

# Companion Text for the Slide Set: *Minnesota HIV Surveillance Report, 2003*

## INTRODUCTION

### **Overview**

The *Minnesota HIV Surveillance Report, 2003* describes the occurrence of reported HIV infections in Minnesota by person, place, and time through December 31, 2003. Such data provide information about where and among whom HIV transmission is likely occurring. This knowledge can in turn be used to help educate, target prevention efforts, plan for services, and develop policy.

### **Data Source**

The data in this report are based on confidential case reports collected through the Minnesota Department of Health (MDH) HIV/AIDS Surveillance System. In Minnesota, laboratory-confirmed infections of human immunodeficiency virus (HIV) are monitored by the MDH through this active and passive surveillance system. State law (Minnesota Rule 4605.7040) requires both physicians and laboratories to report all cases of HIV infection (HIV or AIDS) directly to the MDH (passive surveillance). Additionally, regular contact is maintained with several clinical sites to help ensure completeness of reporting (active surveillance).

Data in this report include cases diagnosed with HIV as of December 31, 2003 and reported to the MDH as of April 2004. All data are displayed by earliest date of HIV diagnosis. Refer to the *HIV Surveillance Technical Notes* for a more detailed description of data inclusions and exclusions.

### **Data Limitations**

Factors that impact the completeness and accuracy of the available surveillance data on HIV/AIDS include the level of screening and compliance with case reporting. Thus, any changes in numbers of infections may be due to one of these factors, or due to actual changes in HIV/AIDS occurrence.

The data presented in this report are not adjusted for reporting delays. Thus, the case number presented for the most recent reporting year can be viewed as a minimum and will likely increase in the future as further case reports are received. Changes in past years' totals are updated in every new annual surveillance report.

### **HIV/AIDS in the UNITED STATES**

Compared with the rest of the nation, Minnesota is considered to be a low to moderate HIV/AIDS incidence state. In 2002, state-specific AIDS rates ranged from 0.5 per 100,000 persons in North Dakota to 34.8 per 100,000 persons in New York. Minnesota had the 8th lowest AIDS rate (3.2 AIDS cases reported per 100,000 persons). Compared with states in the Midwest region, Minnesota had a moderate AIDS rate. State-specific HIV rates cannot be compared nationally because some states have not yet instituted HIV case surveillance. At present 39 states have name-based HIV reporting. The states that have HIV case surveillance are at various stages of implementation.

### **HIV/AIDS IN MINNESOTA**

#### **MDH HIV/AIDS Surveillance: Cumulative cases**

AIDS has been tracked in Minnesota since 1982. In 1985, AIDS officially became a reportable disease to state and territorial health departments nationwide. Also in 1985, when the Food and Drug Administration approved the first diagnostic test for HIV, Minnesota became the first state to make HIV infection a reportable condition. As of December 31, 2003, a cumulative total of 7,356 cases of HIV infection have been reported among Minnesota residents.<sup>1</sup> This includes 4,183 AIDS cases and 3,173 HIV, non-AIDS cases. Of these 7,356 HIV/AIDS cases, 2,583 are known to be deceased through correspondence with the reporting source, other health departments, reviews of death certificates and obituaries, active surveillance, and matches with the National Death Index.

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<sup>1</sup> This number includes persons who reported Minnesota as their state of residence at the time of their HIV and/or AIDS diagnosis. It also includes persons who may have been diagnosed in a state that does not have HIV reporting and who subsequently moved to Minnesota and were reported here. HIV-infected persons currently residing in Minnesota, but who resided in another HIV-reporting state at the time of diagnosis are excluded.

## **Overview of HIV/AIDS in Minnesota, 1990-2003**

The annual number of new AIDS cases increased steadily from the beginning of the epidemic to the early 1990s, reaching a peak of 370 cases in 1992. Beginning in 1996, both the number of newly diagnosed AIDS cases and the number of deaths among AIDS cases declined sharply, primarily due to the success of new antiretroviral therapies including protease inhibitors. These treatments do not cure, but can delay progression to AIDS among persons with HIV (non-AIDS) infection and improve survival among those with AIDS. Thus the declines slowed during the late 1990s and the numbers have become relatively stable the past few years. The number of HIV (non-AIDS) diagnoses has remained fairly constant since the mid 1990s at approximately 200 cases per year, despite consistent increases in the number of people living with HIV/AIDS. By the end of 2003, an estimated 4,895 persons with HIV/AIDS were assumed to be living in Minnesota.<sup>2</sup>

## **NEW HIV INFECTIONS IN MINNESOTA**

In this report, the term “new HIV infections” refers to HIV-infected Minnesota residents who were diagnosed in a particular calendar year and reported to the MDH. This includes persons whose first diagnosis of HIV infection is AIDS (AIDS at first diagnosis). HIV infection data are displayed by earliest known date of HIV diagnosis.

### **New HIV Infections by Geography**

Historically, about 90% of new HIV infections diagnosed in Minnesota have occurred in Minneapolis, St. Paul and the surrounding seven-county metropolitan area. This has not changed over time. Although HIV infection is more common in communities with higher population densities and greater poverty, HIV or AIDS has been diagnosed in over 80% of counties in Minnesota.

### **New HIV Infections by Gender**

Since the beginning of the epidemic, males have accounted for a majority of new HIV infections diagnosed per year. However, the number and the proportion of cases among females

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<sup>2</sup> This number includes persons whose most recently reported state of residence was Minnesota, regardless of residence at time of diagnosis. This estimate does not include persons with undiagnosed HIV infection.

have increased over time. In 1990, males accounted for 90% of new HIV infections. In 2003, 76% of new infections occurred among males and 24% among females.

### **New HIV Infections by Race/Ethnicity<sup>3</sup>**

Trends in the annual number of new HIV infections diagnosed among males differ by racial/ethnic group. New cases among White males drove the epidemic in the 1980s and early 1990s. Although Whites still account for the largest number of new infections among males, this number has generally been decreasing since 1991.

In contrast to the overall large decline in the annual number of cases among White males, the decline among African American males was more gradual. The annual number of cases for African American males peaked in 1992 at 81 and gradually decreased to 23 in 2003.

The numbers of new cases in all other racial/ethnic groups during this same time remained stable or increased. Increases in the annual number of HIV infections diagnosed among Hispanic and African-born males, in particular, have been recorded since the late 1990s. The proportion of new HIV infections diagnosed among men of color as a whole has been increasing over time.

Similarly, trends in the annual number of HIV infections diagnosed among females differ by racial/ethnic group. In the beginning of the epidemic, White women accounted for a majority of newly diagnosed cases among females. Since 1991, the number of new infections among women of color has exceeded the number among White women. From 1990 to 2003, the annual number of new infections diagnosed among African American females increased by 67 percent (20 cases in 2003) and increased nine-fold among African-born females between 1996 (3 cases) and 2003 (28 cases). The annual number of new infections diagnosed among Hispanic, American Indian, and Asian females continues to be quite small (fewer than 10 cases per year for each of these groups).

The most recent data illustrate that men and women of color are disproportionately affected by HIV/AIDS. Whites make up approximately 88% of the male population in Minnesota and 54% of the new HIV infections diagnosed among men in 2003. Men of color make up approximately 12% of the male population and 46% of the new infections diagnosed

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<sup>3</sup> Black race was broken down into African-born and African American (Black, not African-born). The numbers exclude 50 persons arriving through the HIV-Positive Refugee Resettlement Program.

among men in 2003. Similarly for females, Whites make up approximately 89% of the female population and 12% of new infections among women in 2003 whereas women of color make up approximately 11% of the female population and 88% of the new infections among women.<sup>4</sup>

Please note that race is not considered a biological reason for disparities in the occurrence of HIV experienced by persons of color. Race, however, can be considered a marker for other personal and social characteristics that put a person at greater risk for HIV exposure. These characteristics may include, but are not limited to, lower socioeconomic status, less education, and greater prevalence of drug use.

### **Average Age at HIV Diagnosis, Three-year Averages**

In recent years, Hispanic males were slightly younger (approximate age = 34 years) than White, African American, African-born, American Indian, and Asian males (approximate age = 38 years) at the time of HIV diagnosis. During the past three years, the average age at HIV diagnosis has been approximately 30 years among White, African American, African-born and Hispanic females. Asian and American females were slightly older (approximate age = 38 years). Age at HIV diagnosis can be used as a proxy for age at HIV *infection*. However, due to differences in testing behavior (e.g. variable lengths of time between HIV infection and diagnosis) across time and between sociodemographic groups, comparisons of average age at diagnosis are difficult to interpret.

### **New HIV Infections among Adolescents and Young Adults<sup>5</sup>, 1990-2003**

Many people are infected with HIV for years before they actually seek testing and become aware of their HIV status. This phenomenon especially affects the observed case counts for younger age groups. And as a result, the reported number of HIV infections among youth<sup>5</sup> (with few or no reports of AIDS at first diagnosis) is likely to underestimate the *true* number of new infections occurring in the population more than the reported number of cases in older age groups does.

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<sup>4</sup> Population estimates based on U.S. Census 2000 data.

<sup>5</sup> In this report, adolescents are defined as 13-19 year-olds and young adults as 20-24 year-olds; these two groups are jointly referred to as “youth.” Analyses are performed for adolescents and young adults combined because case numbers are too small to present meaningful data separately for each.

In 1990, 9% of new HIV infections reported to the MDH were among youth. In 2003 this percentage was 14%. Among young men, the number of new HIV diagnoses peaked in 1992 at 46 cases and then declined through the mid 1990s to a low of 14 cases in 1997. Since 1997 the annual number of cases diagnosed among young men increased steadily to 28 in 2000, but then dropped to 18 cases in 2002. In 2003, the number of cases has slightly increased to 22 cases.

Unlike young men, the annual number of new HIV infections diagnosed among young women has remained relatively consistent over time. For example, 19 cases of HIV infection were diagnosed among young women in 1992 and 15 cases in 2003. Females accounted for 40% of new HIV infections diagnosed among adolescents and young adults in 2003. In contrast, adult females (25 years of age or older) only accounted for 24% of all adult cases.

Similar to the adult HIV/AIDS epidemic, persons of color account for a disproportionate number of new HIV infections among adolescents and young adults. Among young men, Whites accounted for 44% of new HIV infections diagnosed between 2001 and 2003, African Americans accounted for 22%, Hispanics 19%, and African-born 10% of the cases. Among young women, Whites accounted for 23%, African Americans 34%, African-born 27%, and Hispanics 10% of the new infections diagnosed during the same time period.

Men having sex with men (MSM) is the predominant mode of HIV exposure among adolescent and young adult males, accounting for 69% of the new HIV infections diagnosed between 2001 and 2003. The joint risk of MSM and injecting drug use (IDU) accounted for 5%, and heterosexual contact accounted for 2% of the cases in the same time period. HIV exposure risk was not obtained for 24% of the young male cases.

Heterosexual contact accounted for 33% of new HIV infections diagnosed among adolescent and young adult females between 2001 and 2003, this includes 10% for whom heterosexual contact with an injecting drug user was their only identified risk factor. IDU accounts for 6% of the cases. The number of young females who do not have a risk specified has continued to increase and accounted for 61% of the cases between 2001 and 2003.

Some hypotheses regarding the classification of males and females with unspecified risk are discussed in the next section.

## **New HIV Infections by Mode of Exposure**

Since the beginning, men have driven the HIV/AIDS epidemic in Minnesota and male-to-male sex has been the predominant mode of exposure reported. Though still the majority, both the number and proportion of new HIV infections attributed to MSM have been decreasing since 1991 reaching an apparent plateau in 2000 at just under 130 cases per year. On a much smaller scale, the numbers of male cases attributed to IDU and MSM/IDU also have been decreasing over the past decade, while the number of cases attributed to heterosexual contact has been increasing. The number of cases without a specified risk has also been increasing.

Throughout the epidemic, heterosexual contact has been the predominant mode of HIV exposure reported among females. IDU is the second most common mode of transmission making up 6% of cases among women in 2003. Unspecified risk has been designated for a growing percentage of cases for the past several years. In 1996, 7% of women diagnosed with HIV infection did not have a specified mode of transmission. This percentage grew to 37% in 2003 with an additional 28% of female cases who would not agree to or could not be interviewed by a Disease Intervention Specialist from the MDH. Some cases may yet be interviewed, thus, a portion of these women will later have an identified mode of transmission. This explains *part* of the higher percentage of cases in recent years with an unspecified mode of exposure. According to a study conducted by the Centers for Disease Control and Prevention (CDC)<sup>6</sup>, it is likely that at least 80% of women with unspecified risk acquired HIV through heterosexual contact. Heterosexual contact as a mode of HIV transmission is currently only assigned to a female case if she knows that a male sexual partner of hers was HIV-infected or at increased risk for HIV (see *HIV Surveillance Technical Notes* for further details).

The proportion of cases attributable to a certain mode of exposure differs not only by gender, but also by race. Of the new HIV infections diagnosed among males between 2001 and 2003, MSM or MSM/IDU accounted for 78% of cases among White males, 58% of cases among Hispanic males, 44% of cases among African American males, and 3% of cases among African-born males. The latter three also had the highest proportions of cases with unspecified risk (31%, 38%, and 96%, respectively – this includes cases for whom no interview has been obtained). It is hypothesized that due, in part, to social stigma many of the cases with unspecified risk were

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<sup>6</sup> MMWR 2001; 50(RR-6):31-40.

unclassified MSM cases. This may not hold as true for African-born cases given that heterosexual contact and contaminated medical equipment have been established modes of HIV exposure in their countries of origin. IDU, MSM/IDU or heterosexual contact with an injecting drug user was reported as a risk in 14% of male African American cases and 8% of Hispanic and White cases diagnosed during 2001-2003. The number of cases among Asian and American Indian men during the years 2001-2003 was insufficient to make generalizations regarding risk (less than 20 cases in each group), but male-to-male sex appears to be the most prominent mode of exposure.

Heterosexual contact with a partner who has or is at increased risk for HIV infection accounted for 50% of cases among African American females, 26% of cases among White females, and 15% of cases among African-born females between 2001 and 2003. More than 40% of cases in each of these groups had no specified risk (including cases for whom no interview has been obtained; see *HIV Surveillance Technical Notes* for further information about assigning mode of exposure categories). IDU directly accounted for 3% of cases among Whites, 6% among African Americans, and 0% among African-born. The number of cases among Hispanic, Asian, and American Indian women during the years 2001-2003 were insufficient to make generalizations regarding risk (less than 20 cases in each group).

### **Mother-to-Child HIV Transmission**

The ability to interrupt the transmission of HIV from mother to child via antiretroviral therapy and appropriate prenatal care is an important accomplishment in the history of the HIV/AIDS epidemic. Newborn HIV infection rates range from 25-30% without antiretroviral therapy, but decrease to 1-2% with appropriate medical intervention. Unfortunately, these benefits have largely only been realized in the developed world where antiretroviral therapies are more accessible than in undeveloped countries.

In Minnesota, only two cases of perinatal transmission occurred during the past 3 years, representing a 2% rate of transmission. The rate of transmission in Minnesota between 1982 and 1994 (before widespread use of zidovudine<sup>7</sup> to prevent mother-to-child HIV transmission) was 25%. Proper prenatal care, including HIV screening for all pregnant women and appropriate medical intervention for those infected, is a vital element in preventing the spread of HIV.

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<sup>7</sup> A common antiretroviral drug.

### **Special Populations: New HIV Infections among Foreign-born Persons**

The number of new HIV infections diagnosed among foreign-born persons in Minnesota has steadily increased from 19 cases in 1990 to 71 cases in 2003. This increase has been largely driven by the increase of cases among African-born persons, from 7 cases in 1990 to 55 cases in 2003. Among new HIV infections diagnosed in 2003, 27% were among foreign-born persons. Based on U.S. Census 2000 data, foreign-born persons make up 5% of the total Minnesota population and are, therefore, disproportionately affected by HIV<sup>8</sup>. Among African-born this disparity is even more evident, while African-born persons make up less than 1% of the Minnesota population they accounted for 21% of new HIV infections in 2003.

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<sup>8</sup> Based on U.S. Census 2000 data, 260,463 foreign-born persons, including 35,188 African-born persons are living in Minnesota out of a total population of 4,919,479. Because there are many reasons foreign-born persons may not be included in the census count (e.g. difficulties with verbal or written English), these numbers are likely an underestimate of the actual size of the foreign-born population living in Minnesota.