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Revised June 2007

HIV/AIDS among Men Who Have Sex with Men

In the United States, HIV infection and AIDS have had a tremendous effect on men who have sex with men (MSM). MSM accounted for 71% of all HIV infections among male adults and adolescents in 2005 (based on data from 33 states with long-term, confidential name-based HIV reporting), even though only about 5% to 7% of male adults and adolescents 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, 4]. Additionally, racial disparities exist with regard to HIV diagnoses within the MSM population. A recent study, conducted in 5 large US cities, found that HIV prevalence among black MSM (46%) was more than twice that among white MSM (21%) [5].

The recent overall increase in HIV diagnoses for MSM, coupled with racial disparities, strongly points to a continued need for appropriate prevention and education services tailored for specific subgroups of MSM, especially those who are members of minority races/ethnicities.

STATISTICS

HIV/AIDS in 2005

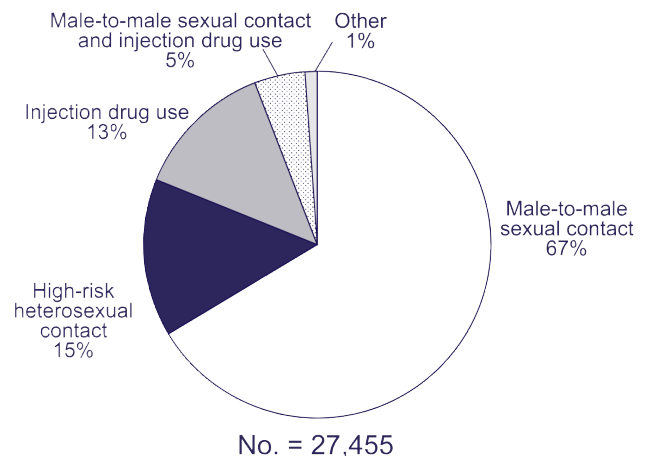
(The following bullets refer to the 33 states with long-term, confidential name-based HIV reporting. See the box, before the References section, for a list of the 33 states.)

- In the 33 states with long-term, confidential name-based HIV reporting, an estimated 19,620 MSM (18,296 MSM and 1,324 MSM

who inject drugs) received a diagnosis of HIV/AIDS, accounting for 71% of male adults and adolescents and 53% of all people receiving an HIV/AIDS diagnosis that year [1].

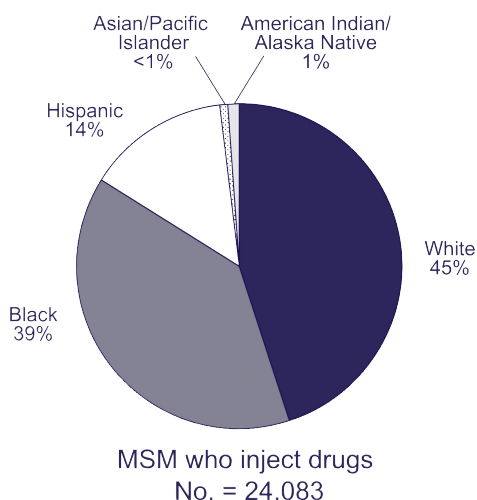
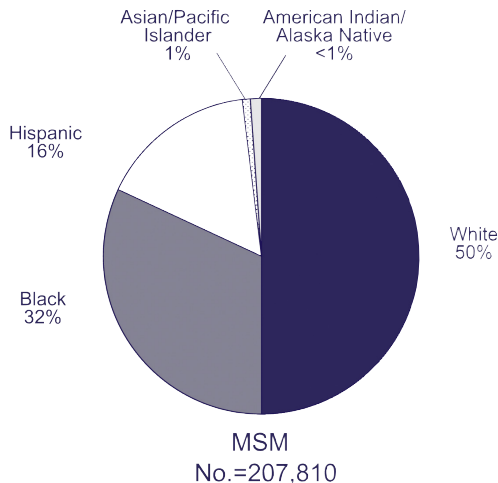
- The number of HIV/AIDS diagnoses among MSM (including MSM who inject drugs) increased 11% from 2001 through 2005 [1]. It is not known whether this increase is due to an increase in the testing of persons with risk factors, which results in more HIV diagnoses, or due to an increase in cases of HIV infection
- An estimated 231,893 MSM (207,810 MSM and 24,083 MSM who inject drugs) were living with HIV/AIDS [1].

Transmission categories of male adults and adolescents with HIV/AIDS diagnosed during 2005



Note. Based on data from 33 states with long-term, confidential name-based HIV reporting. Because of rounding, percentages may not equal 100.

Race/ethnicity of MSM living with HIV/AIDS, 2005



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

AIDS in 2005

(See the box, before the References section, for AIDS definition. The following data are from 50 states and the District of Columbia.)

- Since the beginning of the epidemic, an estimated 517,992 MSM (452,111 MSM and 65,881 MSM who inject drugs) had received a diagnosis of AIDS, accounting for 68% of male adults and adolescents who received a diagnosis of AIDS and 54% of all people who received a diagnosis of AIDS [1].
- Since the beginning of the epidemic, an estimated 300,669 MSM (260,749 MSM and 39,920 MSM who inject drugs) with AIDS had died, accounting for 68% of male adults and adolescents with AIDS who had died and 57% of all people with AIDS who had died [1].
- At the end of 2005, an estimated 217,323 MSM (191,362 MSM and 25,961 MSM who inject drugs) were living with AIDS, representing 67% of male adults and adolescents living with AIDS and 52% of all people living with AIDS [1].

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).

- Having anal sex without a condom continues to be a significant threat to the health of MSM [6]. Unprotected anal sex (barebacking) with casual partners is an increasing concern. Not all the reasons for an apparent increase in unprotected anal intercourse are known, but research points to the following factors: optimism about improved HIV treatment, substance use, complex sexual decision making, seeking sex partners on the Internet, and failure to practice safer sex [7]. Some of these men may be serosorting, or only having sex (or unprotected sex) with a partner whose HIV serostatus, they believe, is the same as their own. Although serosorting between MSM who have tested HIV-positive is likely

to prevent new HIV transmission to persons who are not infected, the effectiveness of serosorting between men who have tested HIV-negative has not been established. Serosorting with condom use may further reduce the risk of HIV transmission. However, for men with casual partners, serosorting alone is likely to be less effective than always using condoms because some men do not know or disclose their HIV serostatus [8].

- STDs, which increase the risk for HIV infection, remain an important health issue for MSM. According to the Gonococcal Isolate Surveillance Project, the proportion of gonorrhea-positive test results among MSM increased from 4% in 1988 to 20.2% in 2004 [9]. Rates of syphilis among MSM have increased in some urban areas, including Chicago, New York, San Francisco, and Seattle [10–12]. In the 9 US cities participating in the MSM Prevalence Monitoring Project, the rates of STDs and HIV positivity varied by race and ethnicity but tended to be highest among black and Hispanic MSM [9]. In addition to increasing susceptibility to HIV, STDs are markers for high-risk sexual practices, through which HIV infection can be transmitted [13].

Unknown HIV Serostatus

Approximately 25% of people in the United States who are infected with HIV do not know they are infected [14].

- Through its National HIV Behavioral Surveillance system, CDC found that 25% of the MSM surveyed in 5 large US cities were infected with HIV and 48% of those infected were unaware of their infections [5].
- In a recent CDC study of young MSM, 77% of those who tested HIV-positive mistakenly believed that they were not infected [15]. Young black MSM in this study were more likely to be unaware of their infection—approximately 9 of 10 young black 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 learn that they are infected with HIV alter their behaviors to reduce their risk of transmitting the virus [16, 17]. Therefore, increasing the proportion of people who know their HIV serostatus can help decrease HIV transmission.

Substance Use

The use of alcohol and illegal drugs continues to be prevalent among some MSM and is linked to risk factors for HIV infection and other STDs [18]. Substance use can increase the risk for 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 are also a concern because methamphetamine use has been associated both with risky sexual behaviors for HIV infection and other STDs and with the sharing of injection equipment when the drug is injected [19]. Methamphetamine and other “party” drugs (such as ecstasy, ketamine, and GHB [gamma hydroxybutyrate]) may be used to decrease social inhibitions and enhance sexual experiences [20]. These drugs, along with alcohol and nitrate inhalants (“poppers”), have been strongly associated with risky sexual practices among MSM [21].

Complacency about Risk

More than 25 years into the HIV epidemic, there is evidence of an underestimation of risk, of difficulty in maintaining safer sex practices, and of a need to sustain prevention efforts for all gay and bisexual men.

- The success of highly active antiretroviral therapy (HAART) may have had the unintended consequence of increasing the risk behaviors of some MSM.

- Some research suggests that the perceptions of 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 to an increase in risky sexual behaviors [22, 23]. For example, some MSM may mistakenly believe that they or their partners are not infectious when they take antiretroviral medication or when they have low or undetectable viral loads [24].
- Optimism about HIV treatments is associated with a greater willingness to have unprotected anal intercourse [25–27].
- Long-term efforts to practice safer sex present a significant challenge. A 4-city study indicates that years of exposure to prevention messages and long-term efforts to practice safer sex may play a role in the decision of HIV-positive MSM to engage in unprotected anal intercourse [23, 28].
- The rates of risky behaviors are higher among young MSM than among older MSM [28, 29]. Not having seen firsthand the toll of AIDS in the early years of the epidemic, young MSM may be less motivated to practice safer sex.

MSM Who Are HIV-positive

HAART has enabled HIV-infected MSM to live longer. However, HAART's success means there are more MSM living with HIV who have the potential to transmit the virus to their sex partners. This emphasizes the importance of focusing prevention efforts on those who are living with HIV.

Although many MSM reduce their risk behaviors after learning that they have HIV, most remain sexually active [17]. Most HIV-infected MSM believe that they have a personal responsibility to protect others from HIV, but some engage in risky sexual behaviors that may result in others' contracting HIV [30–32]. Interventions to reduce the risk for transmission, some of which were tested with MSM, are available for persons living with HIV [33, 34].

The Internet

During the past decade, the Internet has created new opportunities for MSM to meet sex partners [35]. 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 [36]. The Internet may also normalize certain risky behaviors by making others aware of these behaviors and creating new connections between those who engage in them. At the same time, however, the Internet has the potential to be a powerful tool for use with HIV prevention 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 other 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 HIV prevention services, particularly for MSM of minority races or ethnicities. Black 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, suggesting that they are not accessing testing or health care services through which HIV infection could be diagnosed at an earlier stage [37].
- The stigma associated with homosexuality may inhibit some men from identifying themselves as gay or bisexual, even though they have sex with other men [38, 39]. Some men who have sex with men and with women don't identify themselves as gay or bisexual [40]. Research among black men has shown that even if these men do not identify themselves as gay or bisexual, they do not engage in risky behavior more often than the men who do

identify themselves as gay or bisexual [41]. This research suggests that elevated rates of STDs and undetected or late diagnosis of HIV infection may contribute to higher rates of HIV infection among black MSM.

- Black and Hispanic MSM are less likely than white MSM to live in gay-identified neighborhoods [42]. Therefore, prevention programs directed to gay-identified 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 [43, 44].
- Although Asians/Pacific Islanders and American Indians/Alaska Natives accounted for less than 2% of the AIDS cases in MSM reported nationally during 1989–1998, these groups accounted for noteworthy proportions of cases in certain metropolitan areas [38]. Also, HIV infection among American Indians and Alaska Natives may be underestimated because not all surveillance systems recognize American Indian or Alaska Native as a race/ethnicity [45].

Combinations of Risk Factors

There is growing recognition that combinations of individual, sociocultural, and biomedical factors affect HIV risk behavior among MSM [46]. Childhood sexual abuse, substance use, depression, and partner violence have been shown to increase the practice of risky sexual behaviors. Further research has shown that the combined effects of these problems may be greater than their individual effects [47]. Therefore, MSM with more than 1 of these problems may have additional risk factors for HIV infection. The expansion and wider awareness of this type of research, which shows the additive effect of various psychosocial problems, will result in more precise prevention efforts.

Differences within the MSM Population

Even though MSM constitute a group at risk for HIV, not all MSM are at risk for HIV. Analyzing the context within which individuals of the larger MSM community live and socialize may be a promising method for developing and focusing HIV interventions. A recent large-scale HIV vaccine efficacy trial looked at combinations of demographic characteristics and risk behaviors to help identify MSM at greatest risk [48]. This study of more than 5,000 HIV-negative MSM found that older men with large numbers of sex partners, young men who used “party” drugs, and older men who used nitrate inhalants were most likely to contract HIV.

The appreciation of differences within the MSM community will aid in the development of successful HIV prevention interventions.

PREVENTION

To reduce the incidence of HIV, CDC released the *Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings* (<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm>) in 2006. These recommendations include the routine HIV screening of adults, adolescents, and pregnant women in health care settings in the United States. They also include reducing barriers to HIV testing. In 2003, CDC announced Advancing HIV Prevention (http://www.cdc.gov/hiv/topics/prev_prog/AHP). 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.

Given that a large number of HIV-infected MSM are unaware of their infection, HIV testing is an important strategy for this population. Many of

these men have previously tested HIV-negative, so CDC recommends that all sexually active MSM be tested for HIV at least once a year [49]. MSM who engage in high-risk behaviors (e.g., unprotected anal sex with casual partners) should be tested more frequently.

MSM as a group continues to be the population most affected by HIV infection and AIDS. However, research shows that HIV prevention efforts can reduce sexual risk factors: one review found that among men who received an HIV prevention intervention, the proportion who engaged in unprotected sex decreased, on average, 26% [50].

CDC offers effective interventions for MSM (<http://www.effectiveinterventions.org>). These interventions can be tailored to various audiences, such as African American or Hispanic MSM. For example,

- 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 sex as the norm in the social networks of MSM
- Healthy Relationships, which helps develop the skills and self-efficacy of MSM and other 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 factors for HIV infection

In 2006, CDC provided 54 awards to community-based organizations that focus primarily on MSM. CDC also provides funding through state, territorial, and local health departments. Of these 54 awards, 63% focus on African Americans, 43% on Hispanics, 13% on Asians and Pacific Islanders, and 20% on whites (the percentages do not add to 100% because some of the organizations focus on more than one racial/ethnic group). For example,

- An organization in Jefferson County, Alabama, that provides a range of services, including individual counseling, community and street outreach, and interventions for African American men and Spanish-speaking men
- An organization in New York City that provides HIV/AIDS-related services, education, and research to Asian and Pacific Islander communities
- An organization offering HIV/AIDS services throughout Los Angeles and San Bernadino counties and San Diego that is committed to enhancing the health and well-being of the Latino community and other underserved communities through community education, prevention, mobilization, advocacy, and direct social services.

Understanding HIV and AIDS Data

AIDS surveillance: Through a uniform system, CDC receives reports of AIDS cases from all US states and dependent areas. Since the beginning of the epidemic, these data have been used to monitor trends. 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 states (Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, 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.

HIV/AIDS: This term is used to refer to 3 categories of diagnoses collectively: (1) a diagnosis of HIV infection (not AIDS), (2) a diagnosis of HIV infection and a later diagnosis of AIDS, and (3) concurrent diagnoses of HIV infection and AIDS.

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