

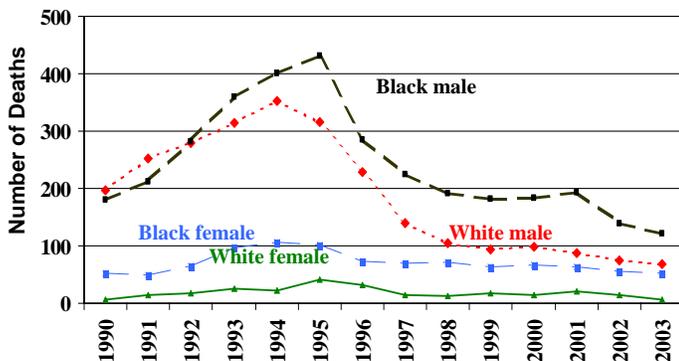
Status of the HIV/AIDS Epidemic in Michigan, 2004
 HIV/STD and Other Bloodborne Infections Surveillance Section,
 Bureau of Epidemiology
 Michigan Department of Community Health

Global and National Overview

An estimated 4.9 million new HIV infections and 3.1 million AIDS deaths occurred during 2004 worldwide, bringing the total persons infected with HIV to 39.4 million. There have been a cumulative total of 31 million deaths since the beginning of the epidemic. About three-quarters of new cases and deaths were in Sub-Saharan Africa, where transmission is predominately heterosexual¹.

The number of new diagnoses of HIV/AIDS per year, in the 33 areas of the U.S. with confidential, name-based, integrated HIV and AIDS infection reporting in place since 1999, increased steadily from 2000 to 2003 to about 351,614 persons living with HIV/AIDS at the end of 2003. The number of AIDS deaths per year in all 50 states and territories has been relatively stable between 1999 and 2003 with 18,017 occurring in 2003. Through December 2003, 929,985 adult/adolescents in all 50 states, territories, and Puerto Rico had been reported as having AIDS; of these, 524,060 (56%) had died².

HIV-Related Deaths in Michigan, 1990-2003



* 1999-2003 death data based on ICD-10 coding. Provisional comparability difference from ICD-9 codes is 14 percent

Michigan HIV-related Deaths Decline

HIV-related deaths declined sharply among all groups between 1995 and 1997, and less sharply between 1998 and 2000. These data (MDCH HIV/AIDS reporting system) show the trend among the four largest race/sex groups. There was a statistical difference in the 1995-2001 declines among black men (65%), white men (79%), and women (47%). From 2001 to 2003 there was also a 37% decline in deaths among black men while white males and all females were level. There were too few deaths to show other race/sex groups.

Of the 250 HIV-related deaths in 2003, there were 122 (49%) deaths in black males, 69 (28%) deaths in white males, 52 (21%) deaths in black females, and 7 (3%) deaths in white females. These proportions compare with the 4,663 (41%) black males, 3,543 (31%) white males, 1,912 (17%) black females, and 537 (5%) white females living with HIV or AIDS in Michigan as of January 1, 2005.

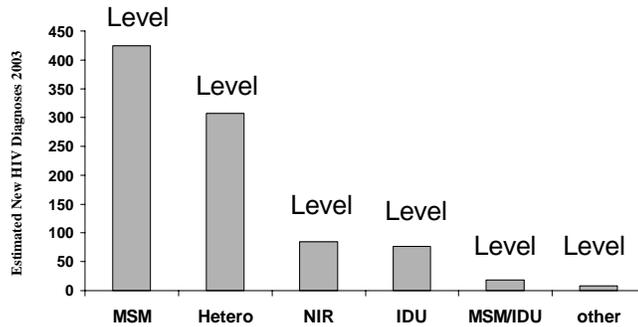
Trends in New Diagnoses of HIV Infection in Michigan, 1999-2003

Methods: To evaluate trends over time, we estimated the number of persons newly diagnosed with HIV infection each year and determined if there was a statistically significant change from 1999 through 2003. Numbers are estimated by adjusting the number of reported cases for people diagnosed in 1999-2003 for those who may not have been reported to the health department by January 1, 2005. This year's report is the second time this adjustment was based on only Michigan reporting patterns. Previously, adjustments were made using multi-state regional data. 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. Over this time period No Identifiable Risk (NIR) cases were also redistributed to other risk categories based on past patterns of NIR reclassification.

Overall: The number of persons newly diagnosed with HIV each year increased significantly from 1999 to 2003 (725 to 922 cases). However, the trend is entirely due to a low number in 1999, which MDCH believes is related to reporting patterns and not reflective of true changes in the epidemic. For this reason we have decided to exclude 1999 from the analysis and we ran the trends from 2000 to 2003. We believe this is a better reflection of the current trends in HIV diagnoses. The number of HIV diagnoses from 2000 to 2003 is stable at around 860 cases per year. These new diagnoses include persons who learned of their HIV infection status after developing symptoms of AIDS. Each year, there are more new diagnoses of HIV infection than deaths. Therefore, the reported number of persons living with HIV/AIDS in Michigan is increasing. MDCH estimates that 16,200 residents are living with HIV infection in Michigan (including those with AIDS).

Risk Behaviors for HIV Infection, 2000-2003: The proportion of persons diagnosed each year with HIV infection between 2000 and 2003 decreased significantly in High Risk Heterosexuals (HRHs) (defined below) from 16% to 8% (140 to 76 cases) and increased significantly in Presumed Heterosexuals (PHs) (defined below) from 20% to 25% (179 to 231 cases). However, as shown in the figure below, when these two heterosexual groups are combined the trend is level. ‘High risk’ heterosexuals are persons who knew they had one or more partners that were an IDU, bisexual (for females), a recipient of HIV infected blood, or a person who they knew was infected with HIV. ‘Presumed’ heterosexuals are persons who had heterosexual sex as their only risk but their partner’s risk and HIV status are unknown. The proportion of new diagnoses remained level in all the other risk groups.

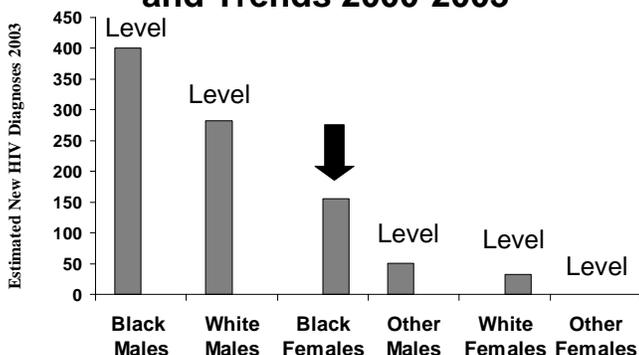
Number of New HIV Diagnoses in 2003, and Trends 2000-2003



Of the 922 new HIV diagnoses in 2003, there were 425 (46%) among MSM, 231 (25%) among presumed heterosexuals, 88 (10%) among those with no identified risk (NIRs), 76 (8%) among HRHs, 76 (8%) among IDUs, 18 (2%) among MSM/IDUs, and 8 (1%) among persons with other risks. Other risks include transmission from blood products and perinatal exposures. Less than 1 percent of diagnoses were among persons who first acquired infection from blood products received either before 1985 in the U.S. or in other countries. Less than 1 percent of diagnoses were among infants born to HIV-infected mothers.

Race and Sex 2000-2003: The proportion of persons diagnosed each year with HIV infection between 2000 and 2003 decreased significantly in black

Number of New HIV Diagnoses in 2003, and Trends 2000-2003



2000 and 2003 decreased significantly in black females from 22% to 17% (196 to 156 cases). In all other race/sex groups the trend was level. In 2003, there were 401 (43%) diagnoses in black males, 282 (31%) in white males, 156 (17%) in black females, 51 (6%) in non-white/non-black males, 32 (3%) in white females, and 0 in non-white/non-black females. Although the trend in new HIV diagnoses among blacks males is level and decreasing among black females, they are still impacted disproportionate to their numbers in the population. Black males and females make up 14 percent of the general population

of Michigan but make up 58% of persons living with HIV/AIDS.

Age at HIV Diagnosis 2000-2003: The proportion of persons diagnosed each year with HIV infection increased significantly among those diagnosed at 20-24 years of age, from 7% to 10% (63 to 95 cases) and decreased significantly among those diagnosed at 25-34 years of age from 31% to 26% (272 to 239 cases). In 2003, there were 8 (1%) persons diagnosed at 0-12 years of age, 35 (4%) 13-19 years, 95 (10%) 20-24 years, 239 (26%) 25-34 years, 325 (35%) 35-44 years, and 178 (19%) 45+ years. In addition, 42 (5%) cases were missing an age at HIV diagnosis.

Residence 2000-2003: The proportion of new HIV diagnoses is unchanged across different geographic areas of Michigan. About two-thirds of new diagnoses each year are among residents of southeast Michigan (Wayne, Oakland, Macomb, Monroe, and St. Clair counties). One third are diagnosed among residents of the rest of the state.

Concurrent HIV and AIDS Diagnosis, 2000-2003: Among persons who were diagnosed with HIV between 2000 and 2003, the percentage who were diagnosed concurrently (at the same time) with AIDS remained stable at 25% (219 cases). The proportion of concurrent diagnoses also did not change significantly in any of the race/sex groups. In 2003, there were 105 (26%) concurrent diagnoses in black males, 76 (27%) in white males, 41 (26%) in black females, 13 (25%) in non-white/non-black males, 7 (22%) in white females, and 0 in non-white/non-black females. Every concurrent diagnosis represents a failure to diagnose HIV early in the course of the person's infection as well as to start treatment early. Persons who are unaware of their HIV infection cannot benefit from antiretroviral therapy and have a poorer prognosis than those diagnosed early in the disease course. They are also not accessible for secondary prevention. Expanding routine screening for HIV can improve outcomes for those who are infected³.

Trends in New Diagnoses of AIDS in Michigan, 2000-2003

New AIDS cases were statistically level at about 600 persons annually between 2000 and 2003. In order to decrease the number of new AIDS cases, we need to continue efforts to get infected persons tested and into early care. In addition, treatments will need to become more effective and work for longer periods of time.

Conclusions

Over the last four years, HIV mortality declined but the number of new HIV diagnoses remained stable. There continues to be more new HIV diagnoses each year than deaths among HIV-infected persons, so the total number of persons living with HIV infection is increasing. However, the overall estimate of HIV prevalence in Michigan was not increased in January 2005. The estimate was kept the same as last year because Michigan participated in a nationwide de-duplication of the national HIV/AIDS surveillance database that countered the increase in prevalence. The overall estimate of persons living with HIV/AIDS in Michigan will be re-examined early in 2006.

Michigan residents with HIV infection continue to be predominantly residents of Southeast Michigan, men who have sex with men (MSM), black, and ages 25-44 years at time of diagnosis. When 'presumed heterosexuals' are included in the heterosexual category, the proportion with heterosexually acquired infection is almost equal to the number infected through MSM. The proportions of new diagnoses of HIV infection have increased significantly over the past few years among presumed heterosexuals and 20-24 year olds while decreasing in HRHs, black females, and 25-34 year olds.

From 2000-2003, approximately 25 percent of persons newly diagnosed with HIV infection were also diagnosed with AIDS at the same time and did not change significantly in any of the race/sex groups.

References:

1. Joint United Nations Programme on HIV/AIDS. *AIDS epidemic update: December 2004*. Available at: http://www.unaids.org/wad2004/report_pdf.html
2. Centers for Disease Control and Prevention, *HIV/AIDS Surveillance Report 2003*(Vol. 15). Atlanta:US Department of Health and Human Services, Centers for Disease Control and Prevention; 2004. Available at <http://www.cdc.gov/hiv/stats/hasrlink.htm>
3. Bozzette, SA. Routine Screening for HIV Infection—Timely and Cost-Effective. *N Engl J Med* 352:6 February 10, 2005. pp620-621.