



1-800-CDC-INFO (232-4636)
 In English, en Español
 24 Hours/Day
cdcinfo@cdc.gov
<http://www.cdc.gov/hiv>

July 2005

HIV/AIDS among Men Who Have Sex with Men

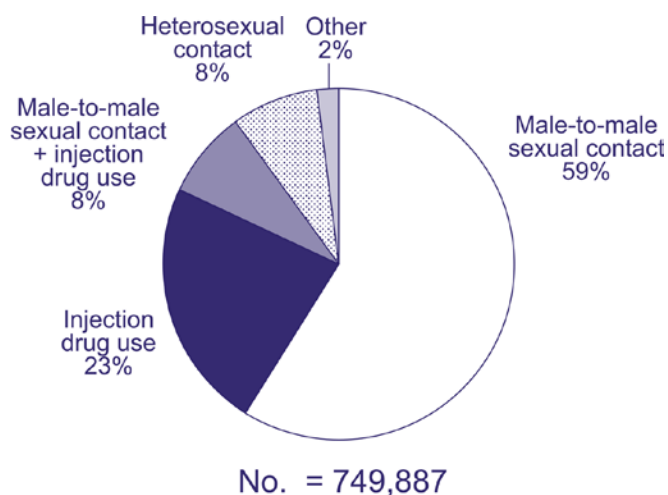
In the United States, HIV and AIDS have had a tremendous effect on men who have sex with men (MSM). MSM accounted for approximately two thirds of all HIV infections among men in 2003, even though only about 5% to 7% of men in the United States identify themselves as MSM [1, 2]. The number of HIV diagnoses for MSM decreased during the 1980s and 1990s, but recent surveillance data show an increase in HIV diagnoses for this group [3]. Given the high prevalence of HIV infection in young MSM of minority races and ethnicities, there is a continued need for culturally diverse prevention and education services.

STATISTICS

Cumulative Effect of HIV Infection and AIDS (through 2003)

- An estimated 503,305 MSM (440,887 MSM and 62,418 MSM who inject drugs) had received a diagnosis of AIDS, accounting for 67% of all men and 54% of all people who received a diagnosis of AIDS [1].
- An estimated 295,981 MSM (257,898 MSM and 38,083 MSM who inject drugs) with AIDS had died, accounting for 68% of all men and 56% of all people with AIDS who died [1].
- At the end of 2003, an estimated 207,323 MSM (182,989 MSM and 24,334 MSM who inject drugs) were living with AIDS, representing 66% of all men and 51% of all people living with AIDS [1].

Transmission categories of male adolescents and adults given a diagnosis of AIDS, through 2003

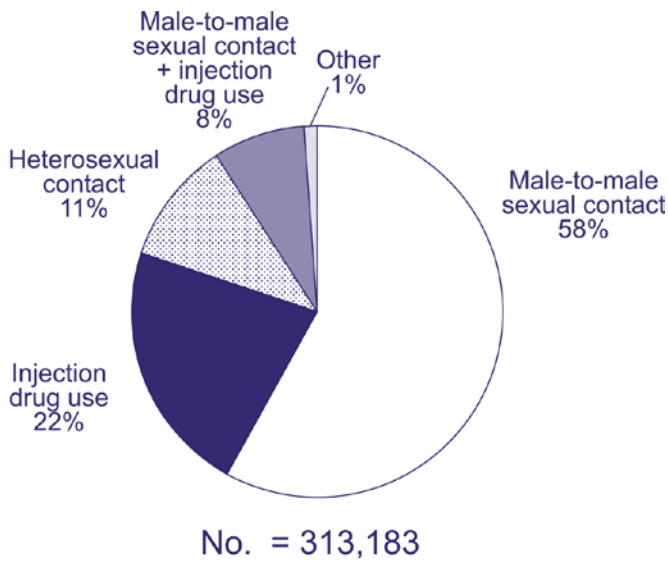


Note. Based on data from 50 states, the District of Columbia, and US dependencies, possessions, and associated nations.

AIDS in 2003

- An estimated 19,846 MSM (17,969 MSM and 1,877 MSM who inject drugs) received a diagnosis of AIDS, accounting for 63% of all men and 46% of all people who received a diagnosis of AIDS [1].
- An estimated 7,248 MSM (6,015 MSM and 1,233 MSM who inject drugs) with AIDS died, accounting for 55% of all men and 40% of all people with AIDS who died [1].

Transmission categories of male adults and adolescents living with AIDS, 2003



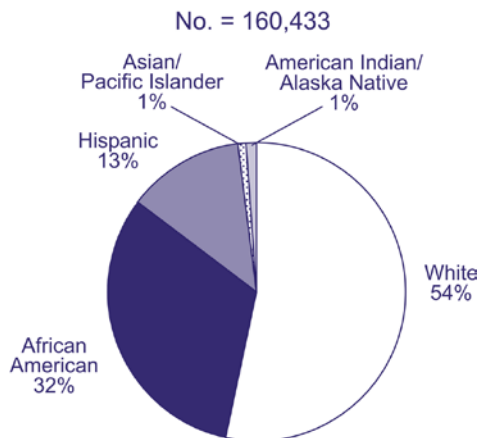
Note. Based on data from 50 states, the District of Columbia, and US dependencies, possessions, and associated nations.

HIV/AIDS in 2003

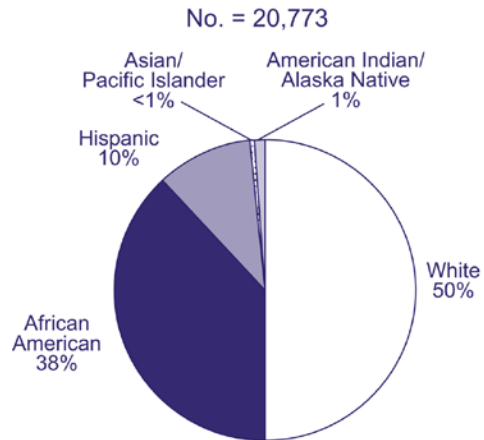
In the 33 areas with long-term, confidential name-based reporting, an estimated 15,756 MSM (14,532 MSM and 1,224 MSM who inject drugs) received a diagnosis of HIV/AIDS, accounting for 68% of all men and 49% of all people receiving an HIV/AIDS diagnosis that year [1].

Race/ethnicity of MSM living with HIV/AIDS at the end of 2003 (total no. = 181,206)

A. MSM



B. MSM who inject drugs



Note. Based on 33 areas with long-term, confidential name-based reporting.

RISK FACTORS AND BARRIERS TO PREVENTION

Sexual Risk Factors

Sexual risk factors account for most HIV infections in MSM. These factors include unprotected sex and sexually transmitted diseases (STDs).

- Not using a condom during anal sex with someone other than a primary partner of known HIV status continues to be a significant threat to the health of MSM [4]. Not all the reasons for an apparent increase in unprotected anal intercourse are known, but research points to the following factors: improvements in HIV treatment, substance use, complex sexual decision making, seeking sex partners on the Internet, and failure to maintain prevention practices [5].
- STDs, which increase the risk for HIV infection, remain an issue for MSM. According to the Gonococcal Isolate Surveillance Project, the proportion of positive test results for gonorrhea among MSM increased from 4% in 1988 to 19.6% in 2003 [6]. Rates of syphilis among MSM have increased in some urban areas, including San Francisco, Chicago, New York, and Seattle [7-9]. In the 9 US

cities participating in the MSM Prevalence Monitoring Project, STDs and HIV positivity varied by race and ethnicity but tended to be highest among African American MSM [6]. In addition to increasing susceptibility to HIV, STDs are markers for high-risk sexual practices that can transmit HIV, making increases in STD rates a cause for concern [10].

Substance Use

The use of alcohol and illegal drugs continues to be prevalent among some MSM and is linked to HIV and STD risk [11]. Substance use can increase the risk of HIV transmission through the tendency toward risky sexual behaviors while under the influence and through sharing needles or other injection equipment. Reports of increased use of the stimulant drug methamphetamine across the country have raised public health concerns because methamphetamine use has been associated both with sexual risk behaviors for HIV and STDs and sharing injection equipment when the drug is injected [12]. Methamphetamine and other “party” drugs (such as ecstasy, ketamine, and GHP [gamma hydroxybutyrate]) may be used to decrease social inhibitions and enhance sexual experiences [13]. These drugs, along with alcohol and nitrate inhalants (“poppers”), have been associated with risky sexual practices among MSM [14].

Complacency about Risk

Almost 25 years into the HIV epidemic, there is evidence of an underestimation of risk, of difficulty in maintaining safer sexual practices, and of a need to sustain prevention efforts for each generation of young gay and bisexual men.

- The success of highly active antiretroviral therapy (HAART) may have had the unintended consequence of increasing some MSM’s risk behaviors. Some research suggests that the negative aspects of HIV infection have been minimized since the introduction of HAART, which has led to a

false understanding of what living with HIV means and thus can lead to increased risk behaviors [15, 16]. For example, some MSM may mistakenly believe that they or their partners are not infectious when they take medication or have low or undetectable viral loads [17]. Even though surveys suggest that optimism about HIV treatments is associated with a greater willingness to have unprotected anal intercourse [18, 19], a recent review found that the prevalence of unprotected sexual intercourse was not significantly higher among HIV-positive persons who were receiving HAART or who had an undetectable viral load. However, this review did find that unprotected sex was associated with beliefs about HAART and viral load [20].

- Long-term efforts to maintain safer sexual practices present a significant challenge. A 4-city study indicates that years of exposure to prevention messages and long-term efforts to maintain safer sexual practices may play a role in the decision of HIV-positive MSM to engage in unprotected anal intercourse [16, 21].
- The rates of risky behaviors are higher among young MSM than among older MSM [21, 22]. Not having seen firsthand the toll of AIDS, young MSM may be less motivated to practice safer sex.

Unknown HIV Status

Approximately 25% of people in the United States who are infected with HIV do not know they are infected [23]. According to a recent study of young MSM, 77% of those who tested HIV-positive incorrectly believed that they were not infected [24]. Young African American MSM in this study were especially likely to be unaware of their infection—approximately 9 of 10 young African American MSM compared with 6 of 10 young white MSM. Of the men who tested positive, most (74%) had previously tested negative for HIV infection, and 59% believed that they were at low or very low risk.

Research has shown that many people who know they are infected alter their behaviors to reduce their risk of transmitting the virus [25, 26]. Therefore, increasing the proportion of people who know their HIV status can help decrease HIV transmission.

MSM Who Are HIV-positive

HAART has enabled MSM who are infected with HIV to live longer—an undeniably positive outcome of new treatments. However, HAART's success means there are more MSM living with HIV who can potentially transmit the virus to their sex partners. This emphasizes the importance of prevention efforts focused on those who are living with HIV.

Although many MSM reduce risk behaviors after learning that they have HIV, most remain sexually active. Most MSM with HIV believe that they have a personal responsibility to protect others from HIV, but some engage in high-risk sexual practices that may result in others' contracting HIV [27–29]. Some interventions for persons living with HIV have been shown to be effective. More prevention efforts need to be directed to this group.

The Internet

During the past decade, the Internet has created new opportunities for MSM to meet sex partners [30]. Internet users can anonymously find partners with similar sexual interests without having to leave their residence or having to risk face-to-face rejection if the behaviors they seek are not consistent with safer sex [31]. The Internet may also normalize certain risky behaviors by making others aware of these behaviors and creating new connections between the men who engage in them. In contrast, the Internet is a potentially powerful tool for use with interventions.

Social Discrimination and Cultural Issues

MSM are members of all communities, all races

and ethnicities, and all strata of society. To reduce the rate of HIV infection, prevention efforts must be designed with respect for the many differences among MSM and with recognition of the discrimination against MSM and persons infected with HIV in many parts of the country.

- Social and economic factors, including racism, homophobia, poverty, and lack of access to health care, are barriers to receiving HIV prevention services, particularly for MSM of minority races or ethnicities. Indeed, African American and Hispanic men are more likely than white men to be given a diagnosis of HIV infection in the late stages of infection, often when they already have AIDS [32].
- Stigma associated with homosexuality may inhibit some men from identifying themselves as gay or bisexual, despite having sex with other men [33, 34]. These men may miss prevention and health messages directed to openly gay men.
- African American and Hispanic MSM are less likely than white MSM to live in gay neighborhoods [35]. Therefore, prevention programs directed to gay neighborhoods may not reach these MSM.
- For Hispanic MSM, unique cultural factors may discourage openness about homosexuality: *machismo*, the high value placed on masculinity; *simpatia*, the importance of smooth, nonconfrontational relationships; and *familismo*, the importance of a close relationship with one's family [36, 37].
- Although Asians/Pacific Islanders and American Indians/Alaska Natives accounted for less than 2% of the AIDS cases in MSM reported nationally between 1989 and 1998, these groups accounted for noteworthy proportions of cases in certain metropolitan areas [33]. Also, HIV among American Indians/Alaska Natives may be underestimated because of the underrecognition of American Indians/Alaska Natives as a race/ethnicity in surveillance systems [38].

Lack of Communication and Risk Assessment

Open and honest communication about sexual issues is vital to avoiding false assumptions about a partner's HIV status. For example, an HIV-infected man may assume that his partner must be infected or he would insist on using a condom; a man who is not infected may assume that his partner also is not infected or he would use a condom [39]. Additionally, because many young MSM with HIV are unaware of their infection, relying on partners to disclose HIV-positive status is often insufficient [24].

Concurrent Psychosocial Problems

Depression, childhood sexual abuse, using more than 1 drug, and partner violence have been shown to increase high-risk sexual behaviors. Further research has shown that the combined effects of these problems may be greater than their individual effects [40]. Therefore, MSM with more than 1 of these problems may be at higher risk for HIV infection. The emergence of this type of research, which shows the interaction and additive effect of various psychosocial problems, will result in more refined prevention efforts.

PREVENTION

Among all people in the United States, the annual number of new HIV infections declined from a peak of more than 150,000 in the mid-1980s and stabilized at approximately 40,000 after the late 1990s. Persons of racial and ethnic minorities are disproportionately affected by the HIV epidemic. To reduce further the incidence of HIV, CDC announced a new initiative, Advancing HIV Prevention (<http://www.cdc.gov/hiv/partners/AHP.htm>), in 2003. This initiative comprises 4 strategies: making HIV testing a routine part of medical care, implementing new models for diagnosing HIV infections outside medical settings, preventing new infections by working with HIV-infected persons and their partners, and further decreasing perinatal HIV transmission.

MSM as a group continue to be most affected by HIV and AIDS. Research shows that HIV prevention efforts can reduce sexual risk: one review found that among men who received an HIV prevention intervention, the proportion who engaged in unprotected sex decreased, on average, 26% [41].

CDC offers effective interventions for MSM. Examples include

- Many Men, Many Voices, which is a group STD/HIV prevention intervention for gay men of color and men who have sex with other men but do not identify themselves as gay or bisexual
- Mpowerment, which comprises HIV prevention, safer sex, and risk-reduction messages in a community-building format for young MSM
- Popular Opinion Leader, which involves identifying, enlisting, and training key opinion leaders to encourage safer sexual norms and behaviors within the social networks of MSM
- Healthy Relationships, which helps develop the skills and self-efficacy of people living with HIV/AIDS
- Peers Reaching Out and Modeling Intervention Strategies (PROMISE), which uses peer advocates (including men who do not identify themselves as gay) to help people adopt practices to reduce or eliminate risk for HIV infection

Understanding HIV and AIDS Data

AIDS surveillance: Through a uniform system, CDC receives reports of AIDS cases from all US states and territories. Since the beginning of the epidemic, these data have been used to monitor trends because they are representative of all areas. The data are statistically adjusted for reporting delays and for the redistribution of cases initially reported without risk factors. As treatment has become more available, trends in new AIDS diagnoses no longer accurately represent trends in new HIV infections; these data now represent persons who are tested late in the course of HIV infection, who have limited access to care, or in whom treatment has failed.

HIV surveillance: Monitoring trends in the HIV epidemic today requires collecting information on HIV cases that have not progressed to AIDS. Areas with confidential name-based HIV infection reporting requirements use the same uniform system for data collection on HIV

cases as for AIDS cases. A total of 33 areas—the US Virgin Islands and 32 states (Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming)—have collected these data for at least 5 years, providing sufficient data to monitor HIV trends and to estimate risk behaviors for HIV infection. Recently, 9 additional areas have begun confidential name-based HIV surveillance, and data from these areas will be included in coming years.

HIV/AIDS: This term includes persons with a diagnosis of HIV infection (not AIDS), a diagnosis of HIV infection and a later diagnosis of AIDS, or concurrent diagnoses of HIV infection and AIDS.

REFERENCES

1. CDC. *HIV/AIDS Surveillance Report, 2003*. Vol. 15. Atlanta: US Department of Health and Human Services, CDC; 2004:1–46. Also available at <http://www.cdc.gov/hiv/stats/2003surveillancereport.pdf>. Accessed March 2, 2005.
2. Binson D, Michaels S, Stall R, et al. Prevalence and social distribution of men who have sex with men: United States and its urban centers. *Journal of Sex Research* 1995;32:245–254.
3. CDC. Increases in HIV diagnoses—29 states, 1999–2002. *MMWR* 2003;52:1145–1148.
4. Mansergh G, Marks G, Colfax GN, et al. “Barebacking” in a diverse sample of men who have sex with men. *AIDS* 2002;16:653–659.
5. Wolitski R. The emergence of barebacking among gay men in the United States: a public health perspective. *Journal of Gay and Lesbian Psychotherapy* 2005;9:13–38.
6. CDC. Special focus profiles: men who have sex with men. In *Sexually Transmitted Disease Surveillance, 2003*. Atlanta: US Department of Health and Human Services, CDC; September 2004. Also available at <http://www.cdc.gov/std/stats/toc2003.htm>. Accessed April 19, 2005.
7. CDC. Primary and secondary syphilis among men who have sex with men—New York City, 2001. *MMWR* 2002;51:853–856.
8. CDC. Primary and secondary syphilis—United States, 1999. *MMWR* 2001;50:113–117.
9. CDC. Transmission of primary and secondary syphilis by oral sex—Chicago, Illinois, 1998–2002. *MMWR* 2004;53:966–968.
10. CDC. Trends in primary and secondary syphilis and HIV infections in men who have sex with men—San Francisco and Los Angeles, California, 1998–2002. *MMWR* 2004;53:575–578.
11. Stall R, Paul JP, Greenwood G, et al. Alcohol use, drug use and alcohol-related problems among men who have sex with men: the Urban Men’s Health Study. *Addiction* 2001;96:1589–1601.
12. CDC. Methamphetamine and HIV risk among men who have sex with men. Available at <http://www.effectiveinterventions.org>.
13. Mansergh G, Colfax GN, Marks G, et al. The circuit party men’s health survey: findings and implications for gay and bisexual men. *American Journal of Public Health* 2001;91:953–958.
14. Purcell DW, Parsons JT, Halkitis PN, Mizuno Y, Woods WJ. Substance use and sexual transmission risk behavior of HIV-positive men who have sex with men. *Journal of Substance Abuse* 2001;13:185–200.
15. Suarez T, Miller J. Negotiating risks in context: a perspective on unprotected anal intercourse and barebacking among men who have sex with men—where do we go from here? *Archives of Sexual Behavior* 2001;30:287–300.
16. Ostrow DG, Fox K, Chmiel JS, et al. Attitudes towards highly active antiretroviral therapy predict sexual risk-taking among HIV-infected and uninfected gay men in the multicenter AIDS cohort study (MACS). XIII International Conference on AIDS; July 2000; Durban,

- South Africa. Abstract ThOrC719. Available at <http://www.iac2000.org>. Accessed April 25, 2005.
17. Stolte IG, Dukers N, de Wit JBF, et al. Increases in STDs among men who have sex with men (MSM) and in risk behavior among HIV-positive MSM in Amsterdam, possibly related to HAART-induced immunologic and virologic improvements. Conference on Retroviruses and Opportunistic Infections; February 2001; Chicago. Abstract 261. Available at <http://www.retroconference.org/2001/abstracts/Abstracts/Abstracts/261.htm>. Accessed April 25, 2005.
 18. Kelly J, Hoffman R, Rompa D, Gray M. Protease inhibitor combination therapies and perceptions of gay men regarding AIDS severity and the need to maintain safer sex. *AIDS* 1998;12:F91–F95.
 19. Dilley J, Wood W, MacFarland W. Are advances in treatment changing views about high risk sex? *New England Journal of Medicine* 1997;337:501–502.
 20. Crepaz N, Hart TA, Marks G. Highly active antiretroviral therapy and sexual risk behavior: a meta-analytic review. *JAMA* 2004;292:224–236.
 21. McAuliffe T, Kelly J, Sikkema K. Sexual HIV risk behavior levels among young and older gay men outside of AIDS epicenters: findings of a 16-city sample. *AIDS and Behavior* 1999;3:111–119.
 22. Mansergh G, Marks G. Age and risk of HIV infection in men who have sex with men. *AIDS* 1998;12:1119–1128.
 23. Glynn M, Rhodes P. Estimated HIV prevalence in the United States at the end of 2003. National HIV Prevention Conference; June 2005; Atlanta. Abstract 595.
 24. MacKellar DA, Valleroy L, Secura G, et al. Unrecognized HIV infection, risk behaviors, and perceptions of risk among young men who have sex with men: opportunities for advancing HIV prevention in the third decade of HIV/AIDS. *Journal of Acquired Immune Deficiency Syndromes* 2005;38:603–614.
 25. Weinhardt LS, Carey MP, Johnson BT, Bickham NL. Effects of HIV counseling and testing on sexual risk behavior: a meta-analytic review of published research, 1985–1997. *American Journal of Public Health* 1999;89:1397–1405.
 26. CDC. High-risk sexual behavior by HIV-positive men who have sex with men—16 sites, United States, 2000–2002. *MMWR* 2004;53:891–894.
 27. Wolitski RJ, Bailey CJ, O’Leary A, Gómez DA, Parsons JT, for the Seropositive Urban Men’s Study Group (SUMS). Self-perceived responsibility of HIV-seropositive men who have sex with men for preventing HIV transmission. *AIDS and Behavior* 2003;7:363–372.
 28. Wolitski RJ, Parsons JT, Gómez CA, for the SUMS and SUMIT Study Teams. Prevention with HIV-seropositive men who have sex with men: lessons learned from the Seropositive Urban Men’s Study (SUMS) and the Seropositive Urban Men’s Intervention Trial (SUMIT). *Journal of Acquired Immune Deficiency Syndromes* 2004;37(suppl 2):S101–S109.
 29. Denning PH, Campsmith ML. Unprotected anal intercourse among HIV-positive men who have a steady male sex partner with negative or unknown HIV serostatus. *American Journal of Public Health* 2005;95:152–158.
 30. CDC. Internet use and early syphilis infection among men who have sex with men—San Francisco, California, 1999–2003. *MMWR* 2003;52:1229–1232.
 31. Bull SS, McFarlane M. Soliciting sex on the Internet: what are the risks for sexually transmitted diseases and HIV? *Sexually Transmitted Diseases* 2000;27:545–550.
 32. CDC. Late versus early testing of HIV—16 sites, United States, 2000–2003. *MMWR* 2003;52:582–586.
 33. CDC. HIV/AIDS among racial/ethnic minority men who have sex with men—United States, 1989–1998. *MMWR* 2000;49:4–11.
 34. CDC. HIV transmission among black college student and non-student men who have sex with men—North Carolina, 2003. *MMWR* 2004;53:731–734.
 35. Mills TC, Stall R, Pollack L. Health-related characteristics of men who have sex with men: a comparison of those living in “gay ghettos” with those living elsewhere. *American Journal of Public Health* 2001;91:980–983.
 36. Diaz R. Latino gay men and psycho-cultural barriers to AIDS prevention. In Levin MP, Nardi PM, Gagnon JH, eds. *Changing Times: Gay Men and Lesbians Encounter HIV/AIDS*. Chicago: University of Chicago Press; 1997.
 37. Marin G, Marin BV. *Research with Hispanic Populations*. Vol. 23 Newbury Park, CA: Sage Publications; 1991. Research Methods Series.
 38. Kelly JJ, Chu SY, Diaz T, et al. Race/ethnicity misclassification of persons reported with AIDS. *Ethnicity and Health* 1996;1:87–94.
 39. Gold R, Skinner MJ, Hinchey J. Gay men’s stereotypes about who is HIV infected: a further study. *International Journal of STD & AIDS* 1999;10:600–605.
 40. Stall R, Mills TC, Williamson J, et al. Associations of co-occurring psychosocial health problems and increased vulnerability to HIV/AIDS among urban men who have sex with men. *American Journal of Public Health* 2003;93:939–942.

41. Johnson WD, Hedges LV, Ramirez G, et al. HIV prevention research for men who have sex with men: a systematic review and meta-analysis. *Journal of Acquired Immune Deficiency Syndromes* 2002;30(suppl 1):S118–S129.
-

For more information . . .

CDC Division of HIV/AIDS Prevention

<http://www.cdc.gov/hiv>

CDC HIV/AIDS prevention resources

CDC-INFO

1-800-232-4636

Information about personal risk and where to get an HIV test

CDC National HIV Testing Resources

<http://www.hivtest.org>

Location of HIV testing sites

CDC National Prevention Information Network (NPIN)

1-800-458-5231

<http://www.cdcpin.org>

CDC resources, technical assistance, and publications

AIDSinfo

1-800-448-0440

<http://www.aidsinfo.nih.gov>

Resources on HIV/AIDS treatment and clinical trials