

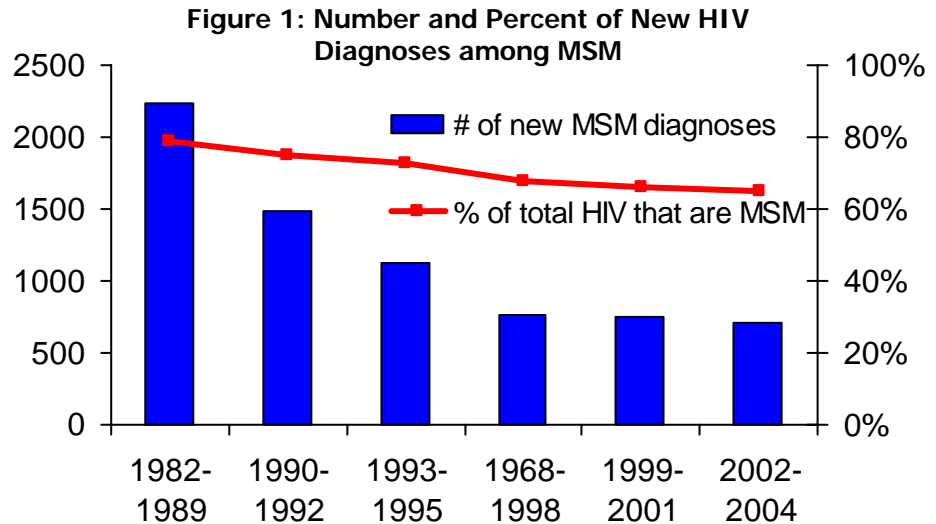


HIV/AIDS in Men who have Sex with Men (MSM)

SUMMARY: Men who have sex with men (MSM) were the earliest group affected by HIV/AIDS, have the most new AIDS diagnoses and HIV infections, and have the most existing HIV infection and AIDS. In King Co., 79% of people living with HIV or AIDS are MSM, including MSM who have injected drugs (MSM/IDU). The proportion of HIV diagnoses among MSM has decreased through 2004 while increasing among women and heterosexuals. Both sexually transmitted infection (STI) rates and unsafe sexual behaviors have recently increased among MSM, which may foreshadow an increase in HIV incidence among MSM.

STATUS AND TRENDS IN HIV DIAGNOSES AND AIDS CASES:

- Although King Co. data show a declining proportion of HIV diagnoses among MSM (see Figure 1 line), MSM still account for over half of all HIV.
- The proportion of new HIV diagnoses among MSM not injecting drugs dropped from 68% of those with known risk 1996-1998 to 65% 2002-2004.



- The proportion of new HIV diagnoses among MSM/IDU has remained roughly level at 7-8% of all diagnoses with known risk from 1996-2004.
- A higher proportion of cumulative HIV/AIDS cases diagnosed among residents of the city of Seattle have been MSM or MSM-IDU (79%) compared to residents of King County outside of Seattle (64%)
- Among the 5,699 people reported with HIV or AIDS in King County and presumed alive as of September 30th 2005, 70% of those with known risk are MSM and 9% are MSM/IDU.

POPULATION SIZES:

- Public Health-Seattle & King County (PHSKC) estimates the current number of MSM includes approximately 40,000 MSM without and 3,150 MSM with any history of injection drug use. Infection rates are about
 - 16.4% of 43,150 MSM including MSM/IDU
 - 15.8% of 40,000 MSM with no history of IDU
 - 24.8% of 3,150 MSM who also inject drugs

HIV PREVALENCE STUDIES: Recent local HIV prevalence studies show that between 5% and 45% of various MSM populations test HIV positive. Best estimates range from 13-21% for MSM without IDU histories and 9-32% for MSM-IDU. HIV prevalence rates declined from the mid-1980's through the mid-1990's, but may be rising again. The highest levels of HIV prevalence were generally found in:

- Older MSM compared to younger MSM,
- MSM with sexually transmitted infections (STIs), such as gonorrhea,
- MSM/IDU and especially amphetamine injectors relative to those with no history of IDU,
- Black MSM relative to Whites and others, and
- Men who had sex exclusively with other men rather than both men and women.

- Among 751 MSM with leftover sera unlinked (blinded) and tested for HIV at the PHSKC Sexually Transmitted Disease (STD) Clinic in 2002 and 2003, the prevalence of HIV was 13% among MSM who did not inject drugs and 22% among MSM/IDU.
- In the same STD Clinic survey, trend analysis showed that HIV prevalence decreased from 36% for all MSM in 1988-1989 to 5% in 1996-1997, but rose again to 12% in 2002.
- In the STD Clinic unlinked survey between 2001 and 2003, 11% of MSM who tested as HIV-infected did not report a prior positive HIV test *and* did not receive HIV testing and counseling at the survey visit (the HIV testing was due to the anonymous study design). These men may not have been aware of their HIV + status.
- In a 2003 random digit dialing survey of 311 MSM, 92% had a known serostatus, and of these 16% were HIV-infected.
- Public Health's Raven Study of drug injectors found that about 45% of MSM IDU who primarily injected amphetamines were HIV-infected compared to 29% of MSM and 8% of men who had sex with both men and women who preferred other drugs (data from 1994-1997).
- In the Phase 2 Young Men's Study (YMS) which tested 465 MSM aged 23-29 years from 12/1998 to 02/2000, 4.7% were found to be HIV-infected, and only 64% of these knew of their positive serostatus.
- Of 701 MSM tested in the unlinked (anonymous) STD Clinic survey during 2002-2003, 34% of MSM with gonorrhea were HIV-infected compared to 12% of those without gonorrhea. The overall HIV prevalence among MSM in this 2002-2003 survey was 13%. In comparison, 4% of women and non-MSM male STD clients diagnosed with gonorrhea, and 0.4% without gonorrhea, tested as HIV infected.

HIV INCIDENCE (Tables 1 and 2):

- HIV incidence (the number of new infections) was estimated at publicly-funded HIV test sites in King County by examining sera of about 1000 MSM per year with 2 or more HIV tests 1997-2004 (Table 1). These sites included the Harborview STD Clinic, Public Health-Seattle-King County testing sites, and one community clinic. At these sites, the incidence appears to have remained fairly stable over the past 8 years between 1 and 2 infections per 100 MSM per year.

Table 1: HIV incidence among public health repeat testers, 1997-2004	Year	HIV incidence per 100 person-years (95% CI *)
	1997-1998	1.0 (0.7-1.5)
	1999-2000	1.3 (0.9-1.8)
	2001-2002	1.4 (1.0-2.0)
	2003-2004	1.2 (0.7-1.8)

- HIV incidence was also estimated at publicly funded sites in King County by applying STARHS (serologic testing algorithm for recent HIV seroconversion). STARHS combines two tests on a single serum sample to identify probable recent HIV infection. STARHS results suggest about 3 per 100 MSM testing at health department sites become infected with HIV each year. There was no change in incidence from 1997 to 2004 (see Table 2). Within each 2 year period at least 4,000 MSM were tested for HIV. The higher incidence in Table 2 relative to Table 1 may suggest HIV infected MSM were less likely to have prior HIV tests relative to HIV uninfected MSM.

Table 2: HIV incidence among public health STARHS testers, 1997-2004	Year	HIV incidence per 100 person-years (95% CI *)
	1997-1998	2.8 (1.7-4.4)
	1999-2000	2.4 (1.4-4.0)
	2001-2002	3.3 (2.0-5.6)
	2003-2004	2.8 (1.7-4.8)

- In Phase 2 YMS 12/1998-02/2000, MSM aged 22-29 years had a 4% (95% CI* 2-7%) incidence of HIV each year as measured by STARHS. The Phase 1 project 10/1997-10/1998 showed a 1% (95% CI* 1-8%) HIV incidence for 15-22 year old MSM.

*The 95% confidence interval (CI) is the interval within which the point estimate of incidence is expected to fall 95% of the time; if a point estimate is outside the 95% CI of another point estimate, then the two point estimates may be statistically significantly different.

BEHAVIORIAL RISKS:

- In a 2003 random digit dialing survey of MSM, 10% of HIV-negative MSM and 31% of HIV-positive MSM recently engaged in behaviors that placed them at high-risk for acquiring or transmitting HIV.
- Health department counseling and testing data between 1996 and 2003 indicate that both the proportion of MSM engaging in unprotected receptive anal intercourse (URAI) and the average numbers of partners of MSM have increased. URAI rose from 28% in 1996-1997 to 35% in 2002-2003. Average numbers of sexual partners per year increased from 2.5 to 4.6 comparing 1996-1997 to 2002-2003.
- The Seattle Area Men's Study (SAMS) interviewed 38 newly infected MSM and 137 MSM whom had recently tested HIV negative. Among those newly infected with HIV, 45% had used methamphetamine during unprotected anal intercourse in the previous 6 months, and 47% had used poppers. Only 13% of MSM without HIV infection used methamphetamine, and 19% used poppers.
- In SAMS, recently infected MSM were more likely to have 5 or more male sexual partners in the last six months (75% versus 53%) and 5 or more male partners with whom they had anal sex (58% versus 23%).
- From 1999 to 2000, the Sleepless in Seattle Study recruited 1,000 MSM at sites specializing in health care and HIV testing for MSM. All these MSM had anal sex within the previous year. During the two months prior to interview, the following behaviors were reported:
 - 85% had any anal sex
 - 70% had receptive anal sex
 - 25% met partners in baths or sex clubs
 - 13% met sex partners in parks
 - 15% used crystal methamphetamine with sex
 - 57% used 'poppers'
 - 43% "sometimes" or "never" used condoms for anal sex at baths
 - 40% did not discuss HIV status prior to sex a majority of the time
- 14% of HIV negative MSM had one or more HIV+ sex partners (higher among MSM over 35 years, those with more than 5 sex partners in the past 2 months, and those who used crystal meth); 45% of HIV-infected MSM had one or more HIV negative sex partner; 33% had one or more sex partners of unknown HIV status; HIV status was more likely to be unknown for partners met at baths or parks.
- In the 2000 HIV Testing Survey conducted in Seattle, 83 sexually active MSM without HIV infection were recruited from venues including bars and clubs. Eight percent had never had an HIV test, 62% had been tested in the past year, and 52% were getting tested on some regular basis. Over the past year, 52% had been in a primary relationship, 9% had been in more than one primary relationship, and 77% had sex with one or more non-primary partners. Of the 83, 34% always used a condom, 45% sometimes used condoms, and 21% never used condoms.
- HAART availability may be associated with increases in unsafe sex due to reduced fear of HIV and improvement in the health of people with HIV infection. Concurrently, HAART reduces viral load in blood, and seminal fluids and thus presumably reduces the infectiousness of most HIV-infected people successfully adhering to HAART regimens.

TRENDS IN SEXUALLY TRANSMITTED INFECTION RATES AS AN INDICATOR OF HIV RISK:

- The presence of a sexually transmitted infection (STI) increases the likelihood of HIV transmission by two-fold to five-fold according to the Centers for Disease Control and Prevention (CDC). STIs are a marker for high risk sexual behavior, including a risk of HIV acquisition and HIV transmission.
- After declining since 1983, early syphilis rates have increased dramatically since 1996 among MSM in King County. There were 50-77 syphilis cases annually in MSM 1999 to 2003 and 140 in 2004.
- Early syphilis incidence rates 1998 – 2004 for HIV-infected MSM were 5 to 20 times higher (0.5 – 1.8 per 100) than rates for HIV-uninfected MSM (0.1 - 0.3 per 100).
- Among the 140 MSM diagnosed with early syphilis in 2004, 56% had known HIV infection.
- Local data are consistent with national CDC-reported increases in early syphilis every year since an all-time low in 2000. The CDC estimates 64 percent of all adult early syphilis cases in 2004 were among men who have sex with men, up from an estimated 5 percent in 1999.
- Gonorrhea cases and incidence rates among MSM increased markedly 1993 through 2004, but with some fluctuations. Three year averages have increased from around 100 cases per year 1993 – 1995 to around 300 cases per year 2002 – 2004. There was a decrease in gonorrhea cases in MSM within the most recent 3 year period evaluated (2002 -2004) which may herald a decreasing trend, or leveling, or may be due to random fluctuations.
- Chlamydia diagnoses reported in MSM in King County have also increased, about seven-fold, from

1993 through 2004. About 25 cases were reported in 1993 and about 175 in 2004.

SUBGROUP HIGHLIGHTS:

Young MSM

- Young MSM are at high risk of acquiring HIV. Data from Public Health — Seattle & King County HIV/AIDS surveillance indicate that of 4,573 HIV-infected MSM presumed alive as of 6/2005, 2% were 13-19 years at time of HIV diagnosis, 30% were 20-29 years, and 45% were 30-39 years old.
- The Seattle Young Men’s Survey (YMS) conducted by Public Health-Seattle & King County between 10/1997 and 2/2000 revealed an HIV prevalence of 2% among MSM 15-22 years old compared to 5% in MSM 23-29 years old.
- Six large US cities conducted YMS in 1998-2000 and surveyed more than 2,400 MSM 23-29 years old. Seattle had the lowest HIV prevalence (5%) and Dallas had the highest (18%). Overall, 46% of YMS participants reported unprotected anal intercourse during the previous 6 months; the figure for Seattle was 48%.
- Younger men were more likely to have multiple recent sex partners and higher rates of alcohol and drug use. For one-quarter of YMS participants who had multiple sex partners recently, being high on alcohol or drugs was a reason for unprotected sex. These risks were more common among MSM age 23-29 compared to those 15-22 years of age, as shown in Table 3:

Table 3: Risk Behaviors in Past 6 months Among Young MSM in King County in YMS

	15-22 years (n=368)	23-29 years (n=462)
≥ 5 male sex partners	23%	29%
Sex while high on alcohol or drugs	54%	71%
Anal sex	67%	78%
Unprotected anal sex	38%	48%

Men of color

- Among 1360 Men of Color currently living with HIV/AIDS, 69% were MSM or MSM-IDU; this proportion is lower than among White men (93% MSM including MSM-IDU).
- Of male HIV/AIDS cases reported through 9/2005, 57% of Blacks were MSM or MSM-IDU, compared to 80% of Latinos, 79% of Am. Indian/AK Natives, and 80% of Asians/Pacific Islanders.
- Overall, 11% of MSM living with HIV/AIDS were also IDU. This ranged widely among MSM of color, including 37% of American Indian/AK Natives and 4% of Asians/Pacific Islanders.

Bisexual men

- Among 1,132 MSM captured in the blinded (unlinked) STD HIV seroprevalence survey 2001-2003, 19% also had sex with women.
- In the same survey but cumulatively from 1997 through 2003, 3% of men who had sex with both men and women were found to be HIV-infected, relative to 12% of MSM without female partners.
- Of 15,767 MSM who sought HIV counseling and testing at Public Health’s HIV/AIDS Program testing site between 1/1988-12/2004, 23% also reported one or more female sex partner(s) in the past year. Fewer HIV-infected MSM (10%) had female sexual partners relative to MSM without HIV (26%).
- The proportion of MSM using condoms for vaginal intercourse was 56%; however 70% of HIV-infected MSM used condoms for vaginal intercourse. Condom use among MSM having vaginal intercourse may be even higher as some HIV-infected MSM knew their HIV status prior to the visit where this question was answered and others did not. Even for MSM who knew they had HIV infection, the question may have included time prior to their seroconversion and/or diagnosis.

Amphetamine use in MSM drug injectors

- In the Kiwi study of incarcerated IDU, 1,358 people interviewed at two King County Correctional facilities were tested for HIV between 8/1998 and 7/2002. MSM had a higher prevalence of HIV infection (9%) relative to other IDU (2%); MSM who used amphetamines had the highest prevalence of HIV (29%) relative to MSM who primarily injected heroin (10%).
- Public Health estimates that only about 2% of MSM inject amphetamines in any given year.