

2010 Profile of HIV/AIDS in Michigan

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Summary

At the end of 2009, a total of 15,285 persons were known to be living with HIV/AIDS in Michigan, over half (54 percent) of whom have a diagnosis of AIDS. Currently, there are persons living with HIV in all but two counties of the state. The statewide prevalence of HIV is distributed disproportionately. Most HIV/AIDS cases continue to be diagnosed in the Detroit Metropolitan Area, where 44 percent of the state's population lives, but where two-thirds (64 percent) of all persons currently living with HIV in Michigan reside. HIV positive residents of the Detroit Metro Area continue to be predominantly men who have sex with men (MSM), black, and ages 30-49 years old at time of diagnosis.

The rate of new HIV diagnoses decreased for the first time by an average of two percent per year from 2004 to 2008. Additionally, the rate of new HIV diagnoses has increased among black males (average of two percent per year) and the number of cases among black MSM has increased (average of four percent per year). The rates among black males and females are troubling given that they are several times higher than other race/sex groups, specifically, 12.4 times higher than in white persons. Black males and females make up only 14 percent of the general population in Michigan, but 58 percent of persons living with HIV/AIDS.

Between 2004 and 2008, the rate of new diagnoses increased among teens 13-19 years of age and among persons 30-39 years of age. This is the fifth year in a row that Michigan trend analyses have shown a significant increase among teens. Of all teens diagnosed in the last five years, 85 percent are black compared to 60 percent of persons diagnosed at older ages. Furthermore, teens are much more likely to be black males who have sex with males (MSM) compared to adults 20 years and older (62 vs. 23 percent). For further analyses on trends over time, please refer to pages 3-107 (statewide) or 4-46 (Detroit Metro Area).

Updates on New Information:

It is quite evident that the epidemic is shifting toward young black males. The data presented in this publication attempt to provide a base from which to monitor this shift and aid in development of targeted prevention and care programs. Additionally, a focused section has been added on young black MSM living with HIV.

The Centers for Disease Control and Prevention has placed an emphasis on integration of HIV, STD, TB and hepatitis programs and services. With this in mind, this year's Profile has included more information on these other infections. In addition to data on co-infections of HIV and STDs, TB, and Hepatitis, we have included data on these other diseases in the general population of Michigan. Michigan is at the forefront of national HIV surveillance and is conducting multiple activities to supplement routine HIV surveillance. The 2010 Profile includes data from the Medical Monitoring Project (MMP), National HIV Behavioral Surveillance (NHBS), and Estimates of HIV Incidence. Unfortunately, there are not yet enough data on HIV Resistance Surveillance to present at this time. Please look to the 'upcoming' portion of the data sources section to learn about this data source. Finally, in response to previous requests on data for minority race/ethnic groups, the Profiles include 'special focus' analyses on not only Arab-Americans, but also Asian/Native Hawaiian/Pacific Islanders and American Indians/Alaskan Natives.

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Technical Information

This year the HIV/STD/VH/TB Epidemiology Section is providing prevention and care planning groups with the epidemiologic profiles for the State of Michigan, the Detroit Metropolitan Area, and Out-State Michigan (including the upper peninsula and the balance of the lower peninsula). This portion of the profile will explain various methods used to analyze data and make conclusions.

Ranking of Behavioral Groups

The profiles use a simplified method of ranking the priority of behavioral groups. The rank is based on the percentage of total reported HIV/AIDS cases and trends over time for each behavioral group.

Computation of Prevalence Estimates

HIV prevalence estimates in this report are based on adding the following three components and rounding: 1) the number of cases living with HIV/AIDS, 2) the number of diagnosed HIV+ cases not yet reported, estimated at 10 percent of the reported living HIV/AIDS cases, and 3) the number of HIV+ cases that have not yet been tested, estimated at 21 percent of the total cases living with HIV/AIDS (identical to the CDC estimate).

Categorical estimates of HIV infection are calculated from the distribution of reported cases among each group of confidentially-reported persons living with HIV or AIDS. The proportion of total cases is multiplied by 18,800. For example, 77 percent of combined HIV and AIDS reports are among men. Therefore, the number of HIV-infected men in Michigan is estimated to be 14,570 (77.47 percent x 18,800). Since the estimates are rounded to the nearest 10, totals may not equal 18,800. The minimum estimate is 10.

Prison estimates of HIV infection are calculated differently than the above mentioned categorical estimates. Because all prisoners are tested for HIV upon entry to prison, there is no need to apply estimates to account for unreported and untested cases to the reported prison cases. Therefore, the prison prevalence estimate is calculated by rounding the reported number of persons living with HIV/AIDS who were diagnosed in prison to the nearest 10.

County estimates of HIV infection are calculated similarly to the categorical estimates; however, for county calculations, the proportion of cases in a particular county is multiplied by the statewide estimate minus the prison and unknown estimate (18,800 - 480 = 18,320). For example, 11 percent of HIV/AIDS cases (not including prison and cases with unknown residence) were living in Oakland county at diagnosis. Therefore, the number of HIV-infected persons who were living in Oakland county at the time of diagnosis is estimated to be 2,070 (11.32 percent x 18,320). Since the estimates are rounded to the nearest 10, the county totals may not equal 18,320. The method of calculating prevalence estimates for county of residence was revised as of April 2008, and thus county estimates presented prior to this date may differ from current and future estimates.

Use of residence at diagnosis vs. current residence

The HIV/STD/VH/TB Epidemiology Section creates these profiles every other year; however, statewide and some county statistical analyses are created and disseminated on a quarterly basis. When reading either of these documents, keep in mind that they are based on two different populations. The HIV/AIDS Quarterly Analyses (statewide and county) use cases of HIV/AIDS whose **residence at diagnosis** was Michigan (cases that were diagnosed in Michigan can presently be living elsewhere). The Epidemiologic Profiles of HIV/AIDS in Michigan use cases of HIV/AIDS that are **currently living** in Michigan. There are 914 more persons included when we use the HIV infected population **currently living**

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in Michigan, regardless of where they were living when diagnosed with HIV. The reason different populations are used is to satisfy questions on both populations. Therefore, there may be differences in numbers, percentages, and rates when comparing the two types of documents.

Use of date of *diagnosis*

In order to measure prevention achievements, the number of persons who become newly infected would ideally be followed over time. Methods for measuring new infections are currently being developed, however, since surveillance is not yet able to do this, trends are analyzed among those newly diagnosed with HIV disease between 2004 and 2008. The date of new HIV *diagnosis* does not tell us when persons were first *infected*, because their HIV diagnosis may take place months or years after infection. However, this is the best current measure of how fast the epidemic is spreading among different populations.

Methods to assess trends over time

To evaluate trends over time, we estimated the number of persons newly diagnosed with HIV infection each year by adjusting the number of reported cases diagnosed in 2004 through 2008 to account for those who may not have been reported to the health department by January 1, 2010. Those adjustments were calculated by weighting the data.

After adjusting the data, we analyzed annual rates of new diagnoses, overall and by race, sex, and age at HIV diagnosis to assess statistically significant changes between 2004 and 2008. However, for risk groups, annual counts were analyzed rather than rates since there is not reliable denominator data available to allow rate calculation. Trends are described using average annual percent changes, and only statistically significant trends ($p < 0.05$) and the corresponding percent changes are shown. Rates of new diagnoses are all calculated using intercensal annual population estimates released by the Census Bureau in 2008, the most recent year for which demographic breakdowns are available. All rates in this report are per 100,000 population. This method of adjustment was used to evaluate Statewide trends as well as those in the Detroit Metro Area. In contrast to other data in these profiles, the trend calculations include only those persons who were living in Michigan when diagnosed with HIV.

Numbers of reported HIV/AIDS cases in Out-State Michigan were insufficient to apply this methodology. Because trends cannot be reported for Out-State Michigan, the chapter dedicated to this geographic area presents figures created using raw numbers instead of trends. Consequently, comparisons between adjusted trends in the Statewide or Detroit Metro Area chapters and raw numbers in the Out-State chapter are not valid.

Presentation of risk or mode of transmission for HIV

Current surveillance methods cannot distinguish the specific transmission route in individuals who have engaged in more than one transmission behavior. Although case reporting includes ascertainment of many behaviors associated with HIV transmission, for the purposes of analysis and interpretation, cases are assigned to a risk hierarchy designated by the Centers for Disease Control and Prevention. This hierarchy takes into account the efficiency of HIV transmission associated with each behavior as well as 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) injecting drug users (IDU), (3) men who have sex with men and inject drugs (MSM/IDU), (4) hemophilia/coagulation dis-

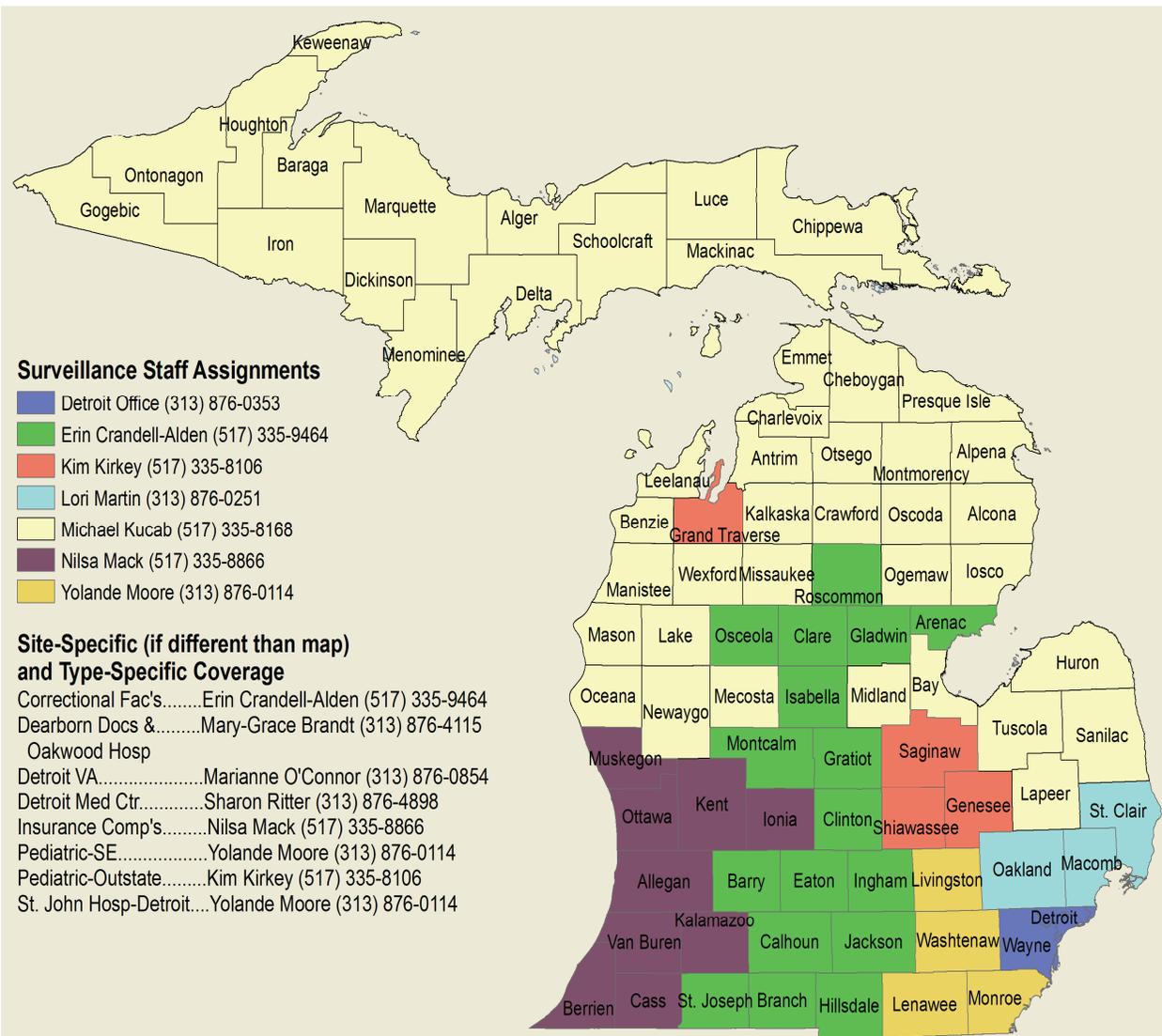
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orders, (5) heterosexual (HRH) (see glossary in Appendix B for more in-depth description), (6) receipt of HIV-infected blood or blood components, and (7) no identified risk (NIR). Often times, partners are unaware of their partners' risky behaviors. For this reason, Michigan uses two additional categories to help define the transmission pattern: Presumed Heterosexual (PH)-Female and PH-Male (please see the glossary in Appendix B for further explanation).

Contact Information

Staff from the MDCH HIV/STD/VH/TB Epidemiology Section are available to assist in interpretation of these profiles as well as to provide additional analyses. Questions or comments about these profiles should be directed to your county contact. General questions can be directed to Elizabeth Hamilton, MPH (517/335-8165). With your assistance, surveillance data will continue to guide HIV prevention strategies and resource allocation for prevention and care services in Michigan.



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Strengths and Limitations

When making planning decisions, it is important to consider the overall strengths and limitations of this document. Although the profile is comprehensive and draws from a number of data sources, there are many things that the profile cannot explain.

Although eHARS (the HIV surveillance system in Michigan) is extensive, it is based on data for persons who have been confidentially reported (i.e., by name). Consequently, infected persons who have not been tested, have tested only anonymously, or have tested by name but not reported, are not included. Therefore, HIV infections are under-detected and underreported. However, HIV Surveillance data are considered to be among the most complete compared with other notifiable diseases and infections. In order to compensate for these uncounted infections, estimates are provided in several tables.

The data presented in this report do not necessarily represent the characteristics of persons who have been recently infected with HIV, nor do they provide a true measure of HIV incidence because persons are tested at differing times after they become infected, and many persons are not tested until HIV infection has progressed to AIDS (concurrent diagnoses). The Centers for Disease Control and Prevention is finalizing the programming to produce population-based incidence estimates using data collection by the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS) project. There will be more extensive analyses on this type of information in the coming years.

Analyses of many different data sets are presented to provide robust representations of particular subpopulations. However, demographic and geographic subpopulations are not equally as sensitive to differences and changes in access to health care, HIV testing patterns, and specific prevention programs and services. All of these issues must be carefully considered when interpreting HIV/AIDS data. Therefore, it is important to make comparisons across data sources to get the most complete picture.

The most current analysis available is presented for each source of data; however, the most recent data differ from one source to another. For example, the most recent data available for The Supplement to HIV/AIDS Surveillance Project (SHAS) are from 2004, whereas some data (e.g., The Bureau of Juvenile Justice Youth Risk Behavior Survey) were collected in 2002. The information in this report is for state-wide planning, but some local data are presented. Strengths and limitations for each individual data set are further discussed in the Data Sources section.

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Data Sources

Data were compiled from a variety of sources to provide the most complete picture possible. When interpreting the data, keep in mind that each of the data sources has strengths and limitations. A brief description of each of the data sources follows. Please see glossary (page 6-5) for definition of terms.

Core HIV/AIDS Surveillance

HIV/AIDS Surveillance Data (1983–present)

In 1983, the Michigan Department of Community Health (MDCH) established a surveillance system to track newly diagnosed AIDS cases. This surveillance system is managed by the HIV/STD/VH/TB Epidemiology Section and was expanded in 1989 to include confidential name-based HIV reporting. Finally, in 2005, laboratory reporting was added to the surveillance system. Standardized case report forms and laboratory reports are used to collect sociodemographic information, mode of exposure, laboratory and clinical information, vital status (i.e., living or dead), and referrals for treatment or services. These data are obtained from medical record abstractions. Patients are NOT interviewed as a part of routine core surveillance. HIV surveillance data may underestimate the number of recently infected persons because some infected persons either have not been tested or have been tested, but not yet reported to MDCH. Persons who tested positive at an anonymous test site and have not sought medical care (where they would probably be confidentially tested) are not included in HIV surveillance statistics because cases without names cannot be unduplicated. Therefore, HIV infection data provide minimum estimates of the number of persons known to be HIV infected. In addition, newly diagnosed cases may be reported to the health department at any point along the clinical spectrum of disease. Consequently, HIV infection data do not necessarily represent characteristics of persons who have been recently infected with HIV. In order to provide a more concise measure of the impact of HIV, MDCH provides an estimate of the prevalence of HIV. This estimate includes measures of those HIV infected individuals who have been tested, but not reported to the health department, as well as those HIV infected individuals who have not yet been diagnosed and represents all infected persons regardless of whether they have been tested or reported.

Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS) - Incidence Data (2005–present)

Michigan participates in a CDC-funded initiative to introduce HIV incidence testing into routine surveillance nationwide called STARHS (Serologic Testing Algorithm for Recent HIV Seroconversion). The goal of STARHS is to produce incidence rates (rates of recent infection in the last six months) beyond the traditionally reported prevalence rates for HIV and AIDS. HIV incidence data have important public health implications for evaluating HIV intervention and prevention programs for effectiveness, for targeting prevention efforts associated with ongoing transmission, and for allocating resources to populations in greatest need of prevention efforts. STARHS estimates HIV incidence rates based on the results of an incidence test (BED Assay) and a few testing and treatment history questions answered by the infected person. Testing and treatment history information is needed to help make population based estimates of incidence. The STARHS incidence test is performed automatically on leftover serum from the diagnostic, confirmed-positive specimen. The remnant serum is sent, without name, to the New York State STARHS Lab for testing after the routine EIA and Western blot tests are done. If the original diagnostic specimen is not available, a subsequent serum or plasma specimen obtained within three months of diagnosis is acceptable for testing.

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Supplemental HIV/AIDS Surveillance Projects

Adult/Adolescent Spectrum of HIV Disease (ASD) Project (1990-2004)

The Adult/Adolescent Spectrum of Disease (ASD) Project was a multi-site national surveillance project sponsored by the Centers for Disease Control and Prevention (CDC). The HIV/STD/VH/TB Epidemiology Section collected ASD data in six-month follow-up intervals from the medical records of HIV-infected persons in care, from the time they first contacted an ASD site until they died or were lost to follow-up. The information collected from these medical records may differ from those who do not report for care. Michigan ASD includes data on a representative sample of HIV-infected persons who presented for care at the Henry Ford Health System, Detroit campus (HFHS) or at the Detroit Medical Center (DMC). Michigan participated in ASD from its inception in 1990 through its closure in 2004. More than 5,500 patients were enrolled in Michigan ASD, and at the end of the project 2,667 patients had died, 1,492 had moved or were otherwise lost to follow-up, and 1,392 were still living. ASD collected data on demographics, opportunistic illnesses, other infections such as Hepatitis B and C, other conditions such as cancers, depression, hypertension, substance abuse, mental illness, and other variables such as CD4+ T-cell counts, viral load measurements, prescription of medications, and many others. A summary can be found at <http://www.michigan.gov/hivstd> → HIV/AIDS → Surveillance: Case Reporting and Projects.

Supplement to HIV/AIDS Surveillance (SHAS) Project (1990-2004)

Supplement to HIV/AIDS Surveillance was a cross-sectional interview project that collected self-reported behavioral information from individuals infected with HIV and/or AIDS who presented for care. This project was managed by the HIV/STD/VH/TB Epidemiology Section. The behaviors reported by these interviewed individuals may differ from those who did not report for care or were uninfected. Data were collected from 1990 to 2004 among persons 18 years of age and older. Individuals who presented for care at one of three entities at five Detroit locations - two large tertiary medical centers, two neighborhood clinics, and one health care center were eligible for an interview. Data were collected on demographic and socioeconomic factors, drug use (alcohol, ingested and/or injected drugs), needle sharing and cleaning, access to drug treatment, sexual behaviors, condom use, medical and social services, compliance with drug therapies, and, for women, reproductive history and child health. SHAS data are useful for informing health department policymakers, HIV community planning groups, and enhancing public health prevention programs and services. Understanding the specific behaviors of infected persons can help with understanding risk and make for a more targeted prevention intervention. Prevention and care planning groups are encouraged to contact the MDCH HIV/STD/VH/TB Epidemiology Section for additional data from this project. Summaries of the 1990-2000 SHAS data (SHAS I 2,205 interviews) and 2000-2004 SHAS data (SHAS II, 1,174 interviews) are available on-line at: <http://www.michigan.gov/hivstd> → HIV/AIDS → Surveillance: Case Reporting and Projects.

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Medical Monitoring Project (MMP) (2007-present)

The Medical Monitoring Project (MMP) is similar to past supplemental surveillance projects, SHAS and ASD, and collects information on both behavioral and clinical data from an in-person interview and medical record abstraction. Unlike ASD and SHAS which collected data on only Southeast Michigan patients, MMP is using a statewide sample of patients. Ideally data will be representative of all adults in care for HIV in Michigan and useful for statewide care and prevention planning. In addition to providing an in-depth understanding of the characteristics of the population currently receiving care for HIV, MMP will be useful for understanding care and prevention service utilization and the unmet medical and social needs of persons in care. Additionally, it will describe the impact of HIV care and prevention by assessing clinical outcomes and risk behaviors. Because response rates have been lower than anticipated, the data presented here are not locally representative and the results may not be generalizable. For more about MMP, please visit www.michigan.gov/mmp.

Communicable Disease Surveillance

TB Registry

The Michigan Department of Community Health, HIV/STD/VH/TB Epidemiology Section conducts statewide surveillance of cases of tuberculosis. All TB cases reported in the State of Michigan are reported using the CDC Report of a Verified Case of Tuberculosis (RVCT) form. Until December, 2007, surveillance information and laboratory reports on active and suspect TB cases were maintained and reported to CDC in the Tuberculosis Information Management System (TIMS) database. Starting in January, 2008, data have been managed in the Michigan Disease Surveillance System (MDSS). Surveillance data are analyzed to monitor statewide tuberculosis trends, including HIV/TB co-infection, as well as to determine appropriate treatment regimen, drug susceptibility results and completion of TB therapy status. Each year, the TB registry is matched to the HIV/AIDS surveillance database. Outcomes from the match include documenting progression from HIV to AIDS, completing TB infections reported directly to HIV surveillance and, occasionally, new HIV cases.

STD Reporting System

The Michigan Department of Community Health, Division of Health Wellness and Disease Control conducts statewide surveillance to determine the number of reported cases of STDs, monitor trends, provide partner counseling, and referral services for examination and treatment. All of these objectives aim at reducing the spread of STDs in the community. In Michigan, gonorrhea, chlamydia, syphilis, lymphogranuloma venerum, chancroid, and granuloma inguinale are reportable by physicians and laboratories. There are significant variations in the completeness of data coming from public and private providers. Approximately 88 percent of female cases and 73 percent of male cases come from private providers. Among public providers, only 16 percent of race data is missing, however, 42 percent of race data is missing in reports from private providers. Gonorrhea is the second most frequently reported communicable disease in Michigan, while chlamydia is the most frequently reported of all reportable communicable diseases. Michigan does not collect standardized sexual orientation data for gonorrhea or chlamydia cases. However, these data are collected for syphilis cases. For data on STD cases in Michigan, by age and sex, please refer to <http://www.mdch.state.mi.us/pha/osr/Index.asp?Id=12>

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Hepatitis C Reporting System (1992—present)

The Michigan Department of Community Health, Division of Communicable Diseases requires physicians, health care professionals and laboratories to report cases of communicable diseases, including acute and chronic hepatitis C, in accordance with Michigan's Communicable Disease Rules. Cases of hepatitis C are reported to MDCH via the Michigan Disease Surveillance System (MDSS), a web-based communicable disease reporting system developed for the state of Michigan. MDSS collects basic demographic data on each case as well as additional information such as laboratory test results, clinical information and exposure history, but completeness of reporting of the additional information varies. Since acute and chronic hepatitis C infections are often asymptomatic and can remain undetected and unreported for years, we often rely on estimates of hepatitis C infection. Using data from the National Health and Nutrition Examination Survey (NHANES) gathered between 1999 and 2002, the Centers for Disease Control and Prevention (CDC) estimates that 1.6 percent of the population has ever been exposed to hepatitis C and 1.3% of the population has developed a chronic hepatitis C infection. However, NHANES does not include homeless, incarcerated, institutionalized, hospitalized or military populations and therefore under-estimates the percentage of the population who have ever been infected with hepatitis C or are chronically infected with hepatitis C, since these excluded populations are often at high risk for hepatitis C infection. While not perfect, we use these NHANES estimates to determine how many cases of chronic hepatitis C we may have in Michigan, and are included in this profile.

Behavioral Surveys

National HIV Behavioral Surveillance (NHBS) (2005—present)

The National HIV Behavioral Surveillance program is a CDC funded project that monitors risk behaviors and access to HIV prevention services among three identified risk groups at a national and local level. Each cycle focuses on one risk group, i.e., men who have sex with men, injecting drug users, and heterosexuals living in targeted areas, respectively. This project is different from all other HIV surveillance activities because it collects data from people based on behavioral and/or residential characteristics and not their HIV status; most interviewees are uninfected. In Michigan all activities are conducted with Wayne County residents only. In 2005, Michigan's HIV Surveillance Program received funding to participate in the IDU cycle of NHBS Round 1. Under the name of Project ASK, we successfully interviewed and collected data from 512 IDUs in the City of Detroit. In 2005, we also participated in the High Risk Area (HRA) pre-pilot for the heterosexual (HET) cycle to explore strategies for identifying HRAs. The pre-pilot involved mapping a variety of data using GIS software, and the results were presented at the national meeting in October 2005. In 2006, we became Project Awake where we interviewed heterosexuals living in census tracts of the Detroit Metropolitan Area- 'high risk areas'- HRA's defined as census tracts with high rates of heterosexually transmitted HIV. We completed the HET cycle by collecting data from 777 eligible participants. We also participated in the Partner Study where we gathered information from 124 African American and Hispanic females and their male partners (matched pairs) to determine the degree of risk that women perceive for themselves with the actual behaviors reported by their male partners. HIV testing was provided for participants of both the HET Study and Partner Study by the Department of Health and Wellness Promotion (DHWP) and the Detroit Community Health Connection (DCHC). In 2008, we started Round 2 of NHBS. The MSM2 cycle

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was implemented in 2008. The use of venue- day- time sampling method allowed us to interview 517 MSMs from various gay establishments in the Detroit MSA. Ninety percent of MSMs interviewed consented to HIV testing. Injecting drug users (IDU2) was completed the following year, in 2009. Four hundred and twenty-four IDUs were recruited and interviewed with 100% participating in HIV testing. We hope to have data from these three cycles, i.e., HET1, MSM2, and IDU2, available in 2011.

MDCH's HIV/AIDS Prevention and Intervention Section (HAPIS) funded the HIV Behavioral Surveillance Interview (HBSI) among young MSM (YMSM) to gain insight into the increasing HIV prevalence in young black MSMs. HBSI methods were adapted from National HIV Behavioral Surveillance MSM protocol. The inclusion criteria for HBSI were 13-17 years old and ever had sex (anal or oral) with another male. HBSI screened 59 young men living in Southeast Michigan. This report is posted on the MDCH HIV/STD/Hepatitis website: www.michigan.gov/hivstd.

Youth Risk Behavior Survey (YRBS) (2009)

The Youth Risk Behavior Survey (YRBS) is conducted every other year in Michigan by the Department of Education, in collaboration with the Michigan Department of Community Health, and assesses a broad range of health practices among a representative sample of the state's students in grades 9 through 12. Data are weighted so that survey results can be generalized to all high school students in the state. Michigan is one of only a few states with high enough response rates on seven consecutive YRBS survey administrations (1997, 1999, 2001, 2003, 2005, 2007, 2009) to have scientific trend data. The YRBS collects information on six categories of behaviors related to the leading causes of mortality and morbidity among both youth and adults. Sexual behaviors that contribute to unintended pregnancy and STDs including HIV infection constitute one of the six categories. Questions in this category ask about HIV prevention education, sexual activity (age at initiation, number of partners, condom use, past drug or alcohol use, forced sex), contraceptive use, and pregnancy history. The YRBS is a standardized questionnaire, so comparisons can be made between states, participating cities, and the nation on core questions. States and cities may also add questions of local interest. Michigan has added two questions to the sexual behavior section: one on parent-child communication and one on age of first sexual partner. Because the YRBS relies upon self-reported information, sensitive behavioral information may be underreported or over-reported. Also, because the YRBS questionnaire is administered in school, the data are representative only of adolescents who are enrolled in school and cannot be generalized to all adolescents. For example, students at highest risk, who may be more likely to be absent from school or to drop out of school, may be underrepresented in this survey, especially those in upper grades. The Michigan questionnaire does not currently include questions about sexual orientation or gender of sexual partner. For more about the Michigan YRBS, go to www.michigan.gov/yrbs.

Michigan now has a data collection system for local school districts called the Michigan Profile for Healthy Youth (MiPHY). The MiPHY includes questions about both risk behaviors and additional risk and protective factors. For more about the MiPHY system, and copies of available county reports, go to www.michigan.gov/miphy.

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The Bureau of Juvenile Justice Youth Risk Behavior Survey (BJJ) (2002)

The BJJ Youth Risk Behavior Survey (BJJ YRBS) is a special application of the Youth Risk Behavior Survey conducted as a joint effort between the Michigan Departments of Education and Human Services. The BJJ assessed a broad range of health practices among a representative sample of the state's students in state-operated residential Bureau of Juvenile Justice facilities attending grades 9 through 12. The one time BJJ administration occurred in the spring of 2002. The BJJ YRBS was a census of youth in these facilities (nine sites within six centers). A total of 470 youth were eligible to participate. All sites, centers, and classrooms participated. A total of 418 usable questionnaires were analyzed, for a final student participation rate of 89 percent. The results of the BJJ YRBS should be compared with the Michigan general education YRBS with caution because the students may not be comparable in age, race/ethnicity, gender or risk behaviors. However, the BJJ respondents were roughly the same age as their general education counterparts in grades 9-12, with 83 percent between the ages of 15 and 18. The BJJ used the core general education Michigan YRBS survey instrument with some questions omitted, added, and adapted to better meet the needs of the youth in the residential facilities. Questions assessing the incidence of risk behaviors "in the past 30 days," were modified to say, "in the 30 days before you entered the facility." The instrument included questions in all six categories of behaviors included on the main YRBS. Additional questions in the sexual behavior section assessed sexual orientation, gender of sexual partner, and history of HIV testing. The survey provides a picture of the behaviors of a sub-population of youth who are at considerably greater risk than their counterparts in school.

HIV/AIDS and Health Related Needs Among Commercial Sex Workers in Michigan—December 2004

This study was conducted by MDCH/HAPIS to fill a gap in existing knowledge in the State of Michigan on the needs of a population known to be at high risk for HIV/AIDS: commercial sex workers (CSWs). The study involved 59 structured interviews with people who self-reported exchanging sex for money, drugs, or other goods on a regular basis. Participants included CSWs from five communities around Michigan: Benton Harbor, Detroit, Flint, Grand Rapids, and Ypsilanti. Quota and network sampling methodology were used to access participants on streets, around drug access points, and in drug treatment centers.

HIV/AIDS and Health Related Needs and Risk Perceptions Among African-American Men who Have Sex with Men in Michigan —October 2005

This study was conducted by MDCH/HAPIS to understand the needs of African American men who have sex with men (MSM). The study involved 32 structured interviews and six focus groups ($N = 37$) with people who self-reported as male or transgendered, African American, and behaviorally homosexual or bisexual. The interviews and focus groups covered many of the same issues, but the protocols were different. Participants were from six communities around Michigan: Benton Harbor, Detroit, Flint, Grand Rapids, Lansing, and Ypsilanti. Quota and network sampling methodology were used to access participants on streets, in parks, at clubs, and at community-based organizations known to serve MSM.

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Assessment of HIV and other Recommended Perinatal Screening Tests Project (2003)

The Assessment of HIV and other Recommended Perinatal Screening Tests Project was conducted by RTI International under a Centers for Disease Control and Prevention evaluation contract as part of a multi-site national project. Michigan was selected to participate along with 12 other areas throughout the United States. The purpose of the project was to measure hospital perinatal screening rates for HIV and other infectious diseases by abstracting screening information from medical charts. The population for the project included live births that occurred in 2003 from the selected delivery hospitals. The sample design was a two-stage probability design; 11 hospitals were selected with probability proportional to the number of births and 220 births were randomly selected within each hospital for a total of 2,420 births. The abstractions were conducted at nine of the 11 birth hospitals selected in Wayne, Oakland, Kent, Kalamazoo and Grand Traverse counties. The sampling frame was obtained from the MDCH, Division of Vital Records and Health Statistics. The mother child pairs of hospital charts were abstracted for 1,971 births of the 2,420 selected births, a completion rate of 81.4 percent. Overall, among participating hospitals, abstractions were completed for 99.5 percent of selected charts. The objectives of this project were to develop estimates of screening rates for each of the thirteen areas selected for the project and for each participating hospital, and to provide feedback on screening rates to hospitals and state health departments.

HIV/AIDS and Health Related Needs Among Homeless Persons in Michigan— January 2006

This study was conducted by MDCH/HAPIS to determine the HIV prevention-related needs of homeless persons in the state of Michigan. The state has no previous needs assessment data from this population; therefore, the goal of this project was to determine if, where, and how to target HIV prevention-related services to this population. The study involved 98 structured interviews with people who self-reported as homeless. Participants included those accessing food banks and shelters in six communities around Michigan: Ann Arbor, Benton Harbor, Detroit, Flint, Grand Rapids, and Lansing. A quota sampling methodology was employed.

HIV/AIDS and Health-Related Needs of Formerly Incarcerated Persons in Michigan— August 2006

In August of 2006, a study was conducted by MDCH/HAPIS to determine the HIV prevention-related needs of formerly incarcerated persons (FIPs) in the State of Michigan. The State has no previous needs assessment data from this population; therefore, the goal of this project was to determine if, where, and how to target HIV prevention-related services to this population. The study involved 104 structured interviews with people who self-reported as recently released from prison or jail. It is important to note that the HIV status of participants was unknown at the start of the interviews. Participants were sampled from five communities around Michigan: Ypsilanti, Muskegon, Detroit, Flint, and Grand Rapids. A quota sampling methodology was employed based on prisoner release data from the Michigan Department of Corrections (MDOC).

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Data Sources

Outreach, Prevention, and Care Services for Young African American MSM (YMSM) – January 2009

Brothers Saving Brothers (BSB) was the Health Resources and Services Administration (HRSA) Special Project of National Significance (SPNS) from 2004 to 2009 and it involved encouraging African American young men who have sex with men (YMSM) to learn their HIV status, and obtaining 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 young African American YMSM and to determine possible barriers to HIV C&T for this population.

The Young Men's Health Study: A Statewide Needs Assessment of Young Black MSM—April 2008

To address the lack of information on needs of young black men who have sex with men, Michigan State University conducted an in-depth study of young Black MSM aged 13 to 24 throughout the state. The study had two phases. In the first phase, 21 key informants from local community-based organizations, county health departments, the state health department, and representatives of the Michigan HIV/AIDS Council were interviewed on what they saw as the key informational needs regarding young Black MSM. The tool used for interviews was developed in conjunction with young men from the target population, ensuring this tool was informed by the experiences of the young men advisors, what was had learned from the key informants and the national data.

In depth interviews were conducted on 197 young men from throughout the state. The current report describes the findings obtained from 180 of these interviews. Respondents were sampled so that young men in the Detroit Metropolitan area composed 60 percent of the final sample and young men from the out-state area composed 40 percent of the sample, mirroring the distribution of the epidemic in the state. In addition, recruitment efforts were started by concentrating on the Detroit Metropolitan area and Kent, Ingham, Washtenaw, and Berrien Counties. The respondent driven sampling strategy that was used allowed us to expand beyond these initial counties, so that the final sample of young men ultimately also included young men residing in Genesee and Saginaw counties.

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Data Sources

Vital Statistics Data

Birth and Death Data

The National Center for Health Statistics receives information on births and deaths in the United States through a program of voluntary cooperation with state government agencies (i.e., state departments of health, state offices of vital statistics) called the Vital Statistics Cooperative Program. States use standard forms to collect birth and death data. The birth certificate form includes demographic information on the newborn and the parents, insurance status, prenatal care, prenatal risk factors, maternal morbidity, mode of delivery, pregnancy history, and clinical characteristics of the newborn. Death certificates include demographics, underlying cause of death, and contributions of selected factors to the death (i.e., smoking, accident, or injury) of all deceased persons. Reporting is virtually 100 percent complete for births and deaths. Therefore, inferences can be made concerning the number of live births in a service area. The data can also be used to determine the effect of deaths related to HIV infection in a service area. The data on birth certificates that are obtained from patient medical records (i.e., smoking history, morbidity) may be incomplete. In addition, deaths resulting from, or whose underlying cause was HIV infection, may be underreported on a death certificate. Clinical information related to HIV or AIDS may be missing.

Population Data

U.S. Bureau of the Census (Census Bureau) (2008 Estimates)

The Census Bureau collects and provides timely information about the people and economy of the United States every 10 years. The Census Bureau's Web site (<http://www.census.gov>) includes data on demographic characteristics (e.g., age, race, Hispanic ethnicity, sex) of the population, family structure, educational attainment, income level, housing status, and the proportion of persons who live at or below the poverty level. Summaries of the most requested information for states and counties are provided, as well as analytical reports on population changes, age, race, family structure, and apportionment. State- and county-specific data are easily accessible, and links to other Web sites with census information are included. The Michigan-specific census data used in these profiles was obtained using 2008 intercensal estimates. The Population Estimates Program prepares estimates of the total population; estimates of the population by age, sex, race, and Hispanic origin; and estimates of the number of housing units. The 2008 population estimates start with a base population for April 1, 2000 and calculate population estimates for July 1 for years 2000 to 2008. The population estimates use a variety of administrative records data to measure the population change including data on births, deaths, migration, and housing units.

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Data Sources

Service Utilization Data

Ryan White CARE Act Data: The State of Michigan Uniform Reporting System Data Collection Process

The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act, was first enacted in 1990 to provide federal funds to help communities and States increase the availability of health care and supportive services for people living with HIV/AIDS disease (PLWH/A). In 2006 the CARE Act was replaced by the Ryan White HIV/AIDS Treatment Modernization Act (Ryan White) which was reauthorized in 2009 as the Ryan White Treatment Extension Act. Under this legislation, Part A funds are allocated to Eligible Metropolitan Areas heavily impacted by the epidemic (e.g., Detroit), while Part B, including the AIDS Drug Assistance Program (ADAP) earmark, provides resources to States and U.S. Territories. Ryan White Part C resources fund outpatient HIV early intervention services at local health care facilities and clinics, and Part D is used to coordinate and enhance services for women, infants, children and youth. Ryan White HIV/AIDS Program resources are funds of last resort.

The services supported by Ryan White funds vary by jurisdiction, but include health care services such as out-patient ambulatory medical care, medications, medical case management, mental health services, and supportive services, such as transportation, that link PLWH/A to care. The Michigan Department of Community Health (MDCH), Division of Health, Wellness and Disease Control (DHWDC), HIV/AIDS Prevention & Intervention Section (HAPIS), is the Grantee for the Part B, ADAP and the Part D resources allocated to Michigan. The City of Detroit Department of Health and Wellness Promotion (DHWP) is the Part A Grantee designee. There were four Part C funded programs in Michigan in 2009: Wayne State University's Adult HIV/AIDS Clinic at the Detroit Medical Center, the Detroit Community Health Connection, the University of Michigan's HIV/AIDS Treatment Program in Ann Arbor, and Saint Mary's Health Care Special Immunology Services in Grand Rapids.

The Uniform Reporting System (URS) is a statewide client-level data standard designed to consistently document the quantity and types of services provided by agencies receiving Ryan White funds, and describe the populations receiving the services. The URS standards were originally developed by the Health Resources Services Administration (HRSA) and were implemented in Michigan beginning in 1994, as a demonstration project.

CAREWare, the software program developed by HRSA to collect and report URS data, is the program used by all Ryan White programs in Michigan. There are currently four separate CAREWare databases. The MDCH CAREWare system includes all the Part B and Part D funded programs as well as data from two Part C funded programs and from programs funded through Michigan Health Initiative (MHI). DHWP maintains another CAREWare database for Part A funded programs. MCDH and DHWP have each implemented CAREWare as a centralized database accessed by service providers through a secure internet portal. Two Part C Programs, the University of Michigan and the Detroit Community Health Connection each maintain their own individual CAREWare systems. Clients and services from the AIDS Drug Assistance Program (ADAP) and the Michigan Dental Program (MDP) are imported into the MDCH CAREWare database from other data systems on a regular basis.

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For this profile, the URS data from these various CAREWare databases were extracted into a standard format and combined into a single database. The client records were then unduplicated by means of the standard confidential URS client identifier. This produced a single record for each client with a combined total of services received across all agencies and Ryan White Parts. The clients in the URS database for this report are HIV-positive and have received at least one service during the calendar year 2009. Clients identifying as transgendered have been excluded due to lack of comparability with surveillance data.

Upcoming Data Sources—not included in this publication

Michigan's HIV Surveillance Program is on the forefront of HIV surveillance in the country. This program has been able to incorporate many supplements to routine surveillance. However, not all have data we can include in this publication. Nonetheless, we have provided a description of the resistance surveillance project .

VARHS (Variant, Atypical and Resistant HIV Surveillance) Data (2004–present)

VARHS is a CDC-funded surveillance initiative that incorporates HIV drug-resistant genotype testing (specifically sequencing the reverse transcriptase (RT) and protease regions of the *pol* gene of HIV) into routine diagnostic HIV testing protocols. As a result, all individuals who have their first confidential HIV diagnosis identified through the Michigan Department of Community Health's (MDCH) Lansing laboratory, and who are not known to have taken antiretroviral therapy, are provided with a clinically useful genotype and assessment of drug resistance and HIV subtype. Testing sites (public and private) that do not routinely use the MDCH HIV laboratory are encouraged to provide a serum specimen to MDCH for HIV testing in addition to their normal lab protocols so that all newly diagnosed individuals in Michigan can benefit from this initiative. Further, private and commercial labs that conduct HIV genotyping report nucleotide sequence data to MDCH so that statewide trends in HIV drug resistance and subtype can be accurately and comprehensively monitored.