

Epidemiology Update

Human Immunodeficiency Virus (HIV)

Hennepin County Key Findings

- ◆ In 2008 70% of new Hennepin County HIV infections occurred in Minneapolis residents (rate of 36.4 cases per 100,000 population) compared to 30% in suburban residents (rate of 8.0 cases per 100,000 population).
- ◆ The majority of new HIV infections were found in young adults, ages 25-29 years and ages 20-24 years.
- ◆ HIV infection is found disproportionately in minority populations, especially the black and American Indian population.
- ◆ Men who have sex with men (MSM) are at the greatest risk for acquiring HIV infection. The MSM risk factor accounted for 50% of new HIV infections in Hennepin County in 2008. Heterosexual contact accounted for 13% of new HIV cases followed by injection drug use (either just injection drug use or injection drug use and MSM) accounting for 8% of new HIV infections.

Introduction

December's *Epidemiology Update* summarizes Human Immunodeficiency Virus (HIV) disease cases and trends in Hennepin County. This issue is one in a series of reports from Hennepin County Human Services and Public Health Department—Epidemiology available at

www.hennepin.us/EpiUpdates

Background

HIV is a retrovirus that infects cells of the immune system, destroying or impairing their function and weakening the immune system. The most advanced stage of HIV infection is acquired immunodeficiency syndrome (AIDS).

HIV was first identified in the United States in 1981. Over the past 28 years scientists have learned much about the virus, from determining the routes of transmission to developing a test for the virus to researching a possible vaccine. Despite awareness campaigns to educate the public on how the disease is spread (through bodily fluids, such as blood, semen, vaginal fluid and breast milk, transfusion of contaminated blood, sharing needles for injection drug use, and from mother to her baby during pregnancy, childbirth, or breastfeeding) and how to prevent transmission, cases of HIV continue to be reported.

The World Health Organization (WHO) estimated there were 33 million people living with HIV at the end of 2007 and two thirds of these HIV infections occurred in sub-Saharan Africa.¹ During that year, 2.7 million more people were infected and 2 million died of AIDS.

The Centers for Disease Control and Prevention (CDC) estimates there are approximately 1 million people in the United States living with HIV or AIDS and an estimated 56,000 new HIV infections per year.² This means one person is diagnosed with HIV every 9½ minutes.³ Another issue of concern is the number of late testers, or cases who have AIDS at first diagnosis or have progressed to an AIDS diagnosis within one year of their initial diagnosis with HIV (non-AIDS) infection.

Characteristics of HIV Infections in Hennepin County

Overall Trends

Figure 1 shows the trends in the overall numbers of new cases of HIV, new cases of AIDS, AIDS deaths, and the number of persons in Hennepin County living with HIV and AIDS. The sharp decline in new cases of AIDS and AIDS deaths between 1995 and 1997 is due to the introduction of new antiretroviral drug treatment in 1996. As treatment and management of HIV patients have improved, the number of individuals living with HIV/AIDS has continued to increase during this time period. The increase in new cases of HIV between 2004 and 2008 is an issue of concern; also data show that ~1/3 of new HIV cases in Minnesota are late testers.⁴ Another alarming statistic is the CDC's estimate that 1 in 5 people infected with HIV are unaware of his or her infection and may be unknowingly transmitting the virus.⁵

HIV Occurrence in Special Populations

Young Adults

Table 1 shows the number and rates of new HIV infection. New HIV infection includes all new cases of both HIV (non-AIDS) and AIDS at first diagnosis in Hennepin County residents in 2008. Young adults 25-29 years old and 20-24 years old have the highest rates of new HIV infection (49.9 and 43.8 cases per 100,000 population, respectively). It is important for healthcare providers to remind young adults that they are at risk for HIV and provide education on how to prevent infection.

Race/Ethnicity

Table 2 shows 2008 data for new cases of HIV by race and ethnicity. Annual data consistently shows that populations of color, particularly blacks and American Indians, continue to have markedly higher rates of new HIV infection compared to whites (54.8 and 50.7 cases, compared to 12.2 cases per 100,000 population, respectively). While blacks make up only 11% of Hennepin County's population, they account for 33% of new HIV infections. Nationally, blacks account for 45% of new HIV infections.³ A study conducted by the Kaiser Family Foundation found that many blacks do not recognize their risk or believe HIV is no longer a serious health threat.⁶ Also, Hispanic, black, and foreign-born cases of HIV are more likely to be late testers.

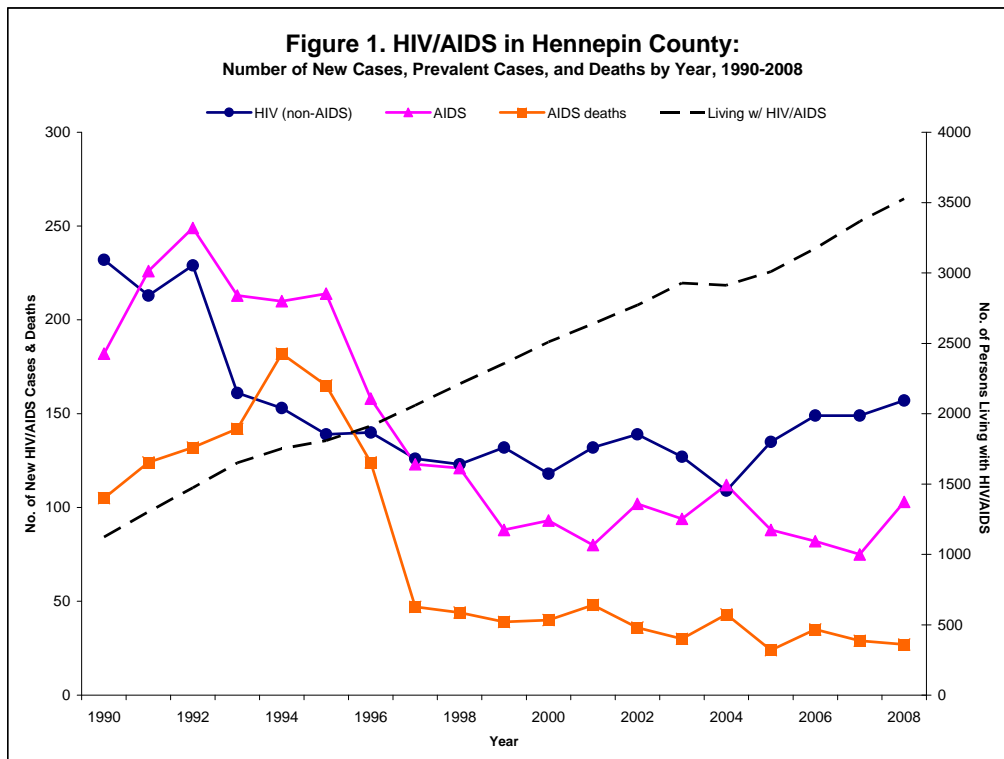


Table 1. Number of Cases and Rates (per 100,000 population) of New HIV Infection* by Age, Hennepin County, 2008.

Age	HIV Infection		HIV Infection Rate [†]
	Cases	%	
<10 yrs	0	0%	0.0
10-14 yrs	0	0%	0.0
15-19 yrs	8	4%	10.8
20-24 yrs	32	16%	43.8
25-29 yrs	34	17%	49.9
30-34 yrs	31	15%	38.5
35-39 yrs	28	14%	31.5
40-44 yrs	23	11%	26.0
45-49 yrs	23	11%	23.8
50-54 yrs	14	7%	15.6
55-59 yrs	3	1%	4.0
60+ yrs	8	4%	4.4
Total	204	100%	17.9

*HIV infection includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) among Hennepin County residents in 2008.

[†]Series Vintage 2008 Bridged Population Estimates for Hennepin County were used to calculate rates.

Men Who Have Sex with Men (MSM)

As Table 2 shows, the MSM population accounts for 50% of new HIV infections in Hennepin County. Men who have sex with men and are also injection drug users (IDU) account for another 4% of new infections. Of new HIV infections among males in Hennepin County in 2008, the MSM and MSM/IDU risk factors account for 75% of new HIV infections. MSM is the only risk group in the United States in which infections have been steadily increasing since the early 1990's.³

Of the 111 new Hennepin County HIV infections in 2008 who identified as MSM, 85 (77%) resided in Minneapolis, 84 (76%) were white, 15 (13.5%) were black, and the greatest percentage of cases were among young adults (22 cases (20%) were 20-24 years of age and another 22 cases (20%) were 25-29 years of age). While white males who identified as MSM represent the greatest number of new HIV infections annually, this group is closely followed by black MSM who are one of the most disproportionately affected subgroups in the United States.⁷

Table 2. Number of Cases and Rates (per 100,000 population) of New HIV Infection* by Race/Ethnicity and Mode of Exposure, Hennepin County, 2008.

Group	Total		
	Cases	%	Rate [†]
White, non-Hispanic	106	52%	12.2
Black, African-American [‡]	47	23%	54.8
Black, African-born [‡]	21	10%	
Hispanic	16	8%	22.1
American Indian	6	3%	50.7
Asian/PI	3	1%	4.5
Other	5	2%	x
Total	204	100%	17.9
Men who have sex with men (MSM)	102	50%	x
Injection drug users (IDU)	8	4%	x
MSM/IDU	9	4%	x
Heterosexual (Total)	(26)	13%	x
with IDU	5	x	x
with Bisexual Male	2	x	x
with Hemophilic/other	1	x	x
with HIV+, unknown risk	18	x	x
Perinatal	0	0%	x
Unspecified	59	29%	x
Total	204	100%	17.9

*HIV infection includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) among Hennepin County residents in 2008.

[†]Series Vintage 2008 Bridged Population Estimates for Hennepin County were used to calculate rates.

[‡]African-born Blacks are reported separately from other Blacks (born in the U.S. or elsewhere). An accurate population estimate for Black, African-born persons living in Hennepin County is unavailable. Rate is calculated by adding the Black, African-American and Black, African-born strata and dividing by the population estimate for total Black population.

Women

While only 27% of new HIV infections occurred in women in 2008, this group faces unique challenges for prevention and large racial disparities in rates of new infection still persist. Black and Native American women have rates of new HIV infection that are more than 14 times greater than that of white women (54.1 and 47.9 cases per 100,000 population versus 3.4 cases per 100,000 population, respectively). Women's risk factors for new HIV infection have shown consistent trends – heterosexual contact accounted for 41% of new infections, followed by injection drug use (5%). The remainder of cases did not acknowledge any of the risk factors listed in Table 2.

Prevention

Research estimates that for each case of HIV that is prevented, an estimated \$300,000 is saved in healthcare and lifetime HIV treatment costs.⁸ Treatment of cases is also crucial, but unfortunately ~36% of Minnesotans with HIV are not receiving medical care.⁴

- **HIV testing**—the CDC recommends people ages 13 to 64 be screened for HIV at least annually or more often if in a high risk group. Once a patient knows their status he or she can be counseled to take steps to protect his or her own health and prevent transmission to others. Screening for sexually transmitted infections (STIs) is also recommended, as STIs can increase a person's risk of acquiring and transmitting HIV.⁹
- **Prevention programs for people living with HIV and at highest risk for HIV**—Educational programs, whether done individually or in small groups, by either healthcare staff or peers, have been shown to significantly reduce risk behaviors among people living with HIV or those at highest risk for infection (MSM, IDU, youth).¹⁰
- **Partner services**—Partner services works as a confidential source to notify sexual partners who may have been exposed to HIV and provides crucial services, such as HIV testing and connections with healthcare services and prevention programs.
- **Antiretroviral therapy**—Antiretroviral treatment significantly reduces the risk of an HIV-infected mother transmitting HIV to her baby and when started promptly can prophylactically reduce the risk of infection after an exposure to HIV.
- **Access to condoms and sterile syringes**—Research has shown that increasing availability of condoms and sterile syringes is associated with a significant reduction in infections among populations at highest risk for HIV.^{11,12}

Points to Remember

- Screening for HIV is critical for curbing spread. People ages 13-64 years old should be screened at least annually.
- It is especially important to screen and provide prevention education for those at highest risk, namely MSM and IDU.
- A special emphasis should be placed on screening black and American Indian patients for HIV, as infections are found disproportionately in these populations.

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