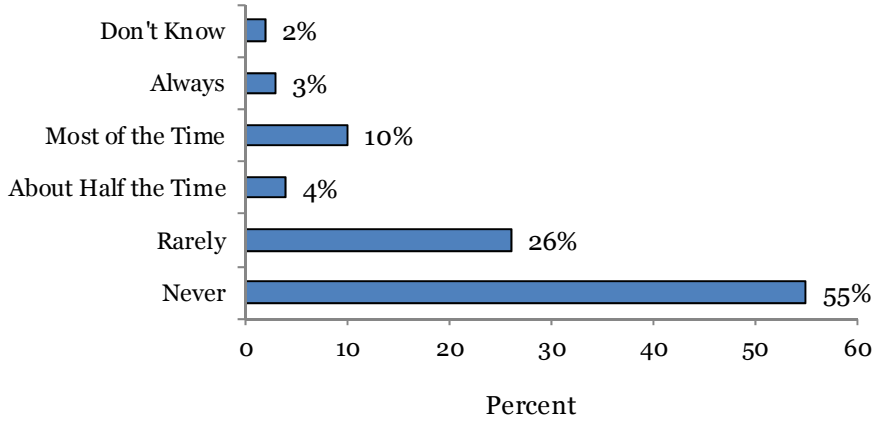


Figure 63: How frequently troubled by side effects of ART medications in the past 30 days among HIV-positive persons in care (MMP, 2009) (n=143)



Most persons (55 percent) interviewed for MMP reported never being troubled by the side effects of ART medication during the past 30 days (figure 63). Twenty-six percent of those interviewed reported rarely being troubled by side effects, and 10 percent said they were troubled by side effects of ART "most of the time".

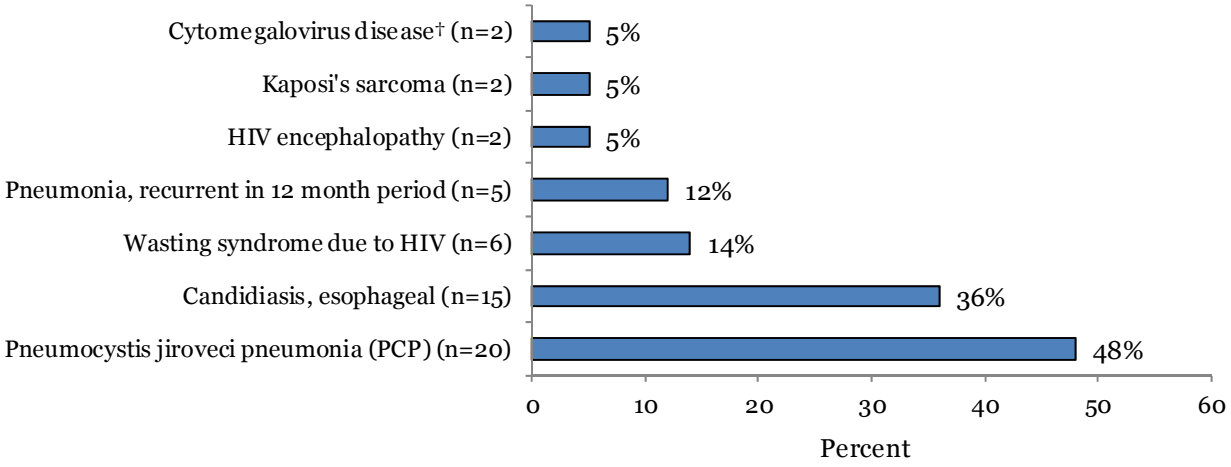
Opportunistic illnesses (OIs):

In order to be classified as stage 3 HIV infection (AIDS), persons must either meet immunologic criteria (determined by CD4 test values) or be diagnosed with one of the AIDS-defining opportunistic illnesses (OIs). About 28 percent (n=42) of persons whose medical records were reviewed for MMP had documentation of at least one OI, and 31 percent were diagnosed with two or more. Figure 64 shows the distribution of OIs for persons with at least one OI documented in their medical records. The most common OI was pneumocystis jiroveci pneumonia, or PCP, at 48 percent, followed by esophageal candidiasis at 36 percent. Cytomegalovirus (CMV) disease, Kaposi's sarcoma, and HIV encephalopathy were the least commonly documented.

Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

Figure 64: Opportunistic illnesses noted in medical records of HIV-positive persons in care (MMP, 2009) (n=42)*

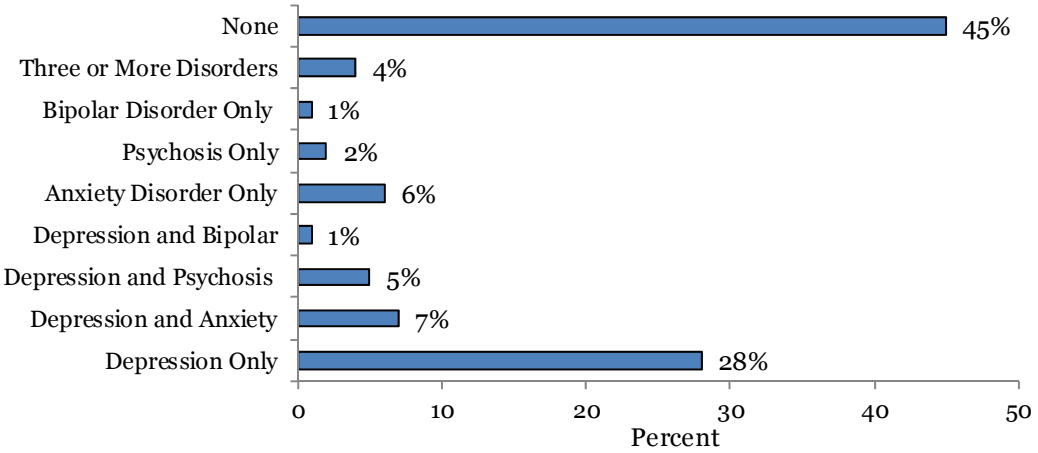


*Categories are not mutually exclusive.
†Other than in liver, spleen, or node.

Psychiatric illnesses:

About 55 percent of persons whose medical records were reviewed for MMP had a documented diagnosis of at least one of the four psychiatric disorders abstracted from medical records (anxiety disorder, bipolar disorder, depression, and psychosis) (figure 65). Forty-six percent of persons (n=68) had documentation of a diagnosis of depression (major depression, depressive disorder); this is compared with a 16.5 percent lifetime prevalence of major depression in the U.S. adult general population (Kessler et al. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Archives of General Psychiatry 62(6):593-602.).

Figure 65: Psychiatric disorders* noted in medical records of HIV-positive persons in care (MMP, 2009) (N=149)



*Any documentation of physician-diagnosed anxiety disorder, depression, bipolar disorder, or psychosis (including schizophrenia) during the medical history period and/or the surveillance period that required treatment (e.g. counseling, medications, hospitalization).

2012 Profile of HIV in Michigan (Statewide)

Monitored Viral Load

Data from enhanced HIV/AIDS Reporting System (eHARS)

The National HIV/AIDS Strategy (NHAS) and the Centers for Disease Control and Prevention (CDC) have recently developed a "High Impact HIV Prevention" approach (http://www.cdc.gov/hiv/topics/funding/PS12-1201/resources/factsheet/pdf/foa-partner.pdf), which emphasizes the need to target resources to maximize the impact of HIV prevention activities. Measuring viral load has been highlighted as a useful tool in this effort. A viral load test is a measure of the amount of HIV in a person's body, and it is a proxy measure for disease progression and infectiousness. Persons with lower viral loads are less likely to transmit HIV to uninfected partners.

Monitored viral load is the viral load of persons with HIV in care who have had viral load tests. It is impossible to know the viral load values of persons in care but without a viral load test (in-care viral load), persons diagnosed but not in care (community viral load), and undiagnosed persons (population viral load); therefore, monitored viral load is used to identify and target persons or groups with high viral loads. The following categorical measures are used to assess the quality of HIV care or the possible transmission potential for particular groups in care:

- *Suppressed*: Viral load is ≤ 200 copies/mL (> 200 copies/mL is considered not suppressed);
- *Undetectable*: Viral load is ≤ 50 copies/mL (> 50 copies/mL is considered detectable);
- *High VL*: Viral load is > 100,000 copies/mL.

Table 16 on page 110 shows the proportion of persons living with HIV infection in Michigan as of December 31, 2009 with suppressed viral loads by select characteristics. Among those with at least one viral load test between January 1, 2009 and December 31, 2009 (roughly half of all persons living with HIV), 69 percent of males and 63 percent of females had at least one suppressed viral load value. When broken down by age, persons who were 13-24 years old on December 31, 2008 had the lowest proportion of suppressed viral loads (37 percent). Viral load suppression increases with age, with 80 percent of persons 65 years and older having suppressed viral loads. This has implications for prevention, as the majority of new infections are among persons 30-39 years of age at diagnosis, and persons with unsuppressed viral loads are more infectious. There are also racial/ethnic disparities in viral load suppression. A smaller proportion of black persons who had a viral load test in 2009 had suppressed viral load values (61 percent) compared to 77 percent of white persons with at least one test. Seventy-four percent of HIV-positive Hispanics/Latinos had viral load suppression. The proportion of persons with suppressed viral loads is relatively constant across risk groups (62-69 percent), except that female injection drug users (IDU) have the lowest proportion of viral load suppression at 57 percent. Men who have sex with men (MSM), including MSM/IDU, have the highest proportion of viral load suppression at 69 percent.

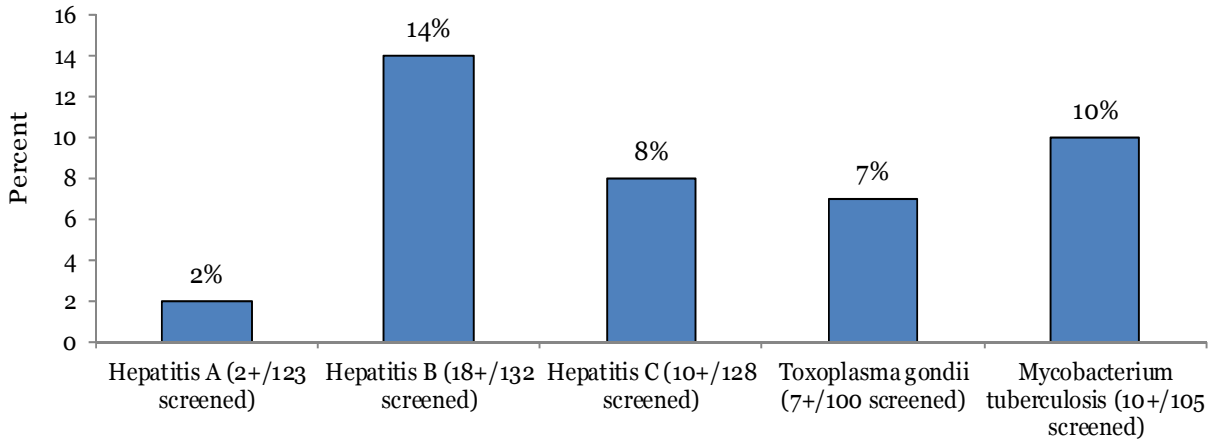
It is important to note that these percentages are among persons with at least one viral load test in 2009, which only represents about half of persons living with HIV. In order to have a more accurate picture of monitored viral load, more persons living with HIV and in care need to have viral load testing at least annually.

The NHAS has three goals specifically related to viral load to reduce health disparities: 1) Increase the proportion of HIV diagnosed gay and bisexual men with undetectable viral load by 20 percent; 2) Increase the proportion of HIV diagnosed blacks with undetectable viral load by 20 percent; and 3) Increase the proportion of HIV diagnosed Latinos with undetectable viral load by 20 percent. Analyses of monitored viral load will continue and help Michigan to track the progress of these goals.

Data from Medical Monitoring Project (MMP)

Recommendations for screening for other infectious diseases among HIV-positive persons vary based on patient characteristics. Test results presented here are broadly defined as having at least one laboratory test performed for the particular infectious disease. Figure 66 shows other infectious diseases MMP participants were screened for and the proportion who tested positive. The most common co-infection was Hepatitis B at 14 percent of those screened (18 positive tests of 132 screened). The next most common co-infection was mycobacterium tuberculosis (10 percent of those screened).

Figure 66: Diagnoses of other infectious diseases among HIV-positive persons in care with documentation of screening in medical record (MMP, 2009)*



*Screening was defined as having documentation of at least one type of laboratory test for the specified infection. Hepatitis A infection was defined as a positive anti-HAV IgM and a positive anti-HAV total (n=2); hepatitis B infection was defined as positive for HBsAg and/or positive for anti-HBc IgM, and/or a positive HBV DNA result (n=18); hepatitis C infection was defined as having a positive HCV RNA quantitative (PCR) and/or a positive HCV RNA qualitative (n=8), or if the person had specific documentation of hepatitis C infection from physician notes (n=2).

2012 Profile of HIV in Michigan (Statewide)

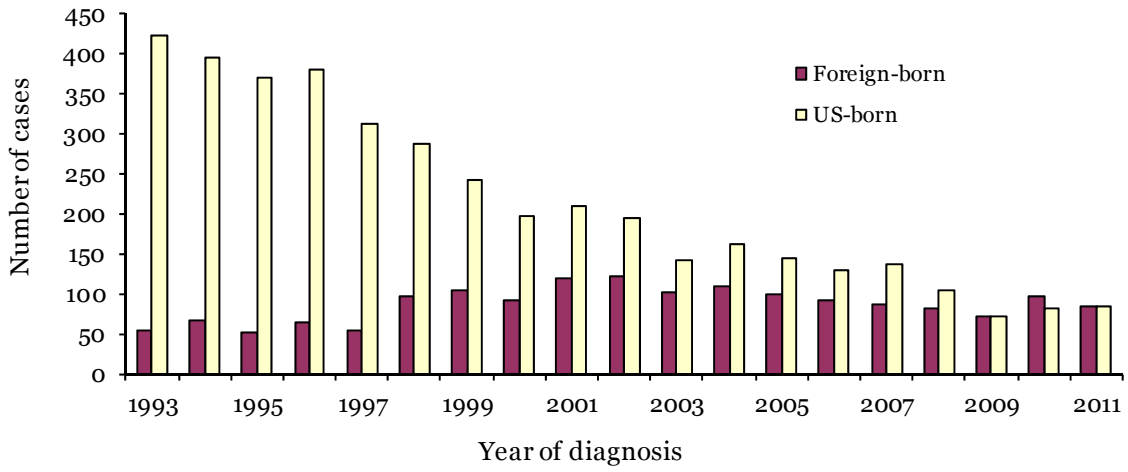
Tuberculosis

Data from Michigan Disease Surveillance System (MDSS)

Overview:

The incidence rate for tuberculosis (TB) in 2011 was 1.7 cases per 100,000. While Michigan has a low incidence of TB, the demographic distribution of TB cases warrant some attention. Sixty-three percent of the 170 reported TB cases reside in the Detroit Metro Area (DMA). Of these, thirty percent (53 cases) are residents of the City of Detroit. The Detroit Department of Health and Wellness Promotion (DDHWP) manages and reports all TB cases that are residents of Detroit and its surrounding areas. The remaining cases in the DMA are residents of the following counties: Wayne County (excluding Detroit) (14 percent, 24 cases), Oakland County (13 percent, 22 cases), and Macomb County (5 percent, 8 cases).

Figure 67: Number of TB cases in US-born vs. foreign-born persons in MI, 1993-2011

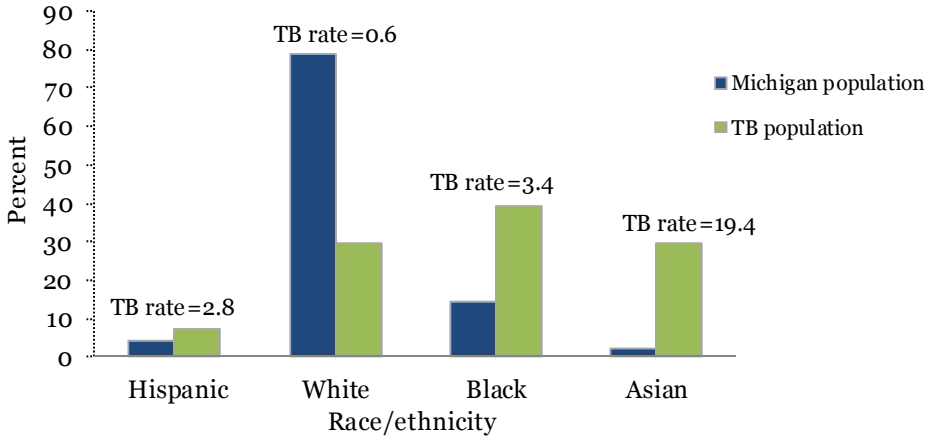


Since 1993, an increasingly larger proportion of TB cases are found among persons born outside the US. In 2011, 51 percent of Michigan cases were born in the US and 49 percent were foreign-born (figure 67). It is expected that the number of foreign-born cases will continue to increase.

Racial disparities:

TB disproportionately impacts certain racial/ethnic groups in Michigan (figure 68). The rate of TB disease among white persons is 0.6 cases per 100,000 population. The rate among black persons is higher (3.4 per 100,000), and the highest rate is

Figure 68: Racial distribution of TB cases living in Michigan compared to the general MI population, 2011



TB/HIV Co-infection

among Asians/Native Hawaiians or Other Pacific Islanders (19.4 per 100,000). This group comprises 30 percent of TB cases but only two percent of the general population. While black persons make up only 14 percent of the general population, they represent 39 percent of the TB population. These data demonstrate a need for targeted intervention and education among disproportionately affected groups. Data on other racial/ethnic minorities is not shown due to small numbers.

Overview:
As the HIV epidemic continues to grow, there are indications of a correlation between those infected with HIV and TB, although the number of TB cases have been declining in Michigan since the early 1990s. As of January 2012, there were 168 persons known to be living in Michigan and co-infected with HIV and TB (data for this section not shown in tables).

Race/ethnicity and sex:
Seventy-four percent of co-infected cases are male and 26 percent are female. The majority are black (67 percent), 15 percent are white, 12 percent are Hispanic, four percent are Asian/Native Hawaiian or Other Pacific Islander, and the remaining two percent are persons of other or unknown race.

Age at HIV diagnosis:
The largest proportion of co-infected cases were in their thirties at HIV diagnosis (41 percent), followed by those in their forties (20 percent). Teens (13-19 years at HIV diagnosis) make up two percent and young adults (20-24 years at HIV diagnosis) make up eight percent of co-infected cases.

Birth country:
Twenty-nine percent of co-infected persons were born outside of the United States. Country of birth is missing or unknown for 17 percent of cases, and the remaining 54 percent were born in the US.

Other information:
Of the 168 HIV cases currently living in Michigan who were co-infected with TB, 131 (78 percent) had pulmonary tuberculosis and 37 (22 percent) had extra-pulmonary tuberculosis (outside of the lung).

As of January 2012, a total of 661 co-infected cases have been definitively diagnosed with HIV and TB, of whom 493 (75 percent) have died. Tuberculosis is one of the opportunistic illnesses (OIs) that defines a person as stage 3 HIV infection, so all persons with a TB diagnosis are stage 3 cases.

Conclusions:
Data on HIV/TB co-infection are gleaned by matching the HIV surveillance data to the TB surveillance data, but these data could still be underreported. The HIV status of 18 percent of active Michigan TB cases tested in 2011 is unknown. Of these, 19 percent refused an HIV test, 71 percent were never offered the test, and 10 percent were reported with an unknown HIV status. This demonstrates a need for education, not only for patients regarding their risk for HIV infection but also for health care practitioners on the need to test for HIV in this population.

2012 Profile of HIV in Michigan (Statewide)

Sexually Transmitted Diseases

Data from Michigan Disease Surveillance System (MDSS)

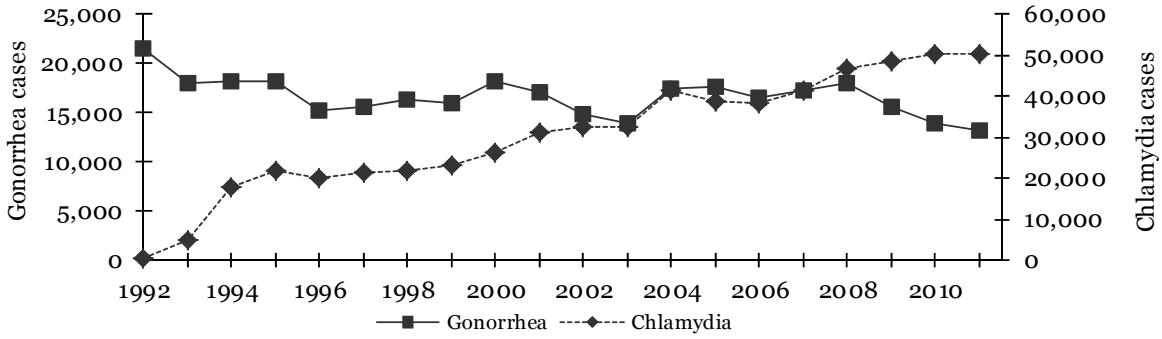
Overview:

Several sexually transmitted diseases (STDs) are more common than HIV infection, have a short incubation period, and are curable. Reviewing their patterns of transmission can provide additional information regarding recent sexual behavior and potential risk not available from HIV data. Studies have shown that the risk of both acquiring and spreading HIV is two to five times greater in people with STDs. Aggressive STD treatment in a community may help to reduce the rate of new HIV infections.

Gonorrhea and chlamydia:

During 2011, there were over 50,000 cases of chlamydia and over 13,000 cases of gonorrhea reported in Michigan (figure 69). For both diseases, the highest rates of infection were among persons ages 20-24. This age group comprises 6.7 percent of the Michigan population but accounted for 34 percent of gonorrhea and 38 percent of chlamydia cases. For chlamydia, the rate among 15-19 year olds is comparable to the 20-24 year old rate. The rates of chlamydia and gonorrhea among black persons were much higher than among white persons (461 vs. 19 cases per 100,000 population for gonorrhea and 1,294 vs. 144 cases per 100,000 for chlamydia). Even though 38 percent of gonorrhea cases and 39 percent of chlamydia cases were missing race information, the rates among black persons remain higher even if all unknown cases were among white persons. Forty-one percent of gonorrhea cases were male; however, approximately 73 percent of reported chlamydia cases were female (table 17, page 111). This is because chlamydia screening specifically targets females (and if more males were screened, we would expect the number of cases detected to increase proportionally).

Figure 69: Michigan gonorrhea and chlamydia cases, 1992-2011



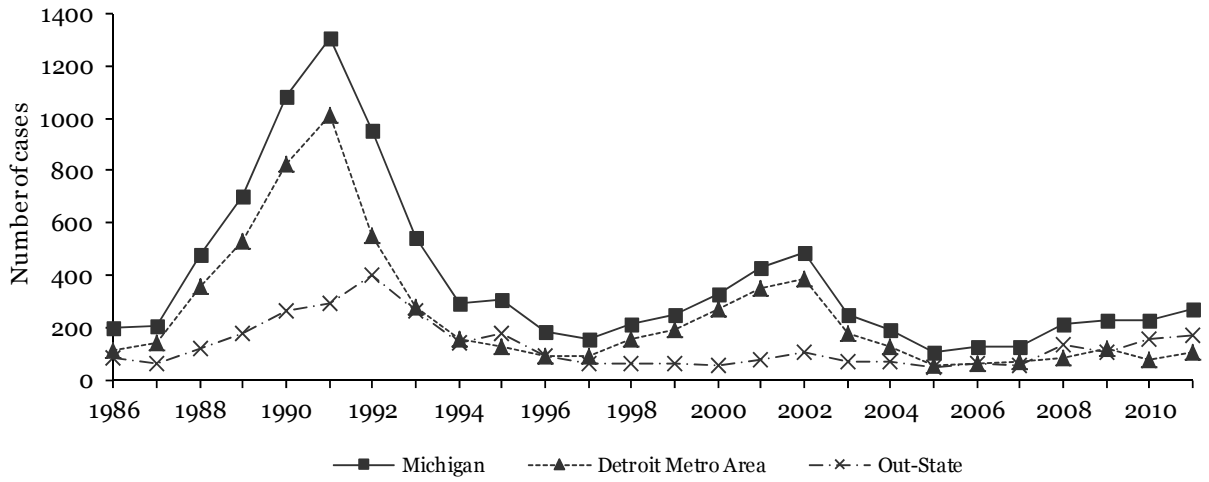
Syphilis:

Figure 70 shows that primary and secondary syphilis were diagnosed less frequently than gonorrhea and chlamydia (273 primary and secondary syphilis cases) in 2011. Syphilis in Michigan and nationally has followed a cyclical trend, increasing every ten years. Major outbreaks occurred in 1991 then decreased until 1997. Reported syphilis cases increased each year in Michigan from 1997 to 2002, peaking at 486 cases. There was a statistically significant downward trend in reported cases during 2002 and 2003, resulting in a nearly 50 percent decrease in reported cases compared to 2002. However, syphilis cases have increased since that time due to general increases in cases among men who have sex with men (MSM), many of whom are HIV-positive, and because of an outbreak in Genesee County in 2008. Approximately 28 percent of cases were reported in those younger than 25 years, representing a trend towards younger syphilis cases. However, an equal percentage of cases (29 percent) are still over the age of 40, representing an older at-risk population as compared to the at-risk population for gonorrhea or chlamydia. Syphilis cases reported in 2011 were 62 percent black and 90 percent male (table 17, page 111).

Sexually Transmitted Diseases

Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

Figure 70: Michigan primary and secondary syphilis cases by region, 1986-2011



Sexual orientation:

Nationwide, there have been increases in STD cases among self-identified MSM. Michigan does not collect data on sexual orientation for all gonorrhea or chlamydia cases. Sexual orientation data are collected for syphilis cases. Of primary and secondary syphilis cases in 2011, approximately 73 percent of male syphilis cases in Detroit and 81 percent of male syphilis cases in the rest of the state were among MSM. Seventy-one percent of Detroit MSM cases were HIV-positive, as were 52 percent of cases outside of Detroit. Between 2001 and 2004, the syphilis epidemic in Detroit was largely heterosexual with the male to female ratio being closer to 1:1, while MSM transmission was prevalent in most other areas. In 2005, the male to female ratio was 3.1:1 in the Detroit area and 6.3:1 in Out-State Michigan. In 2011, the male to female ratio was over 8:1 in Detroit and over 10:1 in Out-State Michigan, showing an increase in the number of male cases compared to female cases. This is a trend that is mirrored nationally and is the focus of prevention efforts around the country (data not shown in tables).

Geographic distribution:

There are several areas in Michigan that consistently report high rates of STDs. For gonorrhea, the highest rates are in the City of Detroit (914), Genesee County (206), Berrien County (143), and Kalamazoo County (140). For chlamydia, the highest rates are in the City of Detroit (3,000), Saginaw County (778), Genesee County (750), and Muskegon County (708). For primary and secondary syphilis, the highest rates are in the City of Detroit (14), Kalamazoo County (6), Delta/Menominee counties (5), and Washtenaw County (3) (table 18, page 112).

HIV/gonorrhea:

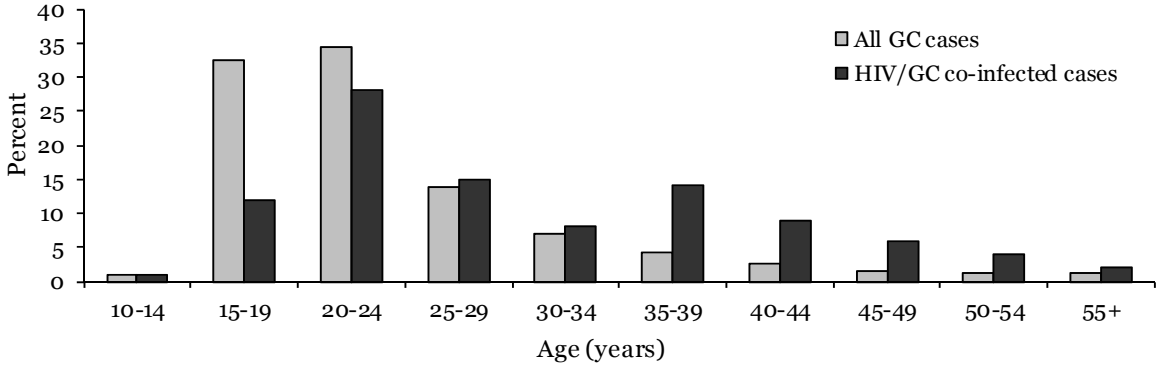
In 2011, 259 of the 13,070 gonorrhea cases were co-infected with HIV (2 percent). More than half of these cases resided in the City of Detroit (60 percent); however, cases were also found in Oakland (15 percent) and Wayne (excluding Detroit) counties (6 percent). Sixty percent of the cases were black and the majority were male (86 percent). The majority of male cases were MSM (77 percent) and diagnosed with HIV prior to 2011 (82 percent); 18 percent were diagnosed with gonorrhea and HIV in the same year. Of the cases diagnosed with both in 2011, 76 percent resided in either the City of Detroit or Oakland County. The age distribution of all gonorrhea cases compared to co-infected cases is shown in figure 71 (data on co-infections not shown in tables).

2012 Profile of HIV in Michigan (Statewide)

STD/HIV Co-infection

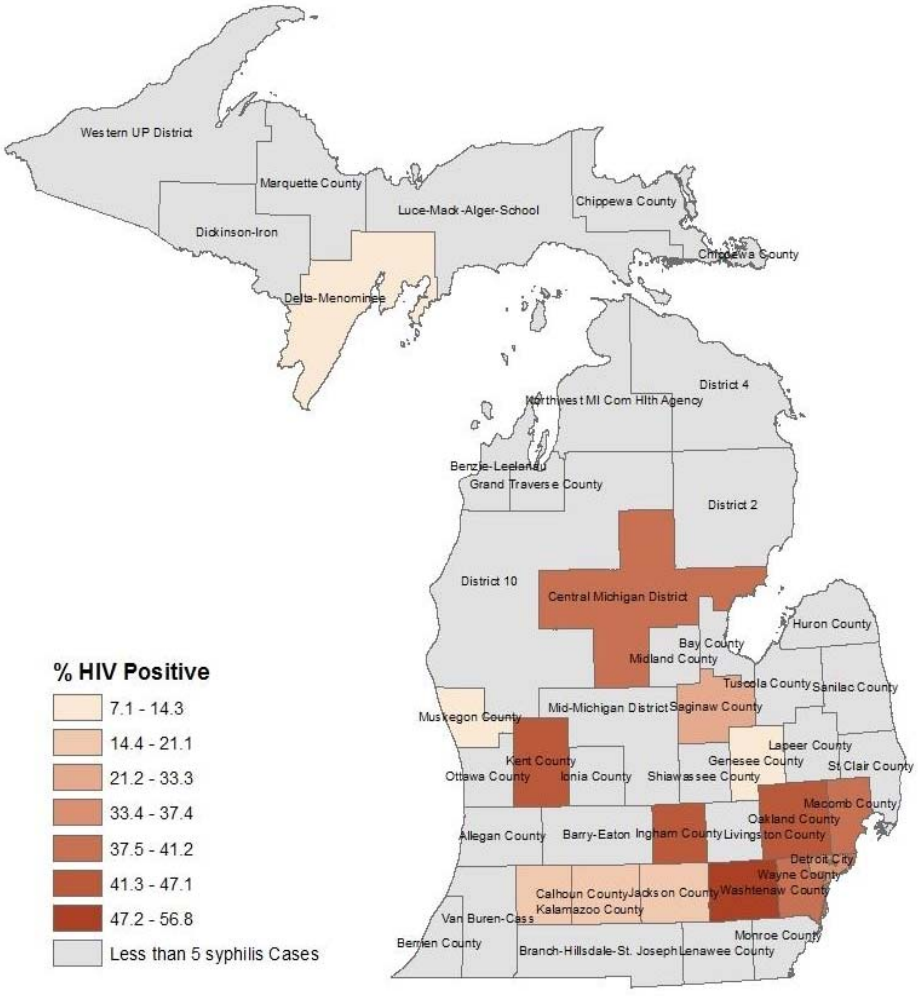
Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

Figure 71: Proportion of gonorrhea (GC) cases and HIV/GC co-infected cases by age at GC diagnosis, 2011



HIV/syphilis:
In 2011, 38 percent of all syphilis cases (including non-infectious cases) were co-infected with HIV, and 47 percent of male syphilis cases were co-infected (compared to 30 percent of all cases and 40 percent of male cases in 2009). Of the co-infected cases in 2011, 48 percent had primary and secondary syphilis. Seventy-two percent were residents of the DMA. Seventy percent were black, 28 percent were white, and two percent were Hispanic. Thirty-five percent were between 20-29 years old. The distribution of co-infected cases by selected county is show in figure 72. Syphilis infections increase the likelihood of acquiring and spreading HIV infection two to five fold.

Figure 72: Proportion of 2011 syphilis cases that are HIV-positive by local health department jurisdiction



Hepatitis C

Data from Michigan Disease Surveillance System (MDSS)

Overview:
Hepatitis C is a disease of the liver caused by infection with the hepatitis C virus (HCV), in which the acute (or newly acquired) infection can progress to a chronic, long-term infection. Hepatitis C is the most common bloodborne infection in the United States and is the leading indicator for liver transplantation.

Fifteen to 25 percent of those acutely infected will resolve the infection on their own. However, the majority of infected people (75 to 85 percent) will develop chronic infection. Disease progression in those chronically infected is variable but can advance from fibrosis to cirrhosis to end-stage liver disease and death. An estimated 60 to 70 percent of hepatitis C-infected individuals are unaware of their infection.

HCV is transmitted primarily through exposure to infected blood through non-intact skin, which can result from sharing infected equipment during injection-drug use, needle-stick injuries, receipt of blood or blood products before the availability of a standard screening test in 1992,and inadequate infection control in health care settings. Much less often, HCV transmission occurs as a result of sexual contact with an HCV-infected partner and among infants born to HCV-infected mothers. No vaccine for hepatitis C exists, but major advancements have recently been made in the treatment of HCV, leading to a nationwide push to increase HCV testing in those individuals born between 1945 and 1965 and others at risk for infection.

Acute hepatitis C:
In 2011, 31 cases of acute hepatitis C were reported statewide in Michigan (table 19, page 113). Fifty-two percent of acute cases were among males, while 48 percent were among females. Ethnicity is not consistently collected for hepatitis C cases; therefore, we cannot provide a measure of infection among Hispanic or non-Hispanic persons. Additionally, the race/ethnicity of the client was unknown in 19 percent of reported acute cases. Due to small numbers, rates are unavailable for cases of acute hepatitis C in 2011.

Chronic hepatitis C:
In 2011, 6,991 cases of chronic hepatitis C were reported statewide in Michigan (table 19), a rate of 71 cases of chronic hepatitis C per 100,000 Michigan residents. Sixty-three percent of chronic cases were among males while 36 percent were among females. The rate of chronic hepatitis C in Michigan was the highest among multiracial persons (99 per 100,000) and black persons (98 per 100,000), compared to 35 per 100,000 in white persons (figure 73). However, these rates must be viewed with caution as the race/ethnicity of the client was unknown in 36 percent of reported chronic cases.
The highest rate of chronic hepatitis C was found in the 55-64 year age group (figure 74). The lowest rates were among persons 15-19 years and those 65 years and over.

Hepatitis C

Data from Michigan Disease Surveillance System (MDSS)

Figure 73: Rates of chronic hepatitis C among Michigan residents by race/ethnicity, 2011

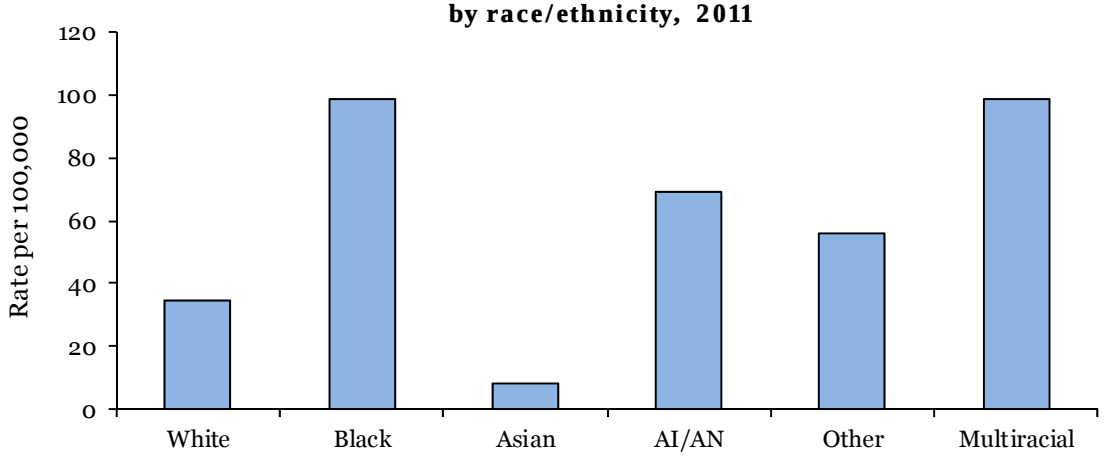
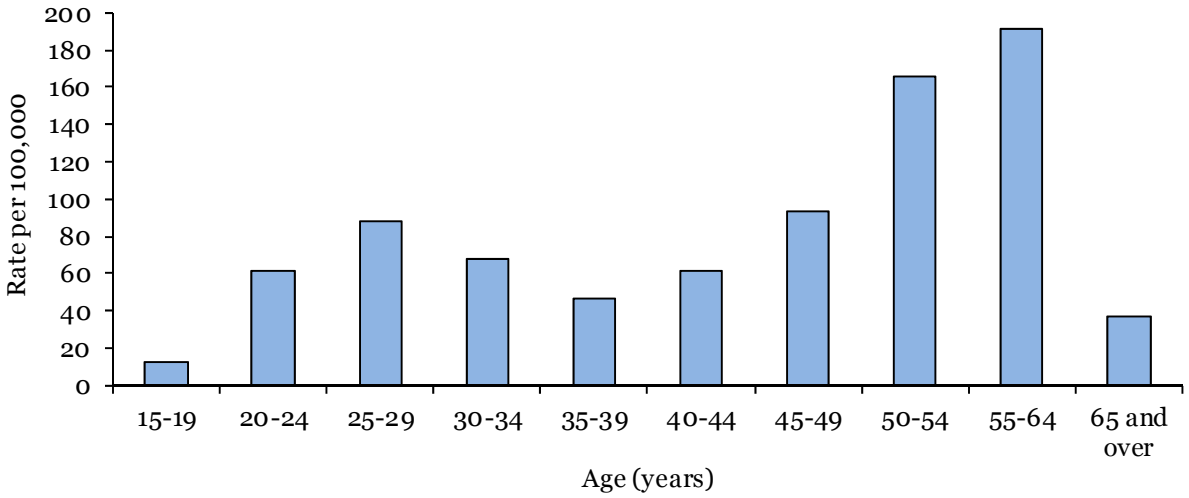


Figure 74: Rate of chronic hepatitis C among Michigan residents by age, 2011



Please note that chronic hepatitis C data must be interpreted with caution. These data do not represent the incidence or prevalence of chronic hepatitis C in Michigan; rather, the data represent an aggregate of newly diagnosed cases reported to local health departments by laboratories and healthcare providers. Although these cases were newly diagnosed in 2011, the patient may have been chronically infected with hepatitis C for years but remained undiagnosed until 2011.

Limitations of the data:

Since acute and chronic hepatitis C infections are often asymptomatic and can remain undetected and unreported for years, the official number of reported cases is much lower than the actual number of cases. An estimated 3.2 million persons in the United States have chronic hepatitis C virus infection. Most people do not know they are infected because they do not look or feel sick.

2012 Profile of HIV in Michigan (Statewide)

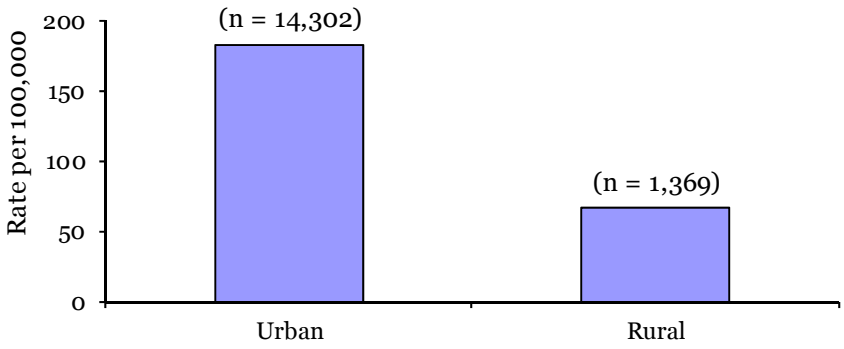
Special Populations: Rural HIV

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Using the U.S. Census Bureau's definitions, MDCH classified counties as urban or rural. For the purpose of this publication, a county was considered "urban" if any part of a Metropolitan Statistical Area (MSA) was within that county or had high commuter exchange with a county. For example, the city of Kalamazoo is in Kalamazoo County and also has substantial commuting exchange with Battle Creek, which is in Calhoun County. Therefore, the counties of Kalamazoo and Calhoun are both considered "urban". Please see appendix B on page 227 for a more detailed explanation of urban/rural categorization of Michigan counties. Cases residing in urban counties make up 91 percent of all HIV cases currently living in MI, while rural cases constitute nine percent. Conversely, 21 percent of Michigan's population reside in rural counties, indicating urban counties are disproportionately impacted by HIV (data not shown in tables). The HIV prevalence rate in urban counties is 183 cases per 100,000 population, three times the rate in rural areas (66 cases per 100,000) (figure 75).

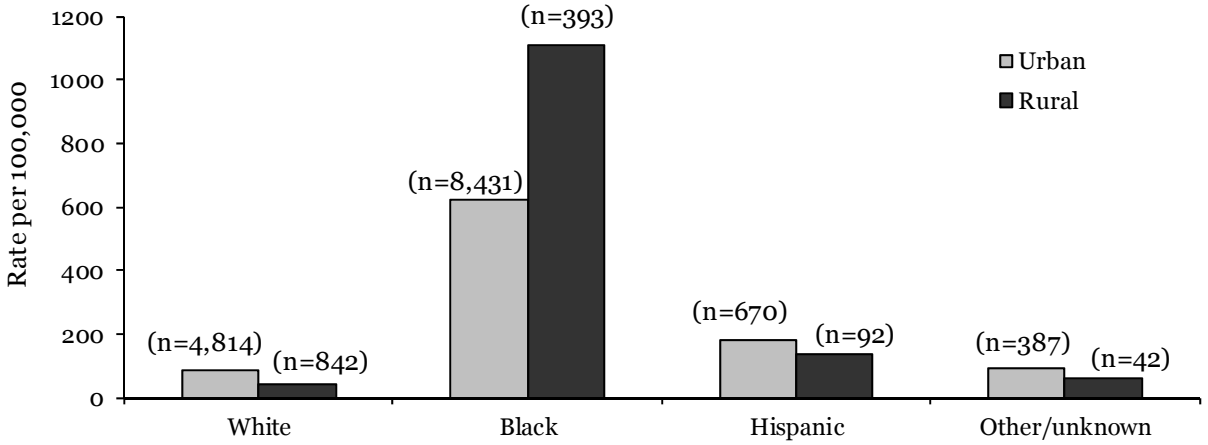
Figure 75: Prevalence rates of persons living with HIV infection in Michigan in urban vs. rural counties, January 2012



Race/ethnicity:

Figure 76 shows that in Michigan, the highest rates of HIV occur among black persons, regardless of whether they live in urban or rural counties. Despite the fact that the largest proportion of cases in rural counties are white, the rates are highest among black persons. The rate among black persons in rural counties is almost two times higher than the rate among blacks in urban counties (1,111 per 100,000 vs. 625 per 100,000), indicating that rural blacks are more impacted by the epidemic than blacks in urban counties.

Figure 76: Prevalence rates of persons living with HIV in urban vs. rural counties of Michigan by race/ethnicity, 2012



2012 Profile of HIV in Michigan (Statewide)

Special Populations: Rural HIV

Data from enhanced HIV/AIDS Reporting System (eHARS)

Risk:

Figures 77 and 78 show that in Michigan's urban and rural counties, there is little difference with respect to the risk distribution among people living with HIV. However, the proportion of MSM/IDU is almost twice as high in rural counties as in urban counties. The proportion who reported heterosexual contact is lower in rural counties than in urban counties.

Figure 77: Persons living with HIV infection in urban counties of Michigan by risk transmission category, January 2012 (n = 14,302)

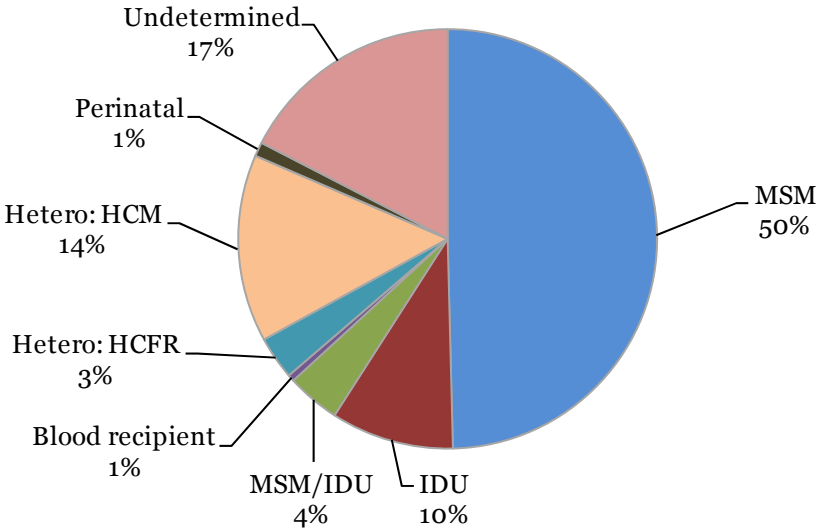
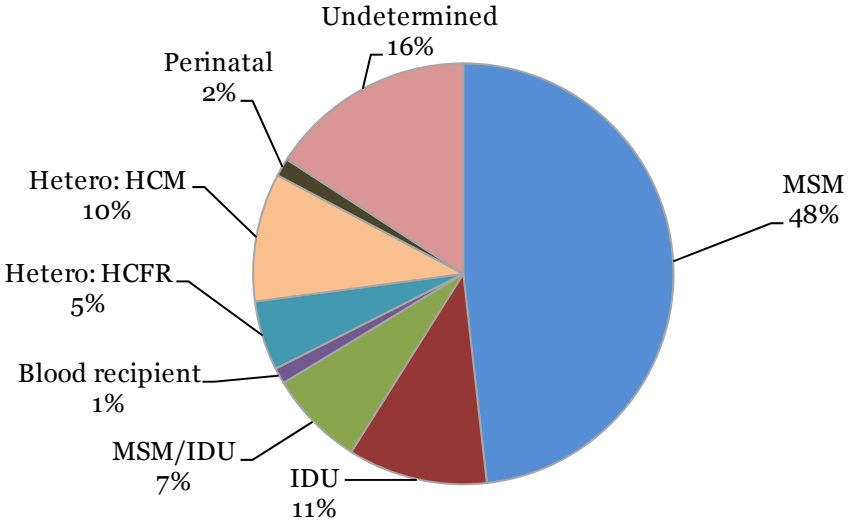


Figure 78: Persons living with HIV infection in rural counties of Michigan by risk transmission category, January 2012 (n = 1,369)



2012 Profile of HIV in Michigan (Statewide)

Special Populations: Incarcerated Persons

Data from enhanced HIV/AIDS Reporting System (eHARS) & Michigan Department of Corrections

Overview:
From 1989 to present, a cumulative total of 1,939 prisoners have been confirmed with HIV infection. Some were diagnosed prior to incarceration, many were first diagnosed upon intake to prison, and others were diagnosed while in prison. A total of 793 HIV-positive inmates (41 percent) are known to have died either while in or after release from prison. This section describes the 363 HIV-positive inmates known to be incarcerated at state facilities as of January 2012.

General Michigan prison population:
As of January 1, 2012, there were 42,737 prisoners in Michigan Department of Corrections (MDOC) facilities, 938 (two percent) of whom were less than 20 years old. Since 1989, all prisoners have been tested for HIV infection and other infectious diseases upon intake to state correctional facilities. Currently, 0.8 percent of all prisoners are HIV-positive; among prisoners under 20 years of age, the proportion is currently lower (0.1 percent). Between 2010 and 2012, the proportion of persons living with HIV in the overall prison population did not change (0.9 percent vs. 0.8 percent, respectively), while the proportion among prisoners less than 20 years old decreased from 3.6 percent to 0.1 percent (data not shown in tables).

Race/ethnicity and sex:
Ninety-three percent of currently incarcerated HIV-positive persons are male. Most (77 percent) HIV-positive prisoners are black, 18 percent are white, two percent are Hispanic, and two percent are of other or unknown race. Of the 341 HIV-positive male prisoners, the majority (78 percent) are black. Among the 22 females currently living with HIV in prison, 55 percent are black and 36 percent are white (table 20, page 114).

Age at HIV diagnosis:
The majority of HIV-positive males currently in prison and living with HIV were diagnosed between the ages of 25 and 39 years (61 percent), consistent with the statewide HIV-positive population. Females had a higher proportion who were diagnosed in their twenties than did males, who were more likely to be diagnosed in their thirties (table 21, page 115).

Risk:
Forty-seven percent of HIV-positive black male prisoners reported a risk of male-male sex (MSM), including those who reported male-male sex and injected drugs (MSM/IDU) (figure 79). The proportion who were MSM/IDU was 12 percent, which is over twice as high as the proportion who are MSM/IDU in the statewide HIV-positive black male population (5 percent). Twenty-seven percent had injected drugs (including MSM/IDU), which is also higher than their counterparts in the statewide HIV-positive black male population (15 percent) (table 11, page 105). Eleven percent reported heterosexual contact with partners with known risks for HIV (HCFR). Twenty-six percent had undetermined risk.

Figure 80 shows that among HIV-positive white male prisoners, 54 percent reported male-male sex (including MSM/IDU). Thirty-three percent injected drugs (including MSM/IDU), which is over three times higher than the statewide HIV-positive white male population (10 percent). Another seven percent indicated they had heterosexual contact with partners with known risks for HIV (HCFR). Seventeen percent had undetermined risk (table 20, page 114).

Special Populations: Incarcerated Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 79: Black males living with HIV infection in prison by risk transmission category, January 2012 (n = 267)

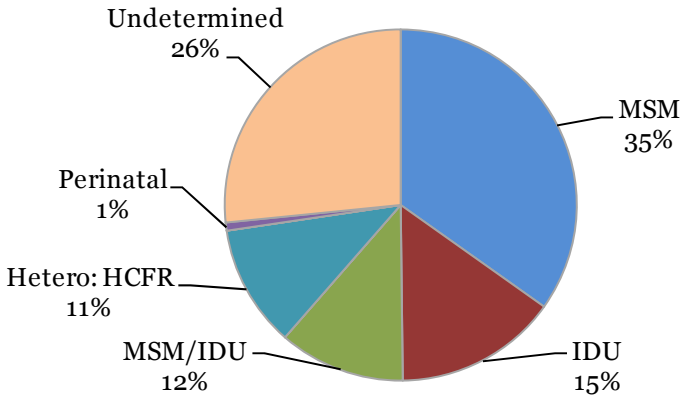


Figure 80: White males living with HIV infection in prison by risk transmission category, January 2012 (n = 59)

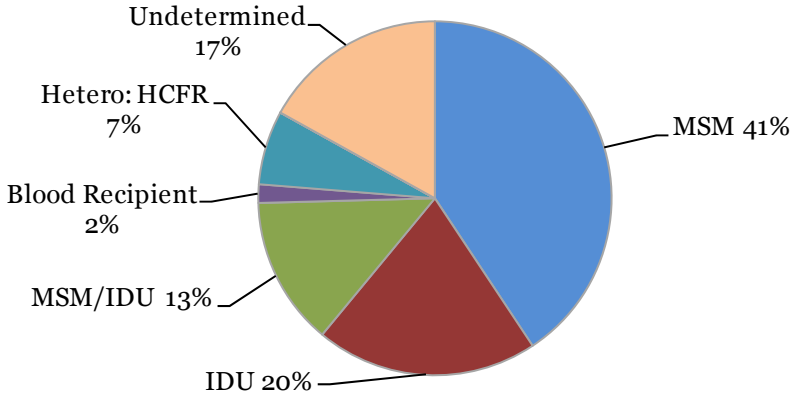
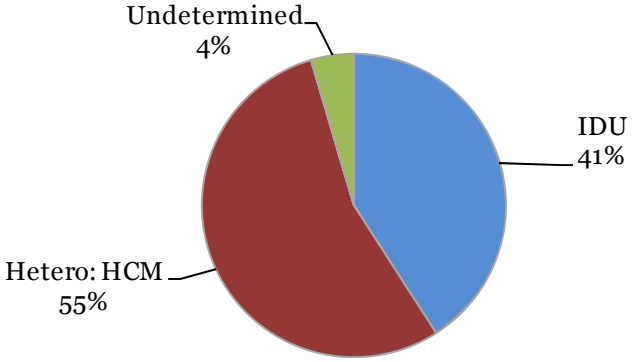


Figure 81 shows that most HIV-positive female prisoners (55 percent) had a risk of heterosexual contact. Forty-one percent were injection drug users (IDU). This is over twice as high as the proportion of IDU cases among HIV-positive females statewide (table 11, page 105).

Figure 81: Females living with HIV infection in prison by risk transmission category, January 2012 (n = 22)



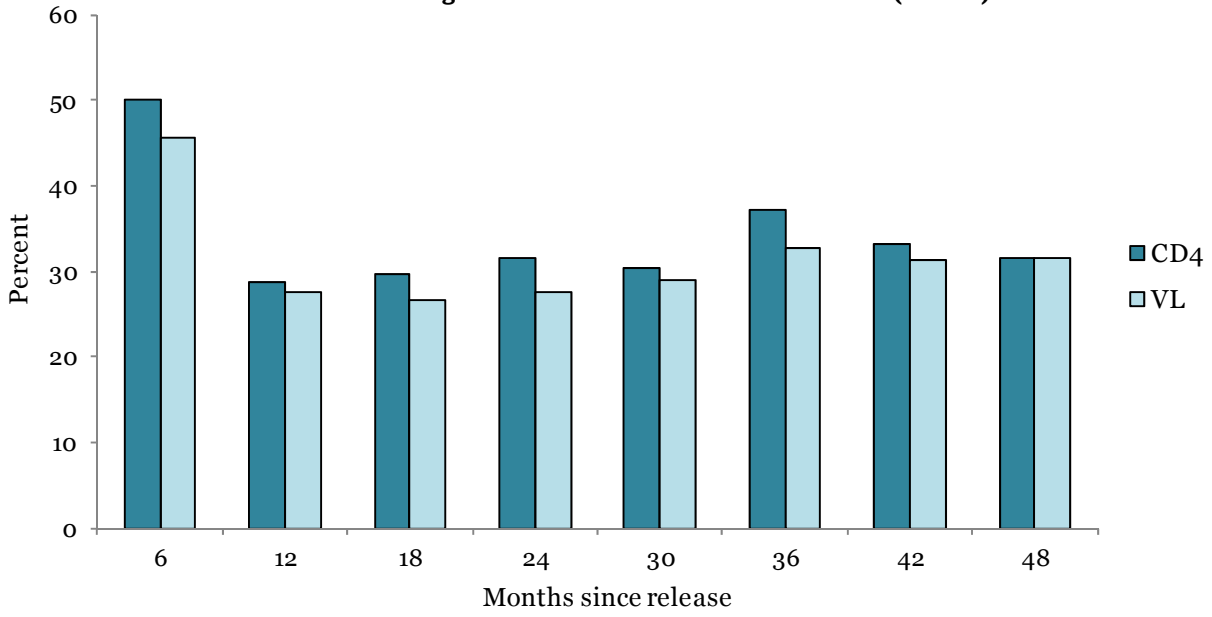
Special Populations: Incarcerated Persons

Data from the Evaluation of the AIDS Partnership Michigan Community Re-entry Program

In 2011, the state commissioned an evaluation of its centralized intake re-entry program, which is designed to facilitate linkage to care for HIV-positive prisoners who are about to be released from prison. The evaluation used data from a variety of sources to determine how well the ex-offenders who had used the program were faring three or more years after release. The evaluation focused on the health statuses (in 2011) of 190 ex-offenders who were released from prison between May 2003 and May 2008. Data sources used include CAREWare, vital records, and face-to-face interviews with 60 HIV-positive ex-offenders throughout the state.

Among the 190 persons who had used the centralized re-entry program, 23 percent were re-incarcerated at the time the study was conducted and 17 percent were deceased. Receiving care routinely was defined as having CD4 counts and viral loads monitored once every six months. Data from CAREWare indicate that the majority of the ex-offenders who have not died or are not re-incarcerated have not received routine HIV care since they were released.

Figure 82: Proportion of re-entry clients with CD4 and viral loads recorded among those ever listed in CAREWare (n=119)



Note: Persons who were re-incarcerated or died were removed from the denominators of the six month intervals after the event occurred.

Figure 82 shows the proportion of clients who were ever listed in CAREWare (63 percent of total) who had a CD4 and viral load recorded within each six month period after their date of release, taking into account timing of re-incarcerations and deaths. As these data show, among those with a clinical record in CAREWare, engagement in care declined after the first six months following release, with roughly 27-38 percent of ex-offenders engaged in care after the initial six month period. Regarding actual lab values, only 16-39 percent of the viral loads recorded were undetectable at each time period.

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Incarcerated Persons

Data from the Evaluation of the AIDS Partnership Michigan Community Re-entry Program

Sixty ex-offenders participated in face-to-face interviews. Most were black (85 percent; 13 percent white, 2 percent Latino) and male (96 percent; 2 percent female, 2 percent transgender). A majority identified as heterosexual (65 percent; 17 percent gay, 13 percent bisexual, 5 percent other). Their average level of educational attainment was high school (22 percent less than high school, 33 percent high school, 40 percent some college, 3 percent associates' degree, 2 percent college degree). The average age was 46.7 years old. The average length of most recent incarceration was 6.1 years. A majority resided in the Detroit Metropolitan Area (62 percent).

Employment, income, and housing were major obstacles to care. At the time of the interview, 82 percent were unemployed. Among those who worked, only 46 percent were employed full time. The median monthly household income from all sources was $874; 75 percent of the population earned less than $1,299 per month. Sixty-five percent had been homeless at least once since their release. Respondents reported that their first homeless episode lasted, on average, 375 days. Forty-seven percent were not satisfied with their current housing, typically because it was too costly, located in an inconvenient or dangerous area, or in poor condition.

Most respondents (85 percent) had a place they could go to access routine care, with a majority of individuals citing public and Veterans' Administration (VA) clinics (92 percent). Eighty percent indicated they had CD4 and viral loads checked within the prior six months. However, CAREWare data indicated that 27 percent had no tests ever recorded and 66 percent had no CD4 or viral load values recorded in the six month period preceding their interview. Eighty-seven percent had a prescription for highly active anti-retroviral therapy (HAART), but 59 percent reported forgetting to take their medications. On average, respondents reported they took 82 percent of their medication. Side effects and worrying that others would discover they were HIV-positive were leading concerns about taking medications. Taking medications was described as depressing and as a reminder that they were not "normal like everyone else".

Disclosure was a major concern. Thirty-one percent had not told health professionals other than those involved in their HIV care that they were HIV-positive. Although most were sexually active (71 percent), half had not told their sexual partners about their status. Some had not told their spouse. Among those who were sexually active in the prior 90 days, 27 percent reported they had not used condoms consistently for vaginal sex and 50 percent reported not they had not used condoms consistently for anal sex; 36 percent said they never used condoms for anal sex.

Although problems with housing, employment, and transportation were cited as factors that interfered with daily functioning by a sizeable minority of respondents, mental illness was the top-listed problem that interfered with daily functioning, with 58 percent citing mental health as an issue. On the CES-D, a validated measure of depression, 63 percent scored above the clinical cutoff for distress. In the general population, 20 percent of people would be expected to score in this range.

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Arab Americans

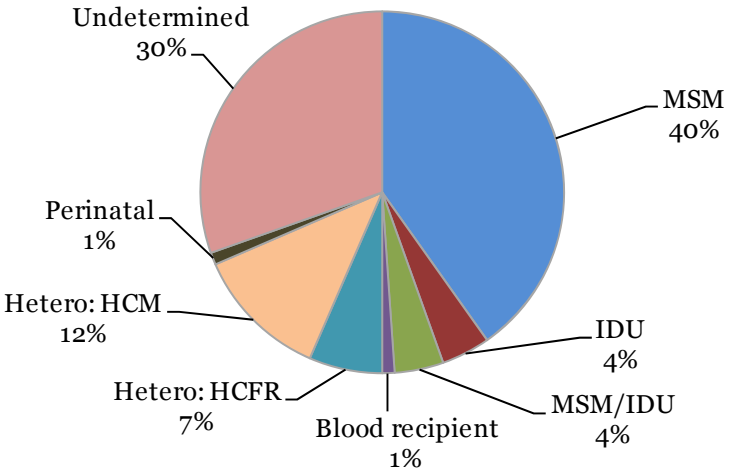
Data from enhanced HIV/AIDS Reporting System (eHARS)

Arab is considered an ethnicity and not a racial category and has not been routinely collected by the HIV surveillance system. Consequently, the numbers presented here are an underestimate. Beginning in the year 2001 and at the request of an Arab community-based organization, a question was added about Arab ethnicity on the HIV/AIDS Adult case report form that reads, "Does this patient consider him or herself Arab?". For additional data on Arab Americans living with HIV in Michigan, please see tables 23 and 24, pages 117-118.

In Michigan, the largest concentration of Arab Americans is in the Detroit Metro Area (DMA). This is also where most of the HIV infections among Arab persons were diagnosed. A total of 126 persons of Arab descent have ever been diagnosed with HIV and confidentially reported to MDCH. Of these, 92 persons are living; 57 percent have progressed to stage 3 infection. Of those currently living, counties of residence of HIV diagnosis include Wayne (43 percent), Oakland (28 percent), and Macomb (19 percent) counties. The remaining 10 percent were diagnosed in Chippewa, Ingham, Jackson, Kalamazoo, Kent, St. Clair, and Washtenaw counties or were diagnosed out of state or have an unknown residence at diagnosis (data not shown in tables).

Eighty-four percent of HIV infection cases of Arab descent are among males and 16 percent are among females. Forty-four percent of cases reported male-male sex (including MSM/IDU). Eighteen percent of cases had a risk of heterosexual contact (HC), of whom sixty-five percent are females. Thirty percent have undetermined risk (figure 83).

Figure 83: Arab persons living with HIV infection in Michigan by risk transmission category, January 2012 (n = 92)



The age at HIV diagnosis is similar to the age distribution for all cases in Michigan, with five percent ages 0-19, nine percent 20-24, 23 percent 25-29, 33 percent 30-39, 23 percent 40-49, four percent 50 – 59, and two percent ages 60 and older.

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Arab Americans

Data from U.S. Census Bureau &
ACCESS, Community Health & Research Center

Within the U.S., the largest concentration of Arab Americans lives in Dearborn, Michigan. This ethnic group constitutes less than two percent of the Michigan population but 42 percent of the population in Dearborn. Studies show that being foreign-born makes someone more likely to face barriers to access to health care services, particularly HIV care (http://hab.hrsa.gov/newspublications/careactionnewsletter/may2010.pdf). Since approximately 75 percent of Arab Americans living in Dearborn were born outside of the U.S., it is important to focus HIV prevention and care efforts among this group.

From October 2003 through July 2005, the Arab Community Center for Economic and Social Services (ACCESS) conducted 15 rounds of focus group discussions with men in the Arab American community identifying as gay or bisexual. Approximately 95 percent of attendees were Arab or Chaldean and were residents of Detroit, Dearborn, and other areas of Metro Detroit. A few were residents of Toledo, OH and Toronto, ON. The age of the attendees ranged from 13 to 58. From October 2002 through September 2004, the majority of attendees were older than 25; however, from October 2004 through July 2005 the majority were men under 25 years of age.

These focus groups allowed participants to freely discuss concerns surrounding being a gay or bisexual male in the Arab community. About 80 percent of attendees rarely negotiated safer sex practices with their partners, stating that barriers were a lack of negotiating skills and exchanging sex for money, drugs, or gifts. The attendees were also afraid of getting tested for HIV for fear of the results and backlash from family and community. This discussion also uncovered a belief that if men only have sex with other Arabic or Chaldean men, they have no risk for contracting HIV.

Additionally, these participants discussed their desire for more social networks among gay Arab males, which they felt would allow for more opportunities to deliver prevention, education, and counseling on risk behaviors.

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Asians and Native Hawaiians/Other Pacific Islanders

Data from enhanced HIV/AIDS Reporting System (eHARS)

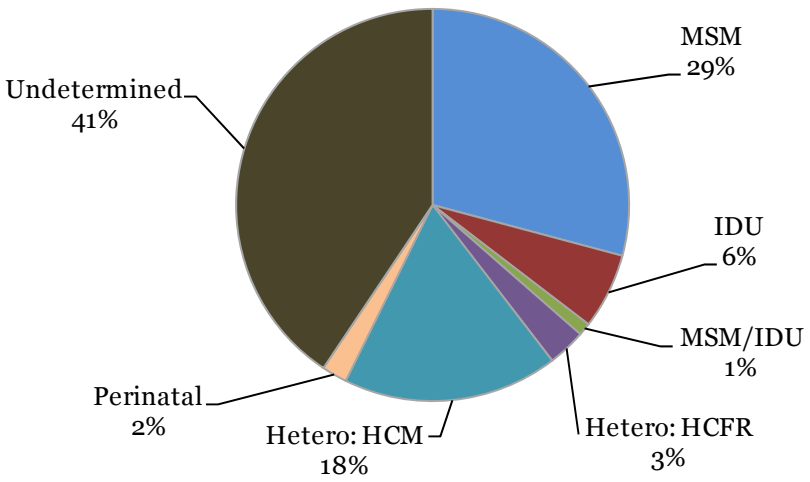
In this report Asians and Native Hawaiians/Other Pacific Islanders (A/NH/OPI) are combined into one racial/ethnic category. This group makes up one percent of those living with HIV infection in Michigan and two percent of the general population of Michigan (table 8, page 101). For more data on A/NH/OPI persons living with HIV in Michigan, please see tables 25 and 26 on pages 119-120.

MDCH estimates that there are approximately 130 A/NH/OPI persons living with HIV in Michigan. Of the 96 reported living cases, 47 percent are HIV non-stage 3 and 53 percent are stage 3. Of those who have progressed to stage 3 infection, 55 percent were diagnosed with stage 3 at the time of their initial HIV diagnosis. This is higher than the proportion of all late diagnoses (42 percent), suggesting that A/NH/OPI persons test later than persons living with HIV statewide overall.

Fifty percent of this population live in the Detroit Metro Area (DMA), where most of the cases were living when they were diagnosed. Those living in the DMA reside in the city of Detroit and Oakland, Wayne, and Macomb Counties. Those living in Out-State Michigan reside primarily in Ingham, Kent, and Calhoun Counties.

Seventy-three percent of A/NH/OPI cases are among males and 27 percent are among females. The majority of cases (41 percent) had an undetermined risk for HIV infection (figure 84). The next largest proportion had a risk of male-male sex (MSM, including MSM/IDU). Eighteen percent were females who had sex with males (HCM), and seven percent were injection drug users (including MSM/IDU).

Figure 84: Asian and Native Hawaiian/Other Pacific Islander persons living with HIV infection in Michigan by risk transmission category, January 2012 (n = 96)



The age at HIV diagnosis was similar to the age distribution for all cases in Michigan, with five percent diagnosed between the ages of 0 and 19, 11 percent 20-24, 30 percent 25-29, 32 percent 30-39, 19 percent 40-49, and two percent 50 –59. None were diagnosed past the age of 59. A larger proportion of HIV-positive A/NH/OPI persons were 25-29 at HIV diagnosis compared to the rest of the HIV-positive population in the state (30 percent vs. 17 percent, respectively).

2012 Profile of HIV in Michigan (Statewide)

Special Populations: American Indians and Alaska Natives

Data from enhanced HIV/AIDS Reporting System (eHARS)

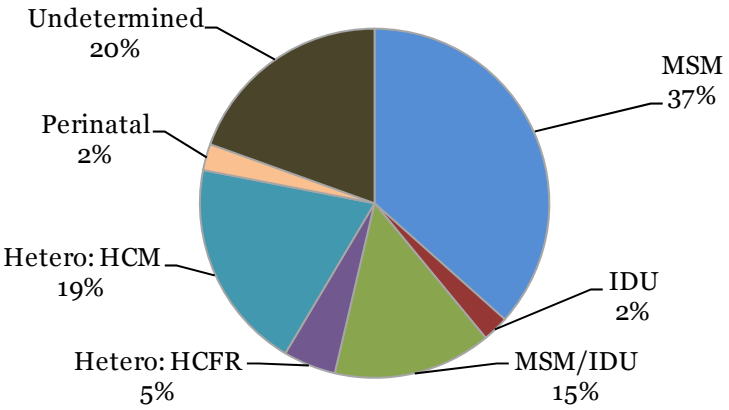
In this report, American Indians and Alaska Natives (AI/AN) are combined into one racial/ethnic category. This group makes up less than one percent of those living with HIV in Michigan and one percent of the general Michigan population (table 8, page 101). American Indians and Alaska Natives may not be recorded as such in their medical records. Therefore, the information presented here should be viewed as the minimum number of AI/AN persons living with HIV infection in Michigan. For more data on AI/AN persons living with HIV in Michigan, please see tables 27 and 28 on pages 121-122.

MDCH estimates that approximately 50 AI/AN persons are living with HIV infection in Michigan. Of the 41 reported cases, 63 percent are HIV, non-stage 3, and 37 percent are stage 3 HIV infection. The proportion of AI/AN who have progressed to stage 3 infection is lower than the proportion diagnosed with stage 3 among all persons living with HIV statewide (54 percent). Of those who have progressed to stage 3, 27 percent were diagnosed with stage 3 at the time of their initial HIV diagnoses. This is lower than the proportion of all cases with late HIV diagnoses (44 percent).

Over half of AI/AN case live in Out-State Michigan (59 percent), residing in a variety of northern lower peninsula and upper peninsula counties as well as Kent, Ingham, Eaton, Jackson, and Washtenaw Counties. Those residing in the Detroit Metro Area live in the City of Detroit, Oakland, Wayne, and Macomb Counties.

Seventy-eight percent of the cases are among males and 22 percent are among females. Fifty-two percent of cases had a risk of male-male sex (MSM), including MSM/IDU (figure 85). The proportion who were MSM/IDU is 15 percent, which is higher than in the overall HIV-positive population. Nineteen percent of cases were females who had sex with males (HCM). Twenty percent of cases had undetermined risk.

Figure 85: American Indian and Alaska Native persons living with HIV infection in Michigan by risk transmission category, January 2012 (n = 41)



The age at HIV diagnosis among AI/AN persons was similar to the age distribution for all cases in Michigan, with two percent diagnosed between the ages of 0-12, 27 percent 20-24, 10 percent 25-29, 46 percent 30-39, 12 percent 40-49, and two percent ages 60 and older. The main differences are that more HIV-positive AI/AN persons were 20-24 when diagnosed compared to the overall Michigan HIV-positive population (27 percent versus 14 percent, respectively), and more were diagnosed in their 30s (46 percent AI/AN compared to 35 percent all cases).

2012 Profile of HIV in Michigan (Statewide)

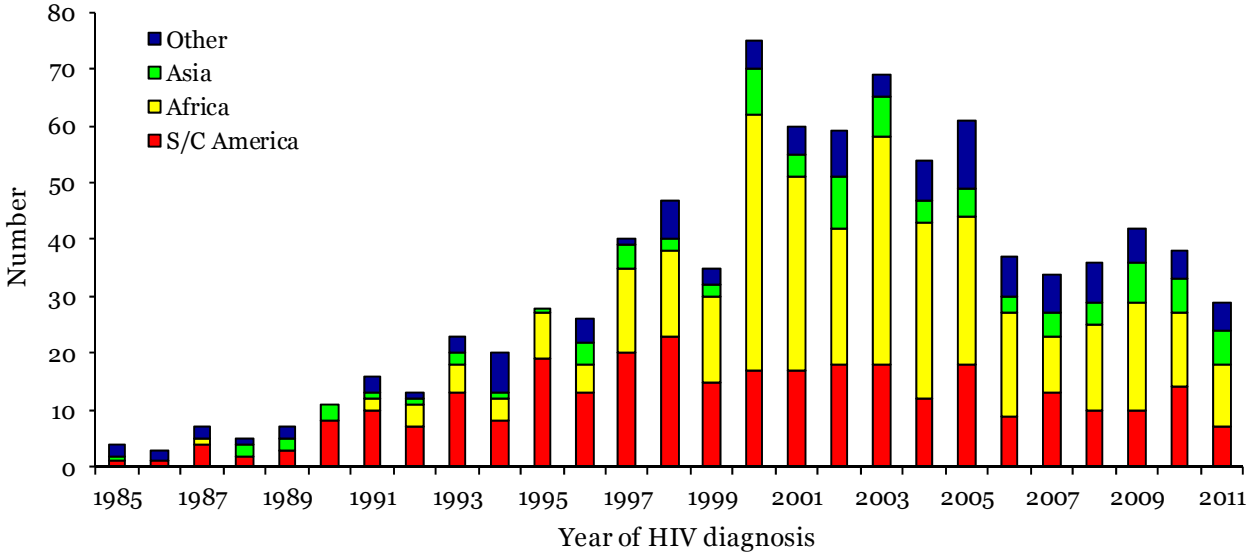
Special Populations: Foreign-born Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and trends:

While the majority of HIV infection in Michigan is among persons born in the US (71 percent of all living cases), almost one-quarter (24 percent) have a missing or unknown country of birth. Six percent (n=880) of the total number of HIV infection cases currently living in Michigan were born in a country other than the US (foreign-born). Due to the high proportion of missing data, this is considered to be a minimum estimate of the number of foreign-born persons living with HIV in MI and must be interpreted with caution. Data on HIV-positive foreign-born persons is not shown in tables.

Figure 86: HIV diagnoses among foreign-born persons living in Michigan by year of diagnosis and birth country, January 2012 (n = 880)

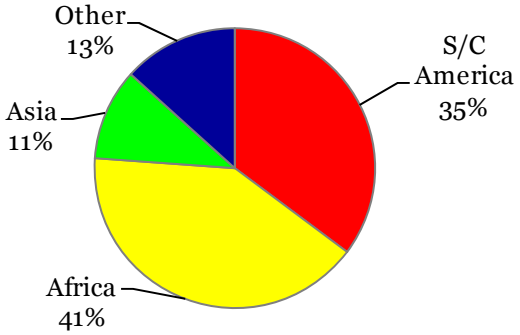


The Immigration and Nationality Act was updated in 1999. This allowed HIV-positive refugees to enter the US. From 1999 to 2000, Michigan experienced a 110 percent increase in HIV diagnoses among foreign-born individuals, which was likely an effect of the updated Act. The number of HIV infections diagnosed in Michigan among foreign-born individuals increased from 14 cases in 1985 to 31 cases in 2011, with a peak of 84 cases in 2000 (figure 86). The majority of these persons were born in Africa and South and Central America, including Mexico (S/C America). Prior to 2000, the largest proportion of foreign-born persons were born in S/C America, but this shifted in 2000 to those born in Africa.

Birth country:

Figure 87 shows that 39 percent of foreign-born persons living with HIV in Michigan were born in S/C America; 33 percent were born in Africa; 11 percent were born in Asia; and 17 percent were born in other countries.

Figure 87: Birth country of foreign-born persons living with HIV infection in Michigan, January 2012 (n = 880)



2012 Profile of HIV in Michigan (Statewide)

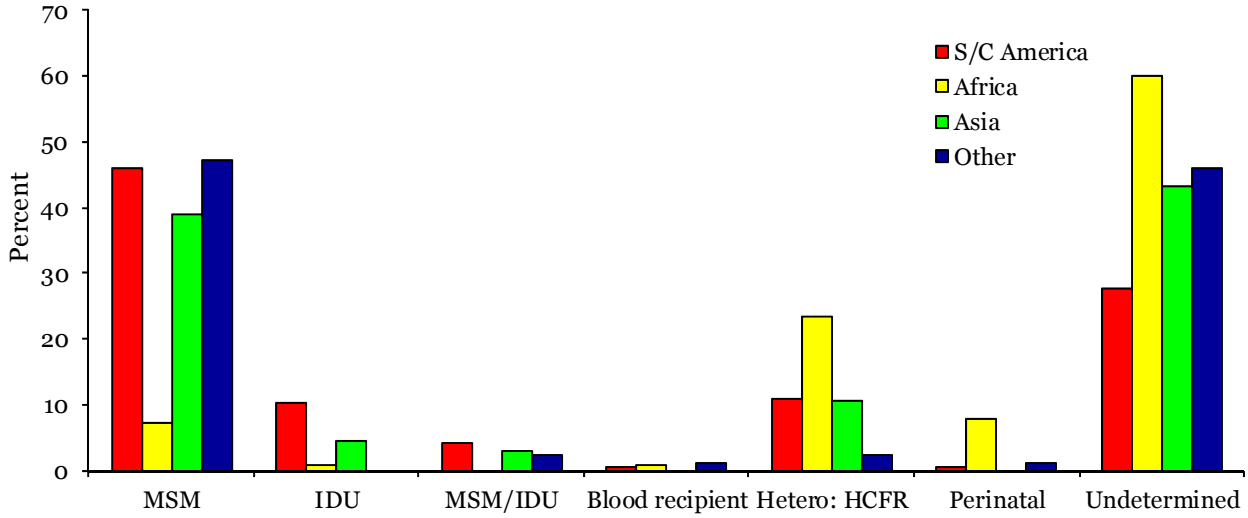
Special Populations: Foreign-born Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

Risk:

Risk differs for foreign-born persons based on country of birth. Figures 88 and 89 show risk among foreign-born males and females. Of all regions, S/C America most mirrors risk in the U.S. Among males born in S/C America, half had male-male sex (MSM), including MSM/IDU. Ten percent injected drugs (IDU), and 11 percent had sex with females with known risks for HIV (HCFR). Twenty-eight percent had undetermined risk. Among cases born in Africa, the majority of male cases have undetermined risk (60 percent). These are likely MSM or males who had sex with females of unknown risk/ HIV status. Twenty-four percent had sex with females with known risk (HCFR), and just seven percent were MSM. Eight percent were infected perinatally. Males born in Asia also had a high proportion with undetermined risk (43 percent), but a larger proportion were MSM (42 percent, including MSM/IDU). Ten percent were HCFR, and four percent were IDU. Males born in other countries were almost evenly split between undetermined risk and MSM (46 percent vs. 49 percent, respectively).

Figure 88: Foreign-born males living with HIV infection in Michigan by risk transmission category and birth country, January 2012 (n = 552)

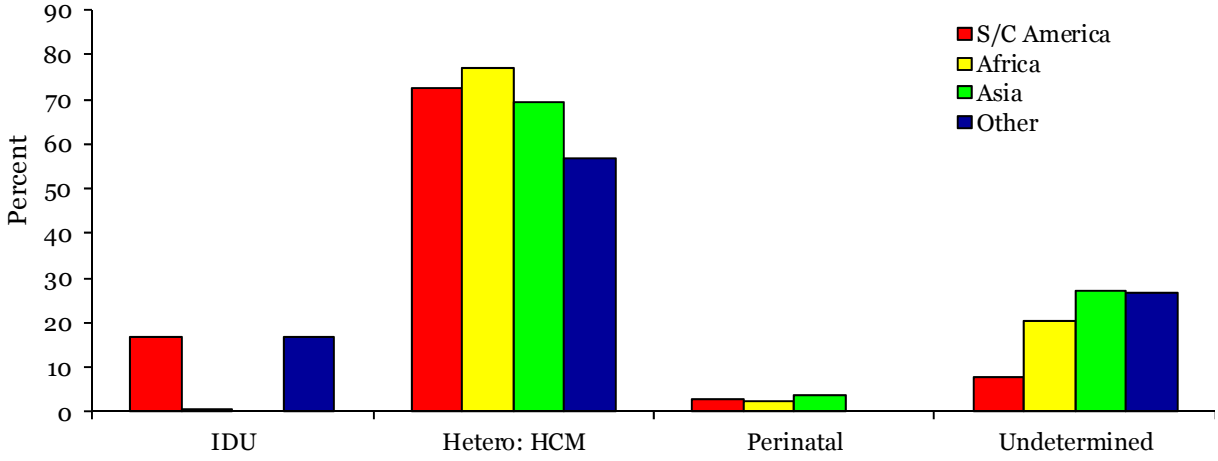


As with males, the risk pattern among female foreign-born persons differs based on birth country (figure 89). Seventy-two percent of females born in S/C America had a risk of heterosexual contact (HCM), and 17 percent were IDU. Eight percent were undetermined risk, and three percent were infected perinatally. Over three-quarters of females born in Africa had a risk of heterosexual contact (HCM). Twenty percent had an undetermined risk, and almost none were IDU. Two percent were infected perinatally. Females born in Asian countries were also largely HCM (69 percent). Twenty-seven percent had undetermined risk, and four percent were infected perinatally. None were IDU. Females born in other countries had risks most similar to those born in S/C America, although they had a much larger proportion with undetermined risk (27 percent) and less HCM (57 percent).

Special Populations: Foreign-born Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 89: Foreign-born females living with HIV in Michigan by risk transmission category and birth country, January 2012 (n = 328)



Race/ethnicity and sex:

As would be expected, the racial breakdown of foreign-born individuals differs depending on the country of birth. African-born individuals are almost entirely black (98 percent). Persons born in S/C America are 84 percent Hispanic, 12 percent black, and four percent white, while persons born in Asia are 52 percent Asian/Native Hawaiian/Other Pacific Islander, 42 percent white, two percent black, and three percent other or unknown race. Persons born in other countries were 42 percent white, 38 percent black, and nine percent Hispanic.

Overall, 63 percent of foreign-born persons currently living with HIV in MI are male and 37 percent are female. This is different from the proportion seen among all persons living with HIV in Michigan (78 percent male and 22 percent female). Persons born in Africa are more likely to be females than males (58 percent vs. 42 percent, respectively), while those born in S/C America, Asia, and other countries are closer to the proportion seen among all persons living with HIV in MI (72 percent male, 79 percent male, and 74 percent male, respectively). This difference reflects the higher proportion of heterosexual cases among persons born in Africa.

Geographical distribution:

The highest proportion of African-born cases reside in Kent county (26 percent); 13 percent reside in the city of Detroit; 12 percent in Berrien County; 11 percent in Oakland; eight percent in Ingham; seven percent in Wayne; six percent in Washtenaw; and the rest in other counties of MI.

The highest proportion of S/C American-born cases were diagnosed among residents of Wayne and Kent Counties (16 and 14 percent, respectively). Eight percent were diagnosed in a state other than Michigan, 33 percent were diagnosed in an unknown location, and the rest were diagnosed while living throughout the remainder of Michigan.

Forty-one percent of Asian-born cases were among residents of the Detroit Metro Area (9 percent in Oakland county, 18 percent in Wayne county and 5 percent in Macomb county). Five percent were among residents of Kent county, three percent were diagnosed in a state other than Michigan, 35 percent were diagnosed in an unknown location, and the rest were diagnosed while living throughout the remainder of Michigan.

2012 Profile of HIV in Michigan (Statewide)

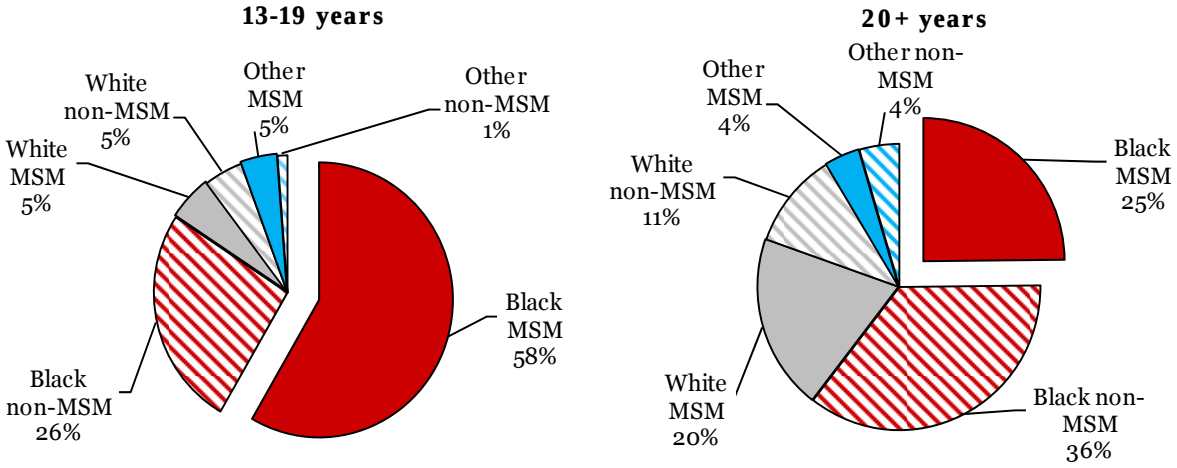
Special Populations: Young Black MSM

Data from enhanced HIV/AIDS Reporting System (eHARS) & National HIV Behavioral Surveillance (NHBS) Young MSM Study

Race/ethnicity and age:

Nationally and in Michigan, the fastest growing population of HIV-positive persons are young black males who have sex with males (MSM) (ages 13-24). Surveillance data from the 40 states with confidential HIV reporting since 2006 show that HIV diagnoses among black MSM ages 13-24 increased by 48 percent between 2006 and 2009, the only group with a statistically significant increase in diagnoses during that time periods (Centers for Disease Control and Prevention, *HIV Surveillance Supplemental Report,* Vol. 17, No.2, http://www.cdc.gov/hiv/surveillance/resources/reports/2009supp_vol17no2/pdf/hssr_vol_17_no_2.pdf#page=3). In Michigan, MSM (regardless of age) were 48 percent of all new HIV diagnoses between 2006 and 2010 (Trends). Of these newly diagnosed MSM, 55 percent were black. Of all teens diagnosed in the last five years, 84 percent are black compared to 61 percent of persons diagnosed at older ages (figure 90). Furthermore, teens are significantly more likely to be black MSM compared to adults 20 years and older (58 percent v 25 percent). These data underscore a need for prevention campaigns tailored to young black MSM, as the shift in new diagnoses to this young group will likely widen the already large racial gap among persons living with HIV.

Figure 90: 13-19 year olds vs. persons 20 and older at HIV diagnosis by race and risk, 2006-2010



MSM behavior:

During the Young MSM Study of the 2008 MSM2 cycle of NHBS, 52 13-17 year old males who ever had sex (anal or oral) with another male were interviewed about their last or most recent sexual encounter (anal or oral). Seventy-one percent were with their main partner compared to 25 percent who reported their last sexual encounter was with a casual partner. Eighty-one percent of respondents (42) reported having anal sex at their most recent sexual encounter. Among respondents who had anal sex, about two-thirds (69 percent) used a condom during anal sex the whole time compared to five percent using a condom part of the time and 26 percent not using a condom at all.

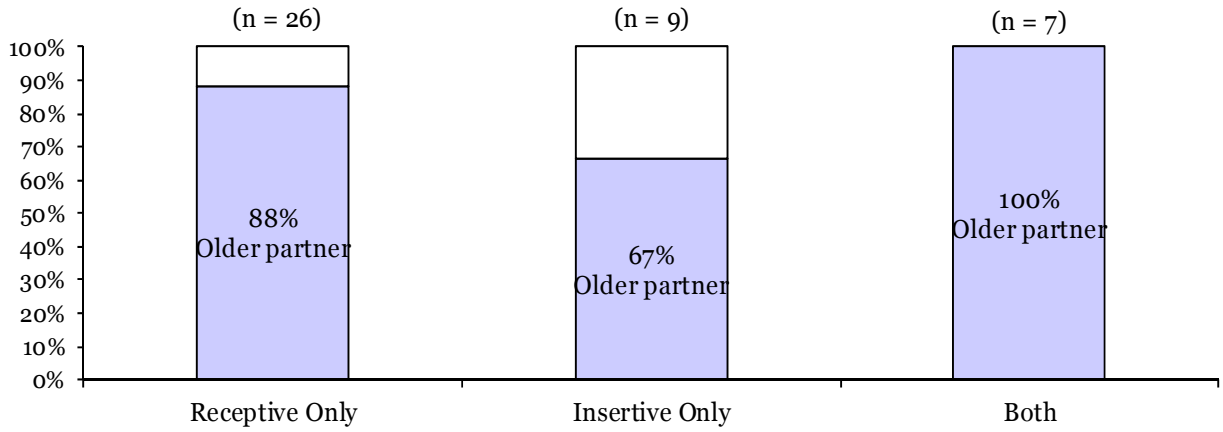
Figure 91 shows the type of anal sex experienced by the 81 percent of participants (42 of 52) who reported having anal sex at last sexual encounter. About two-thirds (62 percent) had only receptive anal sex (26 of 42) compared to 21 percent who reported insertive anal sex only (9 of 42). Seventeen percent

Special Populations: Young Black MSM

Data from National HIV Behavioral Surveillance (NHBS) Young MSM Study & Michigan Disease Surveillance System (MDSS)

reported having both receptive and insertive anal sex (7 of 42) during last sexual encounter. Of those that engaged in receptive anal sex only, 88 percent reported that their partners were older than them. Participants who reported insertive anal sex only had a smaller proportion with older partners (67 percent). Participants who reported both types of anal sex at last intercourse all had partners who were older than them. Thirteen percent of participants had their first sexual encounter with another man when they were 13 years old or younger, including one respondent who reported his first male-male sexual encounter was at 10 years of age.

Figure 91: Receptive and insertive anal sex during last sexual encounter among Detroit YMSM relative to age of partner (NHBS, 2008)



STDs:

In 2011, 14 cases of primary and secondary syphilis were detected among 13-19 year old black males. This is an increase from 2010 levels (7 cases). The 14 2011 cases represented four percent of the total male cases with primary and secondary syphilis. All but two were MSM and nearly 30 percent were HIV-positive. This population represented 6 percent of all male syphilis cases and 9 percent of black male cases (data not shown in tables).

In 2011, 1,775 chlamydia cases were reported among black males ages 13 to 19. The rate of infection in this population is 1,929 per 100,000, nearly 4 times the rate of infection among all persons in Michigan. In terms of gonorrhea, 627 cases were reported in this demographic in 2011 with a rate of 681 per 100,000. In 2011, only 505 cases of chlamydia and 51 cases of gonorrhea were reported among white males in this same age group. This rate is over five times the rate of infection in the general Michigan population, and nearly times the rate of infection among those 13-19. Gonorrhea rates among young black males in cities such as Flint, Detroit, Kalamazoo, and Ypsilanti have rates showing even higher levels of disproportional impact. NOTE: data on sex of sexual partner is not consistently reported for chlamydia and gonorrhea cases; therefore, the data in this paragraph pertain to all black males, not MSM only.

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Young Black MSM

Data from Outreach, Prevention, and Care Services for Young African American MSM (YMSM)

Brothers Saving Brothers:

The Health Resources and Services Administration (HRSA) Special Project of National Significance (SPNS) project Brothers Saving Brothers (BSB) involved encouraging African American young men who have sex with men (YMSM) to learn their HIV status, and obtain information on possible barriers to HIV counseling and testing (HIV C&T). A motivation-based intervention (motivational interviewing; MI) was implemented in field outreach to encourage African American YMSM in the Detroit metropolitan area to know their status (i.e., receive HIV C&T and return for test results) and to compare two forms of field outreach (Field Outreach plus MI vs. Field Outreach Alone) to encourage HIV C&T and returning for test results. A web-based survey was also implemented as part of BSB to African American YMSM in the Detroit metropolitan area to assess the sexual behavior among online African American YMSM and to determine possible barriers to HIV C&T for this population. Both studies are discussed in detail below.

Participants for the field outreach intervention were 188 African American YMSM aged 16-24. Participants were randomly assigned to one of the following intervention conditions: Field Outreach plus Motivational Interviewing (MI) (N=96) or Field Outreach alone (N=92). Both conditions encouraged HIV C&T and returning for test results (OraSure testing). A baseline survey inquired about risk behaviors (i.e., sexual risk and substance use). Results indicated that African American YMSM in the Outreach plus MI condition received HIV C&T and returned for test results at a significantly higher rate than African American YMSM in the Field Outreach alone condition. There were no other significant differences between the groups. Overall, African American YMSM participants reported risk behavior in the past 90 days (i.e., unprotected intercourse and substance use) and being 'Unsure/Not Ready" to change some of these behaviors.

Participants for the internet survey were 270 African American YMSM chat room participants aged 18-24. The survey inquired about: sexual behavior (e.g., condom use, sexual partners, etc.); barriers to HIV C&T: structural barriers (e.g., transportation, etc.), stigma (e.g., I don't want others to know I am being tested, etc.), invulnerability (e.g., I don't think I have HIV, etc.); and preferred testing venues (e.g., health department, physician's office, etc.). Results indicated that 39 percent of African American YMSM engaged in sexual intercourse without a condom in the past 30 days. Barriers to HIV C&T included fear of testing and/or receiving the test results, and waiting too long for test results. Finally, African American YMSM endorsed a physician's office/professional setting or the privacy of home as more comfortable locations for HIV C&T.

The addition of MI to field outreach is effective in encouraging a high-risk population (i.e., African American YMSM) to know their HIV status and increasing their awareness of risk sexual behavior. The data support the efficacy of an intervention based on individual motivation to reduce sexual risk in addition to traditional HIV C&T. Adapting prevention programming to the Internet can also be effective in targeting high-risk youth. These data support the need for more innovative outreach strategies to target high-risk and difficult to engage populations (e.g., the integration of Internet outreach with opportunities for HIV C&T in more private settings).

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Young Black MSM

Data from The Young Men's Health Study:
A Statewide Needs Assessment of Young Black MSM

Statewide needs assessment:

Young men in the Young Men's Health Study were between the ages of 14 and 24, with a mean age of 20.4 (SD=2.3). Men aged 18 years and younger composed 23 percent of respondents. Most identified their sexual identity as gay (75 percent gay, 22 percent bisexual, 3 percent other) and their gender identity as male (93 percent male, 7 percent female). 22 percent had not completed high school (largely because they were still enrolled), 41 percent had a high school degree, 34 percent had completed some college, and 4 percent had a college degree. A majority was in school (62 percent) and employed (59 percent). Young men reported an average monthly income of $648 (SD=$800). Roughly half (51 percent) lived with a parent or other relative. The remainder of the young men lived independently in an apartment (36 percent) or dormitory (1 percent); a minority was unstably housed (8 percent). 59 percent of young men lived in the Detroit metropolitan area; 41 percent lived in the Out-State regions.

Although most young men reported positive relationships with their families of origin and felt that their families provided them a safe and supportive environment, a sizeable minority reported negative relationships with their family of origin resulting from their family members' disapproval of same-sex attractions. 87 percent had ever participated in a religious institution. However, only 52 percent participated in places of worship at the time of the interview. The dominant reason for leaving a religious institution was religious intolerance of homosexuality. Among those who participated in places of worship, 75 percent did not feel supported by their religious community. About 67 percent said they were part of a gay, lesbian, bisexual community, a majority of whom found it supportive. Young men relied heavily on their peers for general social support and, to a lesser extent, on their mothers. However, peers were the primary source of support for topics related to sex and sexuality. When asked where young men felt most safe they named their family of origin and the gay community; they felt least safe and supported in Black and religious communities.

Hospital emergency rooms were the most common source of health care, followed by private physicians. Although 62 percent of the participants were in school, school-based care was used infrequently. Young men reported limited use of specialized facilities for LGBT populations. Men frequently reported more than one location as their usual source of care. It was especially common for men to combine the use of hospital emergency rooms with visits to private physicians' offices (41 percent) and public health clinics (33 percent). For HIV and STD testing, public clinics and the health department were named as preferred locations.

The participants completed well-validated measures of substance abuse and depression. The substances that were most commonly used by men in the sample in the 90 days prior to their interview were alcohol (75 percent) and marijuana (47 percent). The average score for substance abuse was 3.1 on a scale where 2 indicates problem substance use; 54 percent scored in the abusive range. Thirty-three percent of the young men met clinical criteria for depression. Young men in the Out-State regions reported significantly more substance abuse and depression than men in the Detroit area. Young men reported high rates of exposure to multiple forms of violence: 32 percent reported they had been sexually assaulted, 74 percent had been exposed to physical abuse, and 91 percent had been exposed to emotional abuse. 75 percent had been exposed to more than one of these kinds of violence. Physical and emotional violence increased young men's risk of substance abuse and depression. Sexual violence and substance abuse increased their risk of inconsistent condom use.

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Young Black MSM

Data from The Young Men's Health Study:
A Statewide Needs Assessment of Young Black MSM

The average age at which young men had initiated sex was 14.3 years (SD=3.4). Ninety-four percent of men had been sexually active in the year prior to being interviewed, with an average of 4.7 sexual partners (SD=6.5). Among these men, 86 percent had exclusively male partners, 14 percent male and female partners, and 1 percent female partners only. Although attitudes toward condoms were positive on the average, twenty-six percent of men had not used a condom on their last intercourse occasion. One hundred fifty-five men reported having vaginal or anal sex in the prior 90 days with a total of 363 sexual partners. Fifty-four percent of sexual partners were casual or one-time partners. Having sex with partners who were not of a similar age or Black was associated with a pattern of high-risk substance use and sexual activity.

2012 Profile of HIV in Michigan (Statewide)

Special Populations: Transgender Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

In April 2010, the Michigan Department of Community Health (MDCH) added a current gender variable to the adult HIV case report form (ACRF) in an effort to collect data on HIV-positive sexual minorities, such as transgender persons. It is important to note that collection of the current gender variable is very new, and numbers presented here are considered a minimum estimate of the actual number of HIV-positive transgender persons in Michigan. Data from HIV counseling and testing sites and epidemiologic studies suggest high rates of HIV infection among transgender persons (Centers for Disease Control and Prevention, *Guidance for HIV Surveillance Programs: Working with Transgender-Specific Data,* version 1.0*)*. For this reason, it is important to provide surveillance data on transgender persons to prevention partners in order to facilitate improved prevention efforts among this high-risk group.

Individuals are included in this analysis if they meet the definition of transgender as defined by the Gay and Lesbian Alliance Against Defamation (GLAAD): "An umbrella term (adj.) for people whose gender identity and/or gender expression differs from the sex they were assigned at birth. The term may include but is not limited to: transsexuals, cross-dressers and other gender-variant people. Transgender people may identify as female-to-male (FTM) or male-to-female (MTF). Use the descriptive term (transgender, transsexual, cross-dresser, FTM or MTF) preferred by the individual. Transgender people may or may not decide to alter their bodies hormonally and/or surgically." A modified version of this definition was used by the MDCH Division of Health, Wellness, and Disease Control, HIV/AIDS Prevention and Intervention Section (HAPIS) in their 2010-2013 prevention plan.

As of January 2012, there were 76 transgender persons ever diagnosed with HIV with a current residence of Michigan. Fifty-five of those individuals were alive and living in Michigan as of January 2012. Table 7 presents demographic information on these 55 prevalent transgender cases. All 55 individuals were born male but currently identify or express their gender as female (MTF). According to CDC guidance, some of these individuals would be classified as "Additional Gender Identity", such as transvestites, cross-dressers, and drag queens. Due to small cell numbers, this distinction is not made in the analysis. Rates are not calculated as there is not an accurate estimate of the total number of transgender persons living in Michigan for the denominator. Please note that all other analyses/tables in this document are based on sex at birth; therefore, male to female transgender persons are included in the 'male' category.

Of the 55 currently living HIV-positive transgender persons, 22 had a diagnosis of stage 3 HIV infection (AIDS). Half of these cases were diagnosed with stage 3 at the time of their initial HIV diagnosis (late HIV diagnosis) (data not shown in tables).

Demographic characteristics:

Table 7 shows demographic characteristics of HIV-positive transgender persons currently living in Michigan. The majority (76 percent) of HIV-positive transgender persons are black. Almost half (40 percent) were between 13 and 24 years old at the time of diagnosis, while 27 percent were 25-29 years old. Over three-quarters (78 percent) were living in the Detroit Metro Area as of January 2012. Sixteen percent resided in Out-State Michigan, and five percent were incarcerated. Five of the 55 currently living transgender persons have ever been incarcerated (data not shown in tables).

Special Populations: Transgender Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

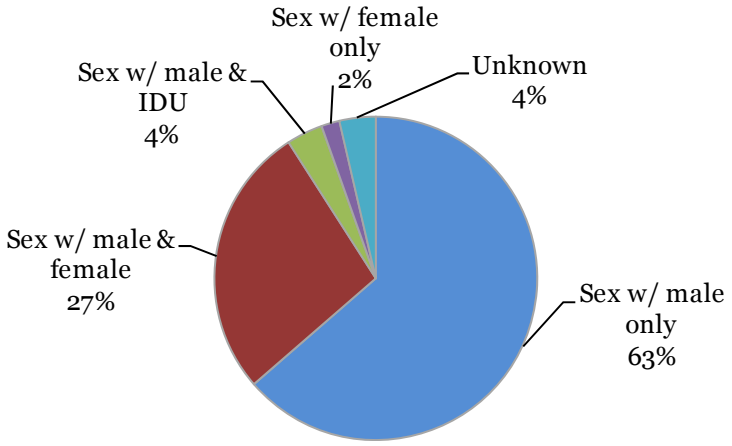
Table 7: Demographic characteristics of HIV-positive transgender persons currently living in Michigan, 2012

	Number	Percent
Male to female (MTF)	55	100%
Race/ethnicity		
White, non-Hispanic	6	11%
Black, non-Hispanic	42	76%
Hispanic, all races	3	5%
Other/unknown	4	7%
Age at HIV diagnosis		
13-24 years	22	40%
25-29 years	15	27%
30-39 years	13	24%
40 years and older	5	9%
Current residence		
Detroit Metro Area (DMA)	43	78%
Out-State	9	16%
In prison	3	5%
Total	**55**	**100%**

Risk:

As a result of having been assigned male sex at birth, transgender male to female persons are often incorrectly classified as men who have sex with men (MSM) based on the CDC risk hierarchy. Figure 92 shows the modes of exposure to HIV for the 55 prevalent transgender HIV cases based on the behavior rather than risk transmission categories. Sixty-three percent of the cases reported sex with males only, while 27 percent reported sex with both males and females. Four percent had sex with males and injected drugs (IDU), and two percent reported sex with females only.

Figure 92: Transgender persons currently living with HIV infection in MI, by risk (n = 55 MTF)



2012 Profile of HIV in Michigan (Statewide)

Special Populations: Transgender Persons

Data from Community Health Awareness Group/ Michigan AIDS Coalition Focus Groups

Focus group discussions:
The Community Health Awareness Group (CHAG), in collaboration with the Michigan AIDS Coalition (MAC), conducted a series of focus groups in March and April 2012 targeting young transgender women of color.

Ages of participants ranged from 21 to 57, and 97 percent were African American. Participants reported living as women for an average of 15 years (ranging from two to 42 years). All had accessed HIV testing within the past year, and only a small percentage had been tested for hepatitis C virus (HCV). A total of 71 percent rated themselves at medium to high risk for HIV; the reverse was true for HCV, with 71 percent rating themselves as low risk or not at risk for HCV. The participants also discussed various risk behaviors for HIV and HCV. These included:

- Not using condoms, particularly among the younger girls who "prostituted themselves";
- Sex as validation, which has nothing to do with prostitution –e.g., a fascination that men want to have sex with you as a woman, which may also cause issues around using condoms;
- Injecting at pump parties or injections of silicon or Crisco, which creates shared needle risks as well as other health problems;
- Many girls dating the same men in the community with diseases being passed around.

Stereotypes and stigma were also consistent topics. It was discussed that not all transgender women engage in exchange sex because they are out on the streets and need money. Many have full-time jobs but see having sex with anyone as validating them as a woman. It is a quick way of validating their sexuality.

Participants saw medical care as important and incorporated it into larger pictures within their lives rather than just as access to health insurance and physicians. They perceived stigma within the healthcare system, often related to sensitivity around gender reassignment or having both breasts and a penis. Having medical professionals who were able to focus on the standard medical treatment for disease conditions (e.g., bronchitis/nodes on vocal cords, breast exams for lumps, bladder infections) rather than having to explain what's under the clothes (being transgender) every time they seek out care was a priority. Medical emergencies where physicians and nurses were unprepared for transgender persons were cited as examples. The importance of recognizing their legal rights, such as name changes on medical records, was also described.

Mentoring from older women to younger girls was noted as important, particularly for realizing and holding on to the importance of getting a job and going to school.

Table 8: Demographic information on HIV infection cases currently living in Michigan, 2012

	EST PREV*	REPORTED HIV INFECTION PREVALENCE									CENSUS 2010**	
		HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL			Late HIV diagnosis			
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num	Percent
RACE/ETHNICITY§												
White	7,410	2,545	35%	3,121	36%	5,666	36%	75	1,409	45%	7,569,939	77%
Black	11,620	4,111	57%	4,777	56%	8,888	56%	642	1,895	40%	1,383,756	14%
Hispanic	1,000	337	5%	431	5%	768	5%	176	207	48%	436,358	4%
Asian/NH/OPI	130	45	1%	51	1%	96	1%	40	28	55%	238,660	2%
AI/AN	50	26	<1%	15	<1%	41	<1%	75	4	27%	54,665	1%
Multi/other/unk	380	124	2%	170	2%	294	2%	N/A	51	30%	200,262	2%
SEX & RACE												
Male	16,040	5,450	76%	6,819	80%	12,269	78%	253	2,952	43%	4,848,114	49%
White male	*6,470*	*2,160*	*30%*	*2,784*	*33%*	*4,944*	*31%*	*133*	*1,292*	*46%*	*3,728,507*	*38%*
Black male	*8,360*	*2,894*	*40%*	*3,500*	*41%*	*6,394*	*41%*	*973*	*1,415*	*40%*	*657,181*	*7%*
Hispanic male	*790*	*258*	*4%*	*346*	*4%*	*604*	*4%*	*272*	*175*	*51%*	*221,913*	*2%*
Other male	*430*	*138*	*2%*	*189*	*2%*	*327*	*2%*	*136*	*70*	*37%*	*240,513*	*2%*
Female	4,560	1,738	24%	1,746	20%	3,484	22%	69	642	37%	5,035,526	51%
White female	*940*	*385*	*5%*	*337*	*4%*	*722*	*5%*	*19*	*117*	*35%*	*3,841,432*	*39%*
Black female	*3,260*	*1,217*	*17%*	*1,277*	*15%*	*2,494*	*16%*	*343*	*480*	*38%*	*726,575*	*7%*
Hispanic female	*210*	*79*	*1%*	*85*	*1%*	*164*	*1%*	*76*	*32*	*38%*	*214,445*	*2%*
Other female	*140*	*57*	*1%*	*47*	*1%*	*104*	*1%*	*41*	*13*	*28%*	*253,074*	*3%*
RISK†												
Male-male sex (MSM)	10,160	3,451	48%	4,320	50%	7,771	49%	--	1,832	42%	--	--
Injection drug use (IDU)	2,010	593	8%	946	11%	1,539	10%	--	321	34%	--	--
MSM/IDU	910	294	4%	405	5%	699	4%	--	119	29%	--	--
Blood products	120	31	<1%	61	1%	92	1%	--	17	28%	--	--
Heterosexual contact (HC)	3,600	1,317	18%	1,437	17%	2,754	17%	--	534	37%	--	--
HCFR (male)	*720*	*239*	*3%*	*313*	*4%*	*552*	*4%*	*--*	*123*	*39%*	*--*	*--*
HCM (female)	*2,880*	*1,078*	*15%*	*1,124*	*13%*	*2,202*	*14%*	*--*	*411*	*37%*	*--*	*--*
Perinatal	230	108	2%	65	1%	173	1%	--	25	38%	--	--
Undetermined	3,560	1,394	19%	1,331	16%	2,725	17%	--	746	56%	--	--
AGE AT HIV DIAGNOSIS												
0 - 12 years	270	127	2%	76	1%	203	1%	--	23	30%	--	--
13 - 19 years	1,030	473	7%	311	4%	784	5%	--	58	19%	--	--
20 - 24 years	2,810	1,204	17%	947	11%	2,151	14%	--	198	21%	--	--
25 - 29 years	3,440	1,275	18%	1,356	16%	2,631	17%	--	401	30%	--	--
30 - 39 years	7,140	2,266	32%	3,193	37%	5,459	35%	--	1,340	42%	--	--
40 - 49 years	4,200	1,306	18%	1,905	22%	3,211	20%	--	1,078	57%	--	--
50 - 59 years	1,380	438	6%	620	7%	1,058	7%	--	385	62%	--	--
60 years and over	330	96	1%	157	2%	253	2%	--	111	71%	--	--
Unspecified	10	3	<1%	0	0%	3	<1%	--	--	--	--	--
AREA OF CURRENT RESIDENCE¶												
Detroit Metro	13,040	4,453	62%	5,466	64%	9,919	63%	232	2,325	43%	4,267,304	43%
Out-State	7,080	2,512	35%	2,877	34%	5,389	34%	96	1,213	42%	5,616,336	57%
Prison	370	174	2%	189	2%	363	2%	N/A	43	23%	N/A	N/A
Unknown††	110	49	1%	33	<1%	82	1%	N/A	13	39%	N/A	N/A
STATEWIDE TOTAL	**20,600**	**7,188**	**100%**	**8,565**	**100%**	**15,753**	**100%**	**159**	**3,594**	**42%**	**9,883,640**	**100%**

**See pages iv-v for descriptions of prevalence estimate calculations. NOTE: prevalence estimates throughout this document are based on the number of people currently living with HIV in Michigan as of January 2012. Prevalence estimates in other MDCH documents (such as quarterly stats) are based on the number of people living with HIV who were diagnosed in MI.*

† See page vi of the Forward and Appendix 2 for 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).

§ In this report, persons described as white, black, Asian/Native Hawaiian or Other Pacific Islander (Asian/NH/OPI), or American Indian/Alaskan Native (AI/AN) are all non-Hispanic; persons described as Hispanic may be of any race.

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

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

†† Unknown residence consists of 80 persons released from prison with unknown current location and two non-prisoners with no known residence.

Table 9: HIV infection cases currently living in Michigan by county of current residence, 2012

REPORTED HIV INFECTION PREVALENCE

COUNTY	*EST PREV**	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL			Late diagnosis		*CENSUS 2010*	
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num	Percent
Alcona	10	0	0%	1	<1%	1	<1%	9	1	100%	10,942	<1%
Alger	10	1	<1%	4	<1%	5	<1%	52	0	0%	9,601	<1%
Allegan	140	38	1%	72	1%	110	1%	99	27	38%	111,408	1%
Alpena	10	1	<1%	9	<1%	10	<1%	34	2	22%	29,598	<1%
Antrim	10	6	<1%	5	<1%	11	<1%	47	3	60%	23,580	<1%
Arenac	10	3	<1%	4	<1%	7	<1%	44	2	50%	15,899	<1%
Baraga	10	1	<1%	4	<1%	5	<1%	56	3	75%	8,860	<1%
Barry	30	6	<1%	18	<1%	24	<1%	41	10	56%	59,173	1%
Bay	100	36	1%	39	<1%	75	<1%	70	15	38%	107,771	1%
Benzie	10	3	<1%	4	<1%	7	<1%	40	1	25%	17,525	<1%
Berrien	330	105	1%	148	2%	253	2%	161	61	41%	156,813	2%
Branch	20	8	<1%	4	<1%	12	<1%	27	2	50%	45,248	<1%
Calhoun	220	80	1%	84	1%	164	1%	120	21	25%	136,146	1%
Cass	40	15	<1%	18	<1%	33	<1%	63	7	39%	52,293	1%
Charlevoix	10	4	<1%	7	<1%	11	<1%	42	3	43%	25,949	<1%
Cheboygan	10	4	<1%	6	<1%	10	<1%	38	1	17%	26,152	<1%
Chippewa	20	11	<1%	8	<1%	19	<1%	49	3	38%	38,520	<1%
Clare	40	10	<1%	17	<1%	27	<1%	87	7	41%	30,926	<1%
Clinton	70	26	<1%	29	<1%	55	<1%	73	13	45%	75,382	1%
Crawford	10	3	<1%	4	<1%	7	<1%	50	3	75%	14,074	<1%
Delta	20	10	<1%	8	<1%	18	<1%	49	2	25%	37,069	<1%
Dickinson	10	1	<1%	5	<1%	6	<1%	23	3	60%	26,168	<1%
Eaton	130	47	1%	51	1%	98	1%	91	11	22%	107,759	1%
Emmet	20	5	<1%	7	<1%	12	<1%	37	4	57%	32,694	<1%
Genesee	720	261	4%	286	3%	547	3%	128	113	40%	425,790	4%
Gladwin	10	2	<1%	2	<1%	4	<1%	16	2	100%	25,692	<1%
Gogebic	10	2	<1%	2	<1%	4	<1%	24	1	50%	16,427	<1%
Grand Traverse	100	35	<1%	39	<1%	74	<1%	85	20	51%	86,986	1%
Gratiot	20	10	<1%	9	<1%	19	<1%	45	5	56%	42,476	<1%
Hillsdale	10	2	<1%	7	<1%	9	<1%	19	4	57%	46,688	<1%
Houghton	10	7	<1%	4	<1%	11	<1%	30	2	50%	36,628	<1%
Huron	10	3	<1%	2	<1%	5	<1%	15	1	50%	33,118	<1%
Ingham	600	227	3%	231	3%	458	3%	163	95	41%	280,895	3%
Ionia	50	21	<1%	18	<1%	39	<1%	61	7	39%	63,905	1%
Iosco	10	5	<1%	2	<1%	7	<1%	27	0	0%	25,887	<1%
Iron	10	1	<1%	1	<1%	2	<1%	17	1	100%	11,817	<1%
Isabella	70	22	<1%	28	<1%	50	<1%	71	10	36%	70,311	1%
Jackson	230	82	1%	96	1%	178	1%	111	35	36%	160,248	2%
Kalamazoo	430	161	2%	169	2%	330	2%	132	57	34%	250,331	3%
Kalkaska	10	3	<1%	0	0%	3	<1%	17	--	--	17,153	<1%
Kent	1,330	452	6%	559	7%	1,011	6%	168	250	45%	602,622	6%
Keweenaw	10	0	0%	0	0%	0	0%	0	--	--	2,156	<1%
Lake	20	5	<1%	7	<1%	12	<1%	104	4	57%	11,539	<1%
Lapeer	50	17	<1%	24	<1%	41	<1%	46	10	42%	88,319	1%
Leelanau	10	3	<1%	6	<1%	9	<1%	41	4	67%	21,708	<1%
Lenawee	90	35	<1%	30	<1%	65	<1%	65	16	53%	99,892	1%
Livingston	90	28	<1%	39	<1%	67	<1%	37	17	44%	180,967	2%
Luce	10	1	<1%	1	<1%	2	<1%	30	0	0%	6,631	<1%

Table 9: HIV infection cases currently living in Michigan by county of current residence, 2012 *(continued)*

COUNTY	EST PREV*	REPORTED HIV INFECTION PREVALENCE									CENSUS 2010	
		HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL			Late diagnosis			
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000†	Num	Percent of stage 3 cases	Num	Percent
Mackinac	10	3	<1%	1	<1%	4	<1%	36	0	0%	11,113	<1%
Macomb	990	365	5%	391	5%	756	5%	90	189	48%	840,978	9%
Manistee	10	4	<1%	7	<1%	11	<1%	44	3	43%	24,733	<1%
Marquette	50	11	<1%	24	<1%	35	<1%	52	14	58%	67,077	1%
Mason	20	6	<1%	10	<1%	16	<1%	56	6	60%	28,705	<1%
Mecosta	20	7	<1%	8	<1%	15	<1%	35	4	50%	42,798	<1%
Menominee	10	4	<1%	1	<1%	5	<1%	21	1	100%	24,029	<1%
Midland	30	12	<1%	14	<1%	26	<1%	31	9	64%	83,629	1%
Missaukee	10	4	<1%	3	<1%	7	<1%	47	2	67%	14,849	<1%
Monroe	100	37	1%	42	<1%	79	1%	52	22	52%	152,021	2%
Montcalm	30	9	<1%	13	<1%	22	<1%	35	7	54%	63,342	1%
Montmorency	10	0	0%	3	<1%	3	<1%	31	3	100%	9,765	<1%
Muskegon	200	79	1%	72	1%	151	1%	88	34	47%	172,188	2%
Newaygo	20	5	<1%	9	<1%	14	<1%	29	1	11%	48,460	<1%
Oakland	2,400	865	12%	958	11%	1,823	12%	152	402	42%	1,202,362	12%
Oceana	10	5	<1%	2	<1%	7	<1%	26	1	50%	26,570	<1%
Ogemaw	10	1	<1%	2	<1%	3	<1%	14	1	50%	21,699	<1%
Ontonagon	10	0	0%	3	<1%	3	<1%	44	2	67%	6,780	<1%
Osceola	10	2	<1%	5	<1%	7	<1%	30	2	40%	23,528	<1%
Oscoda	10	2	<1%	1	<1%	3	<1%	35	0	0%	8,640	<1%
Otsego	20	4	<1%	9	<1%	13	<1%	54	5	56%	24,164	<1%
Ottawa	140	45	1%	62	1%	107	1%	41	34	55%	263,801	3%
Presque Isle	10	0	0%	2	<1%	2	<1%	15	1	50%	13,376	<1%
Roscommon	20	5	<1%	12	<1%	17	<1%	70	7	58%	24,449	<1%
Saginaw	320	119	2%	121	1%	240	2%	120	47	39%	200,169	2%
Sanilac	20	10	<1%	8	<1%	18	<1%	42	6	75%	43,114	<1%
Schoolcraft	10	1	<1%	0	0%	1	<1%	12	--	--	8,485	<1%
Shiawassee	40	11	<1%	16	<1%	27	<1%	38	9	56%	70,648	1%
St. Clair	150	51	1%	61	1%	112	1%	69	29	48%	163,040	2%
St. Joseph	40	13	<1%	20	<1%	33	<1%	54	9	45%	61,295	1%
Tuscola	10	5	<1%	4	<1%	9	<1%	16	3	75%	55,729	1%
Van Buren	90	36	1%	33	<1%	69	<1%	90	12	36%	76,258	1%
Washtenaw	820	313	4%	310	4%	623	4%	181	139	45%	344,791	3%
Wayne Total	9,340	3,118	43%	3,990	47%	7,108	45%	390	1,673	42%	1,820,584	18%
Wayne, excl. Detroit	*2,040*	*672*	*9%*	*882*	*10%*	*1,554*	*10%*	*140*	*385*	*44%*	*1,106,807*	*11%*
Detroit	*7,300*	*2,446*	*34%*	*3,108*	*36%*	*5,554*	*35%*	*778*	*1,288*	*41%*	*713,777*	*7%*
Wexford	20	4	<1%	8	<1%	12	<1%	37	2	25%	32,735	<1%
AREA †												
Detroit Metro	13,040	4,453	62%	5,466	64%	9,919	63%	232	2,325	43%	4,267,304	43%
Out-State	7,080	2,512	35%	2,877	34%	5,389	34%	96	1,213	42%	5,616,336	57%
Prison	370	174	2%	189	2%	363	2%	N/A	43	23%	N/A	N/A
Unknown§	110	49	1%	33	<1%	82	1%	N/A	13	39%	N/A	N/A
STATEWIDE TOTAL	***20,600***	***7,188***	***100%***	***8,565***	***100%***	***15,753***	***100%***	***159***	***3,594***	***42%***	***9,883,640***	***100%***

**See pages iv-v for descriptions of prevalence estimate calculations. NOTE: prevalence estimates throughout this document are based on the number of people currently living with HIV in Michigan as of January 2012. Prevalence estimates in other MDCH documents (such as quarterly stats) are based on the number of people living with HIV who were diagnosed in MI.*

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

§ Unknown residence consists of 80 persons released from prison with unknown current location and two non-prisoners with no known residence.

Table 10: Risk transmission and exposure categories for HIV infection cases currently living in Michigan by sex, 2012

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)	7,771	63%	N/A	--	7,771	49%
Injection drug use (IDU)	904	7%	635	18%	1,539	10%
MSM/IDU	699	6%	N/A	--	699	4%
Blood products	77	1%	15	<1%	92	1%
Heterosexual contact (HC)	552	4%	2,202	63%	2,754	17%
HCFR (male)	*552*	*4%*	*N/A*	*--*	*552*	*4%*
HCM (female)	*N/A*	*--*	*2,202*	*63%*	*2,202*	*14%*
Perinatal	97	1%	76	2%	173	1%
Undetermined	2,169	18%	556	16%	2,725	17%
EXPOSURE CATEGORIES*†						
(Mutually exclusive: one case is represented in ONLY one category)						
Male-male sex only	5,087	41%	N/A	--	5,087	32%
MSM & HC	2,637	21%	N/A	--	2,637	17%
MSM & IDU	306	2%	N/A	--	306	2%
MSM & blood products	25	<1%	N/A	--	25	<1%
MSM & HC & IDU	377	3%	N/A	--	377	2%
MSM & HC & blood products	22	<1%	N/A	--	22	<1%
MSM & IDU & blood products	4	<1%	N/A	--	4	<1%
MSM & HC & IDU & blood products	12	<1%	N/A	--	12	<1%
Heterosexual contact only	1,959	16%	2,506	72%	4,465	28%
HC & IDU	680	6%	555	16%	1,235	8%
HC & blood products	50	<1%	40	1%	90	1%
HC & IDU & blood products	22	<1%	17	<1%	39	<1%
Injection drug use only	201	2%	63	2%	264	2%
IDU & blood products	1	<1%	0	0%	1	<1%
Perinatal exposure	97	1%	76	2%	173	1%
Exposure to blood products only	41	<1%	4	<1%	45	<1%
Undetermined	748	6%	223	6%	971	6%
TOTAL	**12,269**	**100%**	**3,484**	**100%**	**15,753**	**100%**
SUMMARIZED EXPOSURE CATEGORIES¥						
(NOT mutually exclusive: one case may be represented in multiple categories)						
Any MSM	8,470	69%	N/A	--	8,470	54%
Behaviorally bisexual males	3,048	25%	N/A	--	3,048	19%
Any heterosexual contact	5,759	47%	3,118	89%	8,877	56%
Any IDU	1,603	13%	635	18%	2,238	14%

**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 11: Sex, race, and risk among HIV infection cases currently living in Michigan, 2012

MALE	**White**		**Black**		**Hispanic**		**Other or unknown**		**All male**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex (MSM)	3,702	75%	3,557	56%	332	55%	180	55%	7,771	63%
Injection drug use (IDU)	189	4%	634	10%	60	10%	21	6%	904	7%
MSM/IDU	313	6%	326	5%	35	6%	25	8%	699	6%
Blood products	59	1%	14	<1%	2	<1%	2	1%	77	1%
Heterosexual contact (HCFR)	109	2%	386	6%	43	7%	14	4%	552	4%
Perinatal	18	<1%	67	1%	4	1%	8	2%	97	1%
Undetermined	554	11%	1,410	22%	128	21%	77	24%	2,169	18%
Male Subtotal	**4,944**	**40%**	**6,394**	**52%**	**604**	**5%**	**327**	**3%**	**12,269**	**100%**

FEMALE	**White**		**Black**		**Hispanic**		**Other or unknown**		**All female**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Injection drug use (IDU)	138	19%	454	18%	29	18%	14	13%	635	18%
Blood products	10	1%	4	<1%	1	1%	0	0%	15	<1%
Heterosexual contact (HCM)	467	65%	1,552	62%	114	70%	69	66%	2,202	63%
Perinatal	10	1%	52	2%	9	5%	5	5%	76	2%
Undetermined	97	13%	432	17%	11	7%	16	15%	556	16%
Female Subtotal	**722**	**21%**	**2,494**	**72%**	**164**	**5%**	**104**	**3%**	**3,484**	**100%**

ALL	**White**		**Black**		**Hispanic**		**Other or unknown**		**Risk all**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex (MSM)	3,702	65%	3,557	40%	332	43%	180	42%	7,771	49%
Injection drug use (IDU)	327	6%	1,088	12%	89	12%	35	8%	1,539	10%
MSM/IDU	313	6%	326	4%	35	5%	25	6%	699	4%
Blood products	69	1%	18	<1%	3	<1%	2	<1%	92	1%
Heterosexual contact (HC)	576	10%	1,938	22%	157	20%	83	19%	2,754	17%
HCFR (male)	*109*	*2%*	*386*	*4%*	*43*	*6%*	*14*	*3%*	*552*	*4%*
HCM (female)	*467*	*8%*	*1,552*	*17%*	*114*	*15%*	*69*	*16%*	*2,202*	*14%*
Perinatal	28	<1%	119	1%	13	2%	13	3%	173	1%
Undetermined	651	11%	1,842	21%	139	18%	93	22%	2,725	17%
RACE ALL	***5,666***	***36%***	***8,888***	***56%***	***768***	***5%***	***431***	***3%***	***15,753***	***100%***

Table 12: Sex, race, and age at HIV diagnosis among HIV infection cases currently living in Michigan, 2012

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	32	1%	73	1%	4	1%	9	3%	118	1%
13 - 19 years	86	2%	454	7%	21	3%	16	5%	577	5%
20 - 24 years	467	9%	1,078	17%	78	13%	45	14%	1,668	14%
25 - 29 years	828	17%	1,025	16%	123	20%	66	20%	2,042	17%
30 - 39 years	1,928	39%	2,036	32%	220	36%	116	35%	4,300	35%
40 - 49 years	1,152	23%	1,242	19%	106	18%	56	17%	2,556	21%
50 - 59 years	353	7%	407	6%	33	5%	16	5%	809	7%
60 years and over	98	2%	77	1%	19	3%	3	1%	197	2%
Unknown	0	0%	2	<1%	0	0%	0	0%	2	<1%
Male Subtotal	**4,944**	**40%**	**6,394**	**52%**	**604**	**5%**	**327**	**3%**	**12,269**	**100%**

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	12	2%	59	2%	9	5%	5	5%	85	2%
13 - 19 years	48	7%	144	6%	12	7%	3	3%	207	6%
20 - 24 years	131	18%	315	13%	24	15%	13	13%	483	14%
25 - 29 years	139	19%	402	16%	30	18%	18	17%	589	17%
30 - 39 years	226	31%	835	33%	55	34%	43	41%	1,159	33%
40 - 49 years	109	15%	510	20%	22	13%	14	13%	655	19%
50 - 59 years	47	7%	185	7%	9	5%	8	8%	249	7%
60 years and over	9	1%	44	2%	3	2%	0	0%	56	2%
Unknown	1	<1%	0	0%	0	0%	0	0%	1	<1%
Female Subtotal	**722**	**21%**	**2,494**	**72%**	**164**	**5%**	**104**	**3%**	**3,484**	**100%**

ALL	White		Black		Hispanic		Other or unknown		Age all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	44	1%	132	1%	13	2%	14	3%	203	1%
13 - 19 years	134	2%	598	7%	33	4%	19	4%	784	5%
20 - 24 years	598	11%	1,393	16%	102	13%	58	13%	2,151	14%
25 - 29 years	967	17%	1,427	16%	153	20%	84	19%	2,631	17%
30 - 39 years	2,154	38%	2,871	32%	275	36%	159	37%	5,459	35%
40 - 49 years	1,261	22%	1,752	20%	128	17%	70	16%	3,211	20%
50 - 59 years	400	7%	592	7%	42	5%	24	6%	1,058	7%
60 years and over	107	2%	121	1%	22	3%	3	1%	253	2%
Unknown	1	<1%	2	<1%	0	0%	0	0%	3	<1%
RACE ALL	***5,666***	***36%***	***8,888***	***56%***	***768***	***5%***	***431***	***3%***	***15,753***	***100%***

Table 13: Sex, risk, and age at HIV diagnosis among HIV infection cases currently living in Michigan, 2012

MALE	**0 - 12 years**		**13 - 19 years**		**20 - 24 years**		**25 - 29 years**		**30 - 39 years**		**40 - 49 years**		**50 - 59 years**		**60 years and over**		**All male**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex	0	0%	436	76%	1,298	78%	1,439	70%	2,740	64%	1,372	54%	393	49%	93	47%	7,771	63%
Injection drug use	0	0%	5	1%	33	2%	85	4%	330	8%	338	13%	98	12%	14	7%	903	7%
MSM/IDU	0	0%	14	2%	81	5%	131	6%	293	7%	144	6%	34	4%	2	1%	699	6%
Blood products	14	12%	20	3%	11	1%	12	1%	15	<1%	4	<1%	1	<1%	0	0%	77	1%
Heterosexual contact (HCFR)	0	0%	10	2%	35	2%	96	5%	227	5%	125	5%	46	6%	13	7%	552	4%
Perinatal	93	79%	4	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	97	1%
Undetermined	11	9%	88	15%	210	13%	279	14%	695	16%	573	22%	237	29%	75	38%	2,168	18%
Male Subtotal*	**118**	**1%**	**577**	**5%**	**1,668**	**14%**	**2,042**	**17%**	**4,300**	**35%**	**2,556**	**21%**	**809**	**7%**	**197**	**2%**	**12,267**	**100%**

FEMALE	**0 - 12 years**		**13 - 19 years**		**20 - 24 years**		**25 - 29 years**		**30 - 39 years**		**40 - 49 years**		**50 - 59 years**		**60 years and over**		**All female**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Injection drug use	0	0%	12	6%	63	13%	91	15%	250	22%	167	25%	44	18%	8	14%	635	18%
Blood products	0	0%	2	1%	2	<1%	0	0%	4	<1%	2	<1%	2	1%	3	5%	15	<1%
Heterosexual contact (HCM)	0	0%	162	78%	348	72%	396	67%	720	62%	388	59%	156	63%	32	57%	2,202	63%
Perinatal	76	89%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	76	2%
Undetermined	9	11%	31	15%	70	14%	102	17%	185	16%	98	15%	47	19%	13	23%	555	16%
Female Subtotal*	**85**	**2%**	**207**	**6%**	**483**	**14%**	**589**	**17%**	**1,159**	**33%**	**655**	**19%**	**249**	**7%**	**56**	**2%**	**3,483**	**100%**

ALL	**0 - 12 years**		**13 - 19 years**		**20 - 24 years**		**25 - 29 years**		**30 - 39 years**		**40 - 49 years**		**50 - 59 years**		**60 years and over**		**Risk all**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex	0	0%	436	56%	1,298	60%	1,439	55%	2,740	50%	1,372	43%	393	37%	93	37%	7,771	49%
Injection drug use	0	0%	17	2%	96	4%	176	7%	580	11%	505	16%	142	13%	22	9%	1,538	10%
MSM/IDU	0	0%	14	2%	81	4%	131	5%	293	5%	144	4%	34	3%	2	1%	699	4%
Blood products	14	7%	22	3%	13	1%	12	<1%	19	<1%	6	<1%	3	<1%	3	1%	92	1%
Heterosexual contact (HC)	0	0%	172	22%	383	18%	492	19%	947	17%	513	16%	202	19%	45	18%	2,754	17%
HCFR (male)	*0*	*0%*	*10*	*1%*	*35*	*2%*	*96*	*4%*	*227*	*4%*	*125*	*4%*	*46*	*4%*	*13*	*5%*	*552*	*4%*
HCM (female)	*0*	*0%*	*162*	*21%*	*348*	*16%*	*396*	*15%*	*720*	*13%*	*388*	*12%*	*156*	*15%*	*32*	*13%*	*2,202*	*14%*
Perinatal	169	83%	4	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	173	1%
Undetermined	20	10%	119	15%	280	13%	381	14%	880	16%	671	21%	284	27%	88	35%	2,723	17%
AGE TOTAL*	***203***	***1%***	***784***	***5%***	***2,151***	***14%***	***2,631***	***17%***	***5,459***	***35%***	***3,211***	***20%***	***1,058***	***7%***	***253***	***2%***	***15,750***	***100%***

**Not included in this table are the following cases with unknown age at diagnosis: one male IDU, one male with unknown risk, and one female with unknown risk.*

Table 14: Estimated number and rate of new HIV infections in Michigan and the U.S., 2006-2009

	2006				2007				2008				2009			
	Num*	Percent	Rate†	U.S. rate§	Num*	Percent	Rate†	U.S. rate§	Num*	Percent	Rate†	U.S. rate§	Num*	Percent	Rate†	U.S. rate§
SEX																
Male	548	79%	13.4	30.1	770	83%	18.9	34.9	517	77	12.7	29	531	74%	13.1	29.8
Female	150	21%	3.5	9.8	154	17	3.6	10.7	157	23	3.7	9.5	188	26%	4.4	8.6
RACE/ETHNICITY																
White	221	32%	3.3	9.8	327	35	5	11.2	174	26	2.6	8.7	287	40%	4.4	9.1
Black	373	54%	33	72.7	522	57	46.2	79.2	440	65	39	73.2	389	54%	34.6	69.9
AGE AT INFECTION																
13-29 years	239	34%	10.1	21.8	379	41	16	27.2	298	44	12.7	26.5	298	41%	12.8	25.8
30-39 years	184	26%	14	37	276	30	21.6	27.9	178	26	14.2	34.2	161	22%	13.1	32.2
40+ years	274	39%	5.9	N/A¶	269	29	5.7	N/A¶	198	29	4.2	N/A¶	261	36%	5.5	N/A¶
RISK																
Male-male sex (MSM)	466	67%	--	--	630	68	--	--	447	66	--	--	456	63%	--	--
Injection drug user (IDU)	N/A	N/A	--	--	104	11	--	--	108	16	--	--	144	20%	--	--
Heterosexual contact (HC)	154	22%	--	--	189	20	--	--	117	17	--	--	121	17%	--	--
TOTAL	***697***	***100%***	***8.3***	***19.8***	***924***	***100%***	***11.1***	***22.5***	***674***	***100%***	***8.1***	***19.0***	***720***	***100%***	***8.6***	***19.0***

**Numbers have been adjusted to account for reporting delay.*

† Rate per 100,000 population for ages 13 and older, 2009 intercensal estimates.

§ U.S. Rates are from "Estimated HIV Incidence in the United States, 2006-2009" in the online journal, PLos One, August 2011, Volume 6, Issue 8, e17502 (www.plosone.org).

¶ National data did not include a 40+ age group. Rates were reported for 40-49 and 50-99 age groups.

Table 15: Demographic characteristics of HIV-positive persons with met need compared to HIV-positive persons with unmet need in Michigan, as of November 2011

	Met need		Unmet need		Total		Overall percent unmet need
	Num	Percent of total	Num	Percent of total	Num	Percent of total	
STAGE OF INFECTION							
HIV, non-stage 3	3,691	38%	2,861	52%	6,552	43%	44%
HIV stage 3 (AIDS)	5,974	62%	2,670	48%	8,644	57%	31%
RACE/ETHNICITY*							
White	3,635	38%	1,867	34%	5,502	36%	34%
Black	5,393	56%	3,175	57%	8,568	56%	37%
Hispanic	366	4%	361	7%	727	5%	50%
Asian/NH/OPI	48	<1%	34	1%	82	1%	41%
AI/AN	20	<1%	17	<1%	37	<1%	46%
Multi/other/unk	203	2%	77	1%	280	2%	28%
SEX & RACE							
Male	7,526	78%	4,313	78%	11,839	78%	36%
White male	*3,204*	*33%*	*1,616*	*29%*	*4,820*	*32%*	*34%*
Black male	*3,833*	*40%*	*2,318*	*42%*	*6,151*	*40%*	*38%*
Hispanic male	*288*	*3%*	*276*	*5%*	*564*	*4%*	*49%*
Other male	*201*	*2%*	*103*	*2%*	*304*	*2%*	*34%*
Female	2,139	22%	1,218	22%	3,357	22%	36%
White female	*431*	*4%*	*251*	*5%*	*682*	*4%*	*37%*
Black female	*1,560*	*16%*	*857*	*15%*	*2,417*	*16%*	*35%*
Hispanic female	*78*	*1%*	*85*	*2%*	*163*	*1%*	*52%*
Other female	*70*	*1%*	*25*	*<1%*	*95*	*1%*	*26%*
RISK							
Male-male sex (MSM)	4,875	50%	2,601	47%	7,476	49%	35%
Injection drug use (IDU)	844	9%	782	14%	1,626	11%	48%
MSM/IDU	442	5%	275	5%	717	5%	38%
Blood recipient	59	1%	35	1%	94	1%	37%
Heterosexual contact (HC)†	1,825	19%	847	15%	2,672	18%	32%
Perinatal	130	1%	40	1%	170	1%	24%
Undetermined	1,490	15%	951	17%	2,441	16%	39%
AGE AT HIV DIAGNOSIS							
0 - 12 yrs	143	1%	44	1%	187	1%	24%
13 - 19 yrs	352	4%	244	4%	596	4%	41%
20 - 24 yrs	976	10%	803	15%	1,779	12%	45%
25 - 29 yrs	1,391	14%	1,011	18%	2,402	16%	42%
30 - 34 yrs	1,606	17%	1,100	20%	2,706	18%	41%
35 - 39 yrs	1,587	16%	938	17%	2,525	17%	37%
40 - 44 yrs	1,215	13%	701	13%	1,916	13%	37%
45 - 49 yrs	746	8%	402	7%	1,148	8%	35%
50 - 54 yrs	426	4%	223	4%	649	4%	34%
55 - 59 yrs	197	2%	90	2%	287	2%	31%
60 - 64 yrs	87	1%	48	1%	135	1%	36%
65 yrs and older	55	1%	32	1%	87	1%	37%
CURRENT RESIDENCE							
Detroit Metro Area	6,167	64%	3,379	61%	9,546	63%	35%
Lapeer	*28*	*<1%*	*8*	*<1%*	*36*	*<1%*	*19%*
Macomb	*468*	*5%*	*228*	*4%*	*630*	*4%*	*33%*
Monroe	*49*	*1%*	*29*	*1%*	*75*	*<1%*	*43%*
Oakland	*1,080*	*11%*	*606*	*11%*	*1,551*	*10%*	*39%*
St Clair	*77*	*1%*	*29*	*1%*	*87*	*1%*	*33%*
Wayne, excl. Detroit	*935*	*10%*	*486*	*9%*	*1,421*	*9%*	*35%*
Detroit	*3,530*	*37%*	*1,993*	*36%*	*5,251*	*35%*	*39%*
Out-State Michigan	3,236	33%	1,953	35%	5,189	34%	38%
Washtenaw	*392*	*4%*	*192*	*3%*	*584*	*4%*	*33%*
Berrien	*132*	*1%*	*112*	*2%*	*244*	*2%*	*46%*
Genesee	*302*	*3%*	*229*	*4%*	*531*	*3%*	*43%*
Allegan, Kent, Muskegon and Ottawa	*834*	*9%*	*466*	*8%*	*1,300*	*9%*	*36%*
Jackson	*143*	*1%*	*102*	*2%*	*245*	*2%*	*42%*
Kalamazoo and Calhoun	*292*	*3%*	*168*	*3%*	*460*	*3%*	*37%*
Clinton, Eaton and Ingham	*363*	*4%*	*197*	*4%*	*560*	*4%*	*35%*
Saginaw, Bay and Midland	*193*	*2%*	*135*	*2%*	*328*	*2%*	*41%*
Other Out-State counties	*585*	*6%*	*352*	*6%*	*937*	*6%*	*38%*
Other/unknown§	262	3%	199	4%	461	3%	43%
TOTAL	***9,665***	***100%***	***5,531***	***100%***	***15,196***	***100%***	***36%***

** In this report, persons described as white, black, Asian/Native Hawaiian or Other Pacific Islander (A/NH/OPI) or American Indian/Alaska Native (AI/AN) are all non-Hispanic. Persons described as Hispanic may be of any race.*

† Heterosexual contact (HC) includes males who had sex with females with known risk for HIV (HCFR) and females who had sex with males, regardless of what was known about the male partners' risks (HCM).

§ Persons who are currently in prison are included in 'Other/Unknown' residence.

Table 16: Selected characteristics of HIV-positive persons with viral suppression (<=200 copies/ml) among persons living with HIV infection in Michigan as of 2009*

	Overall population		Persons with at least 1 VL test in 2009		Persons with VL<=200†§	
	Num	Percent	Num	Percent	Num	Percent
SEX						
Male	10,547	78%	5,764	55%	3,954	69%
Female	3,056	22%	1,749	57%	1,096	63%
Missing/unknown	1	<1%	0	0%	--	--
AGE AS OF 12/31/2008						
13-24 years	736	5%	416	57%	152	37%
25-34 years	1,940	14%	1,025	53%	569	56%
35-44 years	4,381	32%	2,372	54%	1,596	67%
45-54 years	4,476	33%	2,509	56%	1,799	72%
55-64 years	1,709	13%	998	58%	779	78%
65 years and over	362	3%	193	53%	155	80%
RACE/ETHNICITY¶						
Black/African American	7,493	55%	4,199	56%	2,544	61%
Hispanic/Latino	669	5%	293	44%	217	74%
White	5,033	37%	2,778	55%	2,134	77%
Other	409	3%	243	59%	155	64%
RISK						
Male-male sex (MSM)	6,706	49%	3,854	57%	2,677	69%
Injection drug use (IDU) - males	864	6%	409	47%	272	67%
Injection drug use (IDU) - females	612	4%	300	49%	171	57%
MSM/IDU	677	5%	340	50%	219	64%
Heterosexual contact - males	517	4%	283	55%	190	67%
Heterosexual contact - females	1,259	9%	769	61%	502	65%
Other/unknown - males	1,783	13%	878	49%	596	68%
Other/unknown - females	1,185	9%	680	57%	423	62%
COUNTRY OF BIRTH						
U.S.	9,688	71%	5,531	57%	3,635	66%
U.S. dependency	77	1%	27	35%	19	70%
Foreign country	680	5%	318	47%	248	78%
Missing/unknown	3,159	23%	1,637	52%	1,148	70%
TOTAL	***13,604***	***100%***	***7,513***	***55%***	***5,050***	***67%***

**Monitored viral load is calculated based on laboratory testing data which has a longer lag than case reporting. For that reason, data from 2009 is the latest year viral load analyses can be conducted at this time. Analysis based on HIV surveillance data reported through 05/25/2012.*

†Based on the most recent viral load test result from 01/01/2009 through 12/31/2009.

§ Among persons with at least 1 VL test.

¶ Persons described as white, black, and other are all non-Hispanic; persons described as Hispanic/Latino may be of any race. "Other" includes American Indian/Alaska Native, Asian/Native Hawaiian or Other Pacific Islander, multiple races, and unknown race.

e Heterosexual contact with a person known to have, or to have a known risk factor for, HIV infection.

Table 17: Gonorrhea, syphilis, and chlamydia cases by sex, race, and age group, Michigan, 2011

	Gonorrhea			P&S syphilis*			Chlamydia			Census 2010	
	Num	Percent	Rate^	Num	Percent	Rate^	Num	Percent	Rate^	Num	Percent
RACE/ ETHNICITY											
White	1,399	11%	18.5	93	34%	1.2	10,866	22%	143.5	7,569,939	77%
Black	6,382	49%	461.2	169	62%	12.2	17,912	36%	1294.4	1,383,756	14%
Hispanic	146	1%	33.5	4	1%	0.9	1,069	2%	245.0	436,358	4%
Other/multi	155	1%	31.4	3	1%	0.6	894	2%	181.1	493,587	5%
Unknown race	4,988	38%	N/A	4	1%	N/A	19,322	39%	N/A	N/A	N/A
SEX & RACE											
Male	5,343	41%	110.2	247	90%	5.1	13,221	26%	272.7	4,848,114	49%
White male	*412*	*3%*	*11.0*	*88*	*32%*	*2.4*	*2,491*	*5%*	*66.8*	*3,728,507*	*38%*
Black male	*2,975*	*23%*	*452.7*	*149*	*54%*	*22.7*	*5,497*	*11%*	*836.5*	*657,181*	*7%*
Hispanic male	*39*	*<1%*	*17.6*	*4*	*1%*	*1.8*	*287*	*1%*	*129.3*	*221,913*	*2%*
Other male	*60*	*<1%*	*N/A*	*3*	*1%*	*1.2*	*224*	*<1%*	*N/A*	*240,513*	*2%*
Unknown male	*1,857*	*14%*	*N/A*	*3*	*1%*	*N/A*	*4,722*	*9%*	*N/A*	*N/A*	*N/A*
Female	7,706	59%	153.0	26	9%	0.0	36,732	73%	729.5	5,035,526	51%
White female	*981*	*8%*	*25.5*	*1*	*<1%*	*0.0*	*8,364*	*17%*	*217.7*	*3,841,432*	*39%*
Black female	*3,406*	*26%*	*468.8*	*20*	*7%*	*2.8*	*12,407*	*25%*	*1707.6*	*726,575*	*7%*
Hispanic female	*107*	*1%*	*49.9*	*0*	*0%*	*0.0*	*779*	*2%*	*363.3*	*214,445*	*2%*
Other female	*101*	*1%*	*39.9*	*0*	*0%*	*0.0*	*667*	*1%*	*263.6*	*253,074*	*3%*
Unknown female	*3,111*	*24%*	*N/A*	*1*	*<1%*	*N/A*	*14,515*	*29%*	*N/A*	*N/A*	*N/A*
Unknown sex - all races	21	<1%	N/A	0	0%	N/A	110	<1%	N/A	N/A	N/A
AGE											
0-4 years	10	<1%	1.7	0	0%	0.0	11	<1%	1.8	596,286	6%
5-9 years	3	<1%	0.5	0	0%	0.0	10	<1%	1.6	637,784	6%
10-14 years	148	1%	21.9	0	0%	0.0	662	1%	98.0	675,216	7%
15-19 years	4,249	33%	574.5	14	5%	1.9	19,426	39%	2626.6	739,599	7%
20-24 years	4,473	34%	668.5	63	23%	9.4	18,877	38%	2821.4	669,072	7%
25-29 years	1,806	14%	306.3	44	16%	7.5	6,026	12%	1022.1	589,583	6%
30-34 years	925	7%	161.0	35	13%	6.1	2,556	5%	444.9	574,566	6%
35-39 years	550	4%	89.8	40	15%	6.5	1,185	2%	193.5	612,493	6%
40-44 years	348	3%	52.3	28	10%	4.2	583	1%	87.6	665,481	7%
45-54 years	368	3%	24.4	36	13%	2.4	450	1%	29.8	1,510,033	15%
55-64 years	113	1%	9.0	13	5%	1.0	107	<1%	8.5	1,251,997	13%
65 and over	27	<1%	2.0	1	<1%	0.1	31	<1%	2.3	1,361,530	14%
Unknown age	50	<1%	N/A	0	0%	N/A	139	<1%	N/A	N/A	N/A
TOTAL	**13,070**	**100%**	**132.2**	**274**	**100%**	**2.8**	**50,063**	**100%**	**506.5**	**9,883,640**	**100%**

*P&S: Primary and secondary syphilis.

^Rate per 100,000 population.

Table 18: Gonorrhea, syphilis, and chlamydia cases by area and local health department jurisdiction, 2011

Local health department jurisdiction	Gonorrhea		P&S syphilis*		Chlamydia		Census 2010
	Num	Rate^	Num	Rate^	Num	Rate^	Num
Allegan	31	27.8	1	0.9	268	240.6	111,408
Barry/Eaton	55	32.9	1	0.6	424	254.0	166,932
Bay	28	26.0	0	0.0	339	314.6	107,771
Benzie/Leelanau	1	2.5	0	0.0	83	211.6	39,233
Berrien	224	142.8	0	0.0	1,067	680.4	156,813
Br/Hills/St Joseph	25	16.3	0	0.0	299	195.1	153,231
Calhoun	125	91.8	2	1.5	924	678.7	136,146
Chippewa	-	0.0	0	0.0	88	228.5	38,520
Central MI Dist	54	28.3	4	2.1	474	248.4	190,805
Delta/Menominee	4	6.5	3	4.9	101	165.3	61,098
Dickinson/Iron	2	5.3	0	0.0	70	184.3	37,985
District #2	3	4.5	0	0.0	70	104.2	67,168
District #4	11	13.9	1	1.3	92	116.6	78,891
District #10	30	11.5	2	0.8	541	206.8	261,616
Genesee	875	205.5	5	1.2	3,192	749.7	425,790
Grand Traverse	5	5.7	1	1.1	255	293.2	86,986
Huron	-	0.0	0	0.0	47	141.9	33,118
Ingham	342	121.8	7	2.5	1,915	681.7	280,895
Ionia	7	11.0	0	0.0	128	200.3	63,905
Jackson	84	52.4	2	1.2	696	434.3	160,248
Kalamazoo	351	140.2	15	6.0	1,759	702.7	250,331
Kent	734	121.8	9	1.5	3,615	599.9	602,622
Lapeer	13	14.7	1	1.1	122	138.1	88,319
Lenawee	34	34.0	2	2.0	209	209.2	99,892
Livingston	12	6.6	1	0.6	251	138.7	180,967
LMAS District	5	18.3	0	0.0	38	139.0	27,345
Macomb	501	59.6	25	3.0	1,960	233.1	840,978
Marquette	10	14.9	0	0.0	142	211.7	67,077
Midland	14	16.7	1	1.2	191	228.4	83,629
Monroe	64	42.1	1	0.7	352	231.5	152,021
Muskegon	217	126.0	4	2.3	1,219	707.9	172,188
Mid-MI District	42	23.2	2	1.1	349	192.6	181,200
NW Michigan	21	19.7	0	0.0	216	203.0	106,387
Oakland	989	82.3	30	2.5	3,691	307.0	1,202,362
Ottawa	66	25.0	3	1.1	571	216.5	263,801
Saginaw	202	100.9	1	0.5	1,558	778.3	200,169
Sanilac	3	7.0	0	0.0	50	116.0	43,114
Shiawassee	18	25.5	1	1.4	163	230.7	70,648
St Clair	56	34.3	2	1.2	425	260.7	163,040
Tuscola	8	14.4	0	0.0	104	186.6	55,729
Van Buren/Cass	49	38.1	0	0.0	323	251.3	128,551
Washtenaw	237	68.7	11	3.2	1,392	403.7	344,791
Wayne excl Detroit	989	89.4	34	3.1	3,774	341.0	1,106,807
City of Detroit	6,521	913.6	102	14.3	16,414	2299.6	713,777
WestUpDist	3	4.2	0	0.0	91	128.4	70,851
Detroit Metro Area#	9,132	214.0	194	4.5	26,738	626.6	4,267,304
Out-State	3,937	70.1	79	1.4	26,738	476.1	5,616,336
TOTAL	***13,070***	***132.2***	***274***	***2.8***	***50,063***	***506.5***	***9,883,640***

#Detroit Metro Area includes Lapeer, Monroe, Macomb, Oakland, St. Clair, and Wayne counties.

* P&S: Primary and secondary syphilis.

^ Rate per 100,000 population.

Table 19: Reported cases of acute and chronic hepatitis C by sex, race, and age group, Michigan, 2011

	Acute hepatitis C		Chronic hepatitis C			Census 2010	
	Num	Percent	Num	Percent	Rate*	Num	Percent
SEX							
Male	16	52%	4,426	63%	91	4,848,114	49%
Female	15	48%	2,543	36%	51	5,035,526	51%
Unknown	0	0%	22	<1%	N/A	N/A	N/A
RACE †							
White	20	65%	2,712	39%	35	7,803,120	79%
Black	3	10%	1,379	20%	98	1,400,362	14%
Asian	1	3%	20	<1%	8	238,199	2%
Native Hawaiian/Other Pacific Islander	0	0%	4	<1%	--	2,604	<1%
American Indian/Alaska Native	0	0%	43	1%	69	62,007	1%
Other	1	3%	82	1%	56	147,029	1%
Unknown race	6	19%	2,524	36%	N/A	N/A	N/A
Multiracial	0	0%	227	3%	99	230,319	2%
AGE							
0-4 years	1	3%	4	<1%	--	596,286	6%
5-9 years	0	0%	2	<1%	--	637,784	6%
10-14 years	0	0%	2	<1%	--	675,216	7%
15-19 years	1	3%	94	1%	13	739,599	7%
20-24 years	5	16%	414	6%	62	669,072	7%
25-29 years	7	23%	516	7%	88	589,583	6%
30-34 years	5	16%	387	6%	67	574,566	6%
35-39 years	3	10%	287	4%	47	612,493	6%
40-44 years	0	0%	411	6%	62	665,481	7%
45-49 years	3	10%	695	10%	93	744,581	8%
50-54 years	3	10%	1,268	18%	166	765,452	8%
55-64 years	2	6%	2,394	34%	191	1,251,997	13%
65 and over	1	3%	501	7%	37	1,361,530	14%
Unknown age	0	0%	16	<1%	N/A	N/A	N/A
TOTAL	**31**	**100%**	**6,991**	**100%**	**71**	**9,883,640**	**100%**

* *Rates are not displayed for <10 cases.*

† *Hispanic ethnicity is not categorized due to incomplete data. Each race category includes both Hispanic and non-Hispanic persons.*

Table 20: Sex, race, and risk among HIV-positive persons currently incarcerated in Michigan, 2012

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	24	41%	93	35%	2	22%	3	50%	122	36%
Injection drug use (IDU)	12	20%	40	15%	3	33%	0	0%	55	16%
MSM/IDU	8	14%	31	12%	1	11%	3	50%	43	13%
Blood products	1	2%	0	0%	0	0%	0	0%	1	<1%
Heterosexual contact (HCFR)	4	7%	30	11%	3	33%	0	0%	37	11%
Perinatal	0	0%	2	1%	0	0%	0	0%	2	1%
Undetermined	10	17%	71	27%	0	0%	0	0%	81	24%
Male Subtotal	**59**	**17%**	**267**	**78%**	**9**	**3%**	**6**	**2%**	**341**	**100%**

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	3	38%	6	50%	0	0%	0	0%	9	41%
Blood Products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	5	63%	6	50%	0	0%	1	0%	12	55%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	0	0%	0	0%	0	0%	1	0%	1	5%
Female Subtotal	**8**	**36%**	**12**	**55%**	**0**	**0%**	**2**	**9%**	**22**	**100%**

All	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	24	36%	93	33%	2	22%	3	38%	122	34%
Injection drug use (IDU)	15	22%	46	16%	3	33%	0	0%	64	18%
MSM/IDU	8	12%	31	11%	1	11%	3	38%	43	12%
Blood products	1	1%	0	0%	0	0%	0	0%	1	<1%
Heterosexual contact (HC)	9	13%	36	13%	3	33%	1	13%	49	13%
HCFR (male)	*4*	*6%*	*30*	*11%*	*3*	*33%*	*0*	*0%*	*37*	*10%*
HCM (female)	*5*	*7%*	*6*	*2%*	*0*	*0%*	*1*	*13%*	*12*	*3%*
Perinatal	0	0%	2	1%	0	0%	0	0%	2	1%
Undetermined	10	15%	71	25%	0	0%	1	13%	82	23%
RACE ALL	***67***	***18%***	***279***	***77%***	***9***	***2%***	***8***	***2%***	***363***	***100%***

Table 21: Sex, race, and age at HIV diagnosis among HIV-positive persons currently incarcerated in Michigan, 2012

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	0	0%	2	1%	0	0%	0	0%	2	1%
13 - 19 years	2	3%	16	6%	0	0%	0	0%	18	5%
20 - 24 years	11	19%	49	18%	2	22%	1	17%	63	18%
25 - 29 years	15	25%	59	22%	3	33%	1	17%	78	23%
30 - 39 years	22	37%	103	39%	3	33%	3	50%	131	38%
40 - 49 years	8	14%	30	11%	1	11%	1	17%	40	12%
50 - 59 years	1	2%	8	3%	0	0%	0	0%	9	3%
60 years and over	0	0%	0	0%	0	0%	0	0%	0	0%
Male Subtotal	**59**	**17%**	**267**	**78%**	**9**	**3%**	**6**	**2%**	**341**	**100%**

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	0	0%	0	0%	0	0%	0	0%	0	0%
13 - 19 years	1	13%	0	0%	0	0%	0	0%	1	5%
20 - 24 years	2	25%	3	25%	0	0%	0	0%	5	23%
25 - 29 years	2	25%	4	33%	0	0%	2	0%	8	36%
30 - 39 years	2	25%	3	25%	0	0%	0	0%	5	23%
40 - 49 years	1	13%	2	17%	0	0%	0	0%	3	14%
50 - 59 years	0	0%	0	0%	0	0%	0	0%	0	0%
60 years and over	0	0%	0	0%	0	0%	0	0%	0	0%
Female Subtotal	**8**	**36%**	**12**	**55%**	**0**	**0%**	**2**	**9%**	**22**	**100%**

ALL	White		Black		Hispanic		Other or unknown		Age all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	0	0%	2	1%	0	0%	0	0%	2	1%
13 - 19 years	3	4%	16	6%	0	0%	0	0%	19	5%
20 - 24 years	13	19%	52	19%	2	22%	1	13%	68	19%
25 - 29 years	17	25%	63	23%	3	33%	3	38%	86	24%
30 - 39 years	24	36%	106	38%	3	33%	3	38%	136	37%
40 - 49 years	9	13%	32	11%	1	11%	1	13%	43	12%
50 - 59 years	1	1%	8	3%	0	0%	0	0%	9	2%
60 years and over	0	0%	0	0%	0	0%	0	0%	0	0%
RACE ALL	***67***	***18%***	***279***	***77%***	***9***	***2%***	***8***	***2%***	***363***	***100%***

Table 22: Sex, risk, and age at HIV diagnosis among HIV-positive persons currently incarcerated in Michigan, 2012

MALE	**0 - 12 years**		**13 - 19 years**		**20 - 24 years**		**25 - 29 years**		**30 - 39 years**		**40 - 49 years**		**50 - 59 years**		**60 years and over**		**All male**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex	0	0%	10	56%	35	56%	31	40%	39	30%	6	15%	1	11%	0	0%	122	36%
Injection drug use	0	0%	0	0%	6	10%	7	9%	28	21%	11	28%	3	33%	0	0%	55	16%
MSM/IDU	0	0%	3	17%	6	10%	14	18%	15	11%	3	8%	2	22%	0	0%	43	13%
Blood products	0	0%	0	0%	1	2%	0	0%	0	0%	0	0%	0	0%	0	0%	1	0%
Heterosexual contact (HCFR)	0	0%	2	11%	3	5%	10	13%	15	11%	7	18%	0	0%	0	0%	37	11%
Perinatal	2	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	2	1%
Undetermined	0	0%	3	17%	12	19%	16	21%	34	26%	13	33%	3	33%	0	0%	81	24%
Male Subtotal	**2**	**1%**	**18**	**5%**	**63**	**18%**	**78**	**23%**	**131**	**38%**	**40**	**12%**	**9**	**3%**	**0**	**0%**	**341**	**100%**

FEMALE	**0 - 12 years**		**13 - 19 years**		**20 - 24 years**		**25 - 29 years**		**30 - 39 years**		**40 - 49 years**		**50 - 59 years**		**60 years and over**		**All female**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Injection drug use	0	0%	0	0%	3	60%	4	50%	0	0%	2	67%	0	0%	0	0%	9	41%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	0	0%	1	100%	2	40%	3	38%	5	100%	1	33%	0	0%	0	0%	12	55%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	0	0%	0	0%	0	0%	1	13%	0	0%	0	0%	0	0%	0	0%	1	5%
Female Subtotal	**0**	**0%**	**1**	**5%**	**5**	**23%**	**8**	**36%**	**5**	**23%**	**3**	**14%**	**0**	**0%**	**0**	**0%**	**22**	**100%**

ALL	**0 - 12 years**		**13 - 19 years**		**20 - 24 years**		**25 - 29 years**		**30 - 39 years**		**40 - 49 years**		**50 - 59 years**		**60 years and over**		**Age all**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex	0	0%	10	53%	35	51%	31	36%	39	29%	6	14%	1	11%	0	0%	122	34%
Injection drug use	0	0%	0	0%	9	13%	11	13%	28	21%	13	30%	3	33%	0	0%	64	18%
MSM/IDU	0	0%	3	16%	6	9%	14	16%	15	11%	3	7%	2	22%	0	0%	43	12%
Blood products	0	0%	0	0%	1	1%	0	0%	0	0%	0	0%	0	0%	0	0%	1	<1%
Heterosexual contact (HC)	0	0%	3	16%	5	7%	13	15%	20	15%	8	19%	0	0%	0	0%	49	13%
HCFR (male)	*0*	*0%*	*2*	*11%*	*3*	*4%*	*10*	*12%*	*15*	*11%*	*7*	*16%*	*0*	*0%*	*0*	*0%*	*37*	*10%*
HCM (female)	*0*	*0%*	*1*	*5%*	*2*	*3%*	*3*	*3%*	*5*	*4%*	*1*	*2%*	*0*	*0%*	*0*	*0%*	*12*	*3%*
Perinatal	2	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	2	1%
Undetermined	0	0%	3	16%	12	18%	17	20%	34	25%	13	30%	3	33%	0	0%	82	23%
AGE ALL	***2***	***1%***	***19***	***5%***	***68***	***19%***	***86***	***24%***	***136***	***37%***	***43***	***12%***	***9***	***2%***	***0***	***0%***	***363***	***100%***

Table 23: Demographic information on Arab American HIV infection cases currently living in Michigan, 2012

	REPORTED PREVALENCE							
	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent of stage 3 cases
SEX								
Male	30	75%	47	90%	77	84%	23	44%
Female	10	25%	5	10%	15	16%	1	2%
RISK*								
Male-male sex (MSM)	16	40%	21	40%	37	40%	10	19%
Injection drug use (IDU)	2	5%	2	4%	4	4%	1	2%
MSM/IDU	1	3%	3	6%	4	4%	2	4%
Blood products	1	3%	0	0%	1	1%	--	--
Heterosexual contact (HC)	7	18%	10	19%	17	18%	1	2%
HCFR (male)	*1*	*3%*	*5*	*10%*	*6*	*7%*	*0*	*0%*
HCM (female)	*6*	*15%*	*5*	*10%*	*11*	*12%*	*1*	*2%*
Perinatal	1	3%	0	0%	1	1%	--	--
Undetermined	12	30%	16	31%	28	30%	10	19%
AGE AT HIV DIAGNOSIS								
0 - 12 years	1	3%	0	0%	1	1%	--	--
13 - 19 years	4	10%	0	0%	4	4%	--	--
20 - 24 years	2	5%	6	12%	8	9%	0	0%
25 - 29 years	13	33%	8	15%	21	23%	1	2%
30 - 39 years	11	28%	19	37%	30	33%	10	19%
40 - 49 years	6	15%	15	29%	21	23%	9	17%
50 - 59 years	2	5%	2	4%	4	4%	2	4%
60 and over	0	0%	2	4%	2	2%	2	4%
Unspecified	1	3%	0	0%	1	1%	--	--
AREA OF CURRENT RESIDENCE[†]								
Detroit Metro Area	37	93%	49	94%	86	93%	24	46%
Out-State	3	8%	3	6%	6	7%	0	0%
TOTAL	***40***	***100%***	***52***	***100%***	***92***	***100%***	***24***	***46%***

**See page vi of the Forward and Appendix 2 for 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).*

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

Table 24: Sex, risk, and age at HIV diagnosis among Arab American HIV infection cases currently living in Michigan, 2012

MALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1	25%	13	68%	12	41%	11	44%	37	48%
Injection drug use (IDU)	0	0%	0	0%	1	3%	1	4%	2	3%
MSM/IDU	0	0%	0	0%	3	10%	1	4%	4	5%
Blood products	1	25%	0	0%	0	0%	0	0%	1	1%
Heterosexual contact (HCFR)	0	0%	1	5%	3	10%	2	8%	6	8%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	2	50%	5	26%	10	34%	10	40%	27	35%
Male Subtotal	**4**	**5%**	**19**	**25%**	**29**	**38%**	**25**	**32%**	**77**	**100%**

FEMALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	0	0%	1	10%	1	100%	0	0%	2	14%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	0	0%	9	90%	0	0%	2	100%	11	79%
Perinatal	1	100%	0	0%	0	0%	0	0%	1	7%
Undetermined	0	0%	0	0%	0	0%	0	0%	0	0%
Female Subtotal*	**1**	**7%**	**10**	**71%**	**1**	**7%**	**2**	**14%**	**14**	**100%**

ALL	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1	20%	13	45%	12	40%	11	41%	37	41%
Injection drug use (IDU)	0	0%	1	3%	2	7%	1	4%	4	4%
MSM/IDU	0	0%	0	0%	3	10%	1	4%	4	4%
Blood products	1	20%	0	0%	0	0%	0	0%	1	1%
Heterosexual contact (HC)	0	0%	10	34%	3	10%	4	15%	17	19%
HCFR (male)	*0*	*0%*	*1*	*3%*	*3*	*10%*	*2*	*7%*	*6*	*7%*
HCM (female)	*0*	*0%*	*9*	*31%*	*0*	*0%*	*2*	*7%*	*11*	*12%*
Perinatal	1	20%	0	0%	0	0%	0	0%	1	1%
Undetermined	2	40%	5	17%	10	33%	10	37%	27	30%
***AGE ALL** *	***5***	***5%***	***29***	***32%***	***30***	***33%***	***27***	***30%***	***91***	***100%***

**Not included in this table are the following cases with unknown age at diagnosis: one female with unknown risk.*

Table 25: Demographic information on Asian, Native Hawaiian, and Other Pacific Islander HIV infection cases currently living in Michigan, 2012

	REPORTED PREVALENCE							
	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent of stage 3 cases
SEX								
Male	29	64%	41	80%	70	73%	23	45%
Female	16	36%	10	20%	26	27%	5	10%
RISK*								
Male-male sex (MSM)	13	29%	15	29%	28	29%	12	24%
Injection drug use (IDU)	3	7%	3	6%	6	6%	1	2%
MSM/IDU	0	0%	1	2%	1	1%	0	0%
Blood products	1	2%	0	0%	1	1%	--	--
Heterosexual contact (HC)	8	18%	12	24%	20	21%	5	10%
HCFR (male)	*0*	*0%*	*3*	*6%*	*3*	*3%*	*1*	*2%*
HCM (female)	*8*	*18%*	*9*	*18%*	*17*	*18%*	*4*	*8%*
Perinatal	2	4%	0	0%	2	2%	--	--
Undetermined	19	42%	20	39%	39	41%	10	20%
AGE AT HIV DIAGNOSIS								
0 - 12 years	2	4%	0	0%	2	2%	--	--
13 - 19 years	1	2%	2	4%	3	3%	--	--
20 - 24 years	7	16%	4	8%	11	11%	2	4%
25 - 29 years	13	29%	16	31%	29	30%	7	14%
30 - 39 years	16	36%	15	29%	31	32%	11	22%
40 - 49 years	6	13%	12	24%	18	19%	8	16%
50 - 59 years	0	0%	2	4%	2	2%	0	0%
60 and over	0	0%	0	0%	0	0%	--	--
Unspecified	0	0%	0	0%	0	0%	--	--
AREA OF CURRENT RESIDENCE[†]								
Detroit Metro Area	21	47%	27	53%	48	50%	17	33%
Out-State	24	53%	22	43%	46	48%	9	18%
Prison or unknown	0	0%	3	6%	3	3%	2	4%
TOTAL	***45***	***100%***	***51***	***100%***	***96***	***100%***	***28***	***55%***

**See page vi of the Forward and Appendix 2 for 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).*

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

Table 26: Sex, Risk, and Age at HIV Diagnosis Among Asian, Native Hawaiian and Pacific Islander HIV Infection Cases Currently Living in Michigan, 2012

MALE	**0 - 19 years**		**20 - 29 years**		**30 - 39 years**		**40 years and older**		**All male**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex (MSM)	0	0%	12	41%	9	39%	7	47%	28	40%
Injection drug use (IDU)	0	0%	3	10%	2	9%	1	7%	6	9%
MSM/IDU	0	0%	1	3%	0	0%	0	0%	1	1%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCFR)	0	0%	2	7%	1	4%	0	0%	3	4%
Perinatal	1	33%	0	0%	0	0%	0	0%	1	1%
Undetermined	2	67%	11	38%	11	48%	7	47%	31	44%
Male Subtotal	**3**	**4%**	**29**	**41%**	**23**	**33%**	**15**	**21%**	**70**	**100%**

FEMALE	**0 - 19 years**		**20 - 29 years**		**30 - 39 years**		**40 years and older**		**All female**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Injection drug use (IDU)	0	0%	0	0%	0	0%	0	0%	0	0%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	1	50%	7	64%	4	50%	5	100%	17	65%
Perinatal	1	50%	0	0%	0	0%	0	0%	1	4%
Undetermined	0	0%	4	36%	4	50%	0	0%	8	31%
Female Subtotal*	**2**	**8%**	**11**	**42%**	**8**	**31%**	**5**	**19%**	**26**	**100%**

ALL	**0 - 19 years**		**20 - 29 years**		**30 - 39 years**		**40 years and older**		**Risk all**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex (MSM)	0	0%	12	30%	9	29%	7	35%	28	29%
Injection drug use (IDU)	0	0%	3	8%	2	6%	1	5%	6	6%
MSM/IDU	0	0%	1	3%	0	0%	0	0%	1	1%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HC)	1	20%	9	23%	5	16%	5	25%	20	21%
HCFR (male)	*0*	*0%*	*2*	*5%*	*1*	*3%*	*0*	*0%*	*3*	*3%*
HCM (female)	*1*	*20%*	*7*	*18%*	*4*	*13%*	*5*	*25%*	*17*	*18%*
Perinatal	2	40%	0	0%	0	0%	0	0%	2	2%
Undetermined	2	40%	15	38%	15	48%	7	35%	39	41%
AGE ALL*	***5***	***5%***	***40***	***42%***	***31***	***32%***	***20***	***21%***	***96***	***100%***

Table 27: Demographic information on American Indian and Alaska Native HIV infection cases currently living in Michigan, 2012

	REPORTED PREVALENCE							
	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent of stage 3 cases
SEX								
Male	20	77%	12	80%	32	78%	3	20%
Female	6	23%	3	20%	9	22%	1	7%
RISK*								
Male-male sex (MSM)	9	35%	6	40%	15	37%	2	13%
Injection drug use (IDU)	1	4%	0	0%	1	2%	--	--
MSM/IDU	3	12%	3	20%	6	15%	0	0%
Blood products	1	4%	0	0%	1	2%	--	--
Heterosexual contact (HC)	6	23%	4	27%	10	24%	1	7%
HCFR (male)	*1*	*4%*	*1*	*7%*	*2*	*5%*	*0*	*0%*
HCM (female)	*5*	*19%*	*3*	*20%*	*8*	*20%*	*1*	*7%*
Perinatal	1	4%	0	0%	1	2%	--	--
Undetermined	6	23%	2	13%	8	20%	1	7%
AGE AT HIV DIAGNOSIS								
0 - 12 years	1	4%	0	0%	1	2%	--	--
13 - 19 years	0	0%	0	0%	0	0%	--	--
20 - 24 years	8	31%	3	20%	11	27%	1	7%
25 - 29 years	1	4%	3	20%	4	10%	0	0%
30 - 39 years	11	42%	8	53%	19	46%	3	20%
40 - 49 years	4	15%	1	7%	5	12%	0	0%
50 - 59 years	0	0%	0	0%	0	0%	--	--
60 and over	1	4%	0	0%	1	2%	--	--
Unspecified	0	0%	0	0%	0	0%	--	--
AREA OF CURRENT RESIDENCE[†]								
Detroit Metro Area	11	42%	5	33%	16	39%	1	7%
Out-State	15	58%	9	60%	24	59%	3	20%
Prison	0	0%	1	7%	1	2%	0	0%
TOTAL	***26***	***100%***	***15***	***100%***	***41***	***100%***	***4***	***27%***

**See page vi of the Forward and Appendix 2 for 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).*

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

Table 28: Sex, risk, and age at HIV diagnosis among American Indian and Alaska Native HIV infection cases currently living in Michigan, 2012

MALE	**0 - 19 years**		**20 - 29 years**		**30 - 39 years**		**40 years and older**		**All male**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex (MSM)	0	0%	5	42%	8	50%	2	50%	15	47%
Injection drug use (IDU)	0	0%	0	0%	1	6%	0	0%	1	3%
MSM/IDU	0	0%	4	33%	2	13%	0	0%	6	19%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCFR)	0	0%	1	8%	0	0%	1	25%	2	6%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	0	0%	2	17%	5	31%	1	25%	8	25%
Male Subtotal	**0**	**0%**	**12**	**38%**	**16**	**50%**	**4**	**13%**	**32**	**100%**

FEMALE	**0 - 19 years**		**20 - 29 years**		**30 - 39 years**		**40 years and older**		**All female**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Injection drug use (IDU)	0	0%	0	0%	0	0%	0	0%	0	0%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	0	0%	3	100%	3	100%	2	100%	8	89%
Perinatal	1	100%	0	0%	0	0%	0	0%	1	11%
Undetermined	0	0%	0	0%	0	0%	0	0%	0	0%
Female Subtotal*	**1**	**11%**	**3**	**33%**	**3**	**33%**	**2**	**22%**	**9**	**100%**

ALL	**0 - 19 years**		**20 - 29 years**		**30 - 39 years**		**40 years and older**		**Risk all**	
	Num	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**	**Num**	**Percent**
Male-male sex (MSM)	0	0%	5	33%	8	42%	2	33%	15	37%
Injection drug use (IDU)	0	0%	0	0%	1	5%	0	0%	1	2%
MSM/IDU	0	0%	4	27%	2	11%	0	0%	6	15%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HC)	0	0%	4	27%	3	16%	3	50%	10	24%
HCFR (male)	*0*	*0%*	*1*	*7%*	*0*	*0%*	*1*	*17%*	*2*	*5%*
HCM (female)	*0*	*0%*	*3*	*20%*	*3*	*16%*	*2*	*33%*	*8*	*20%*
Perinatal	1	100%	0	0%	0	0%	0	0%	1	2%
Undetermined	0	0%	0	0%	0	0%	0	0%	8	20%
AGE ALL*	***1***	***2%***	***15***	***37%***	***19***	***46%***	***6***	***15%***	***41***	***100%***