# HIV/AIDS Epidemiology Profile for Community Planning

**Seattle-King County, Washington**
**Seattle-King County Department of Public Health**
**HIV/AIDS Epidemiology Program - January 1999**

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**A report to the community prepared by the**
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**Seattle-King County Department of Public Health**

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# Executive Summary

HIV infection and AIDS continue to have a major impact on the health of King County residents. Over 3,300 (61%) of the 5,498 King County residents diagnosed with AIDS between 1982 and 1997 have died and between 6,000 and 9,000 residents of our county are currently estimated to be infected with HIV. Fortunately, AIDS-related mortality has declined sharply in recent years. With more persons living with AIDS, there is a growing number of persons with HIV and AIDS in our community and an ever greater need for care and prevention services. Advances in treatment notwithstanding, prevention remains our best hope for a community without this devastating disease.

The effect of HIV/AIDS mortality in King County has been particularly severe because of the relatively young age at which people die. Fortunately, however, the number of deaths and resulting years of life lost has dropped considerably in recent years. In the 1996 issue of this report it was noted that in 1994 HIV/AIDS deaths resulted in the second highest number of potential years of life lost before age 65 in King County, after cancer. In 1997, that number had dropped to the sixth highest due to a decreasing annual incidence of AIDS and the efficacy of new drug treatment regimens in reducing deaths among people diagnosed with AIDS.

The geographic distribution of AIDS in King County varies widely. Between 1995 and 1997, the average annual rate of AIDS cases per 100,000 population was 46.3 for the city of Seattle compared to 7.9 for the rest of the county. Within Seattle rates differed nearly twelve-fold, from 193.0 per 100,000 in the Central area to 16.4 per 100,000 in North Seattle.

Gay and bisexual men continue to be most heavily affected by AIDS, HIV infection, and risk of infection. Young gay men in their late teens and early twenties are at particularly high risk. In King County, 75% of AIDS cases diagnosed between 1995 and 1997 were in men who have sex with other men (MSM). The annual number of new AIDS cases dropped from a high of 649 in 1993 to 539, 501 and 442 in 1994, 1995 and 1996, respectively, and to 337 in 1997 after adjustment for reporting delay. These declines are primarily due to fewer new cases among men who have sex with other men. While the proportion of AIDS cases who are gay or bisexual men has decreased gradually over time, the proportion of cases in women and people of color has increased. Of concern, however, are sharp increases in the occurrence of sexually transmitted diseases among MSM in King County noted over the past year which are consistent with the jpossibility of an occult increase in HIV transmission among MSM in our community. Similarly, rates of STDs (gonorrhea and chlamydia) have been increasing dramatically among women and persons of color over recent years suggesting a possible increase in transmission of HIV infection through unsafe sex practices.

African American, Hispanic and American Indian/Alaska Native residents are disproportionately affected by HIV/AIDS in our community as in much of the U.S. Between 1995 and 1997, the average annual rate of AIDS in King County African Americans, Hispanics and American Indian/Alaska Natives was 59.1, 50.6, and 47.9 per 100,000 respectively, compared to 21.5 per 100,000 in Whites and 5.0 per 100,000 in Asian/Pacific Islanders. Among women, this discrepancy was even greater: the rate of AIDS per 100,000 in African American women was 23.2 and in American Indian/Alaska Native women was 22.1 versus 1.9 in White women—a 12-fold difference, up from a 9-fold difference noted in the 1996 edition of this report. It is expected that the disproportionate impact of HIV/AIDS on persons of color will continue, perhaps with a widening gap between people of color and Whites.

The local epidemiological data provided in this HIV/AIDS epidemiology profile are essential in planning effective HIV prevention and education programs which will reduce the spread of HIV in Seattle-King County. These data are also useful in planning social and health care services for persons with HIV infection and AIDS. It is our sincere hope that the information contained in this report will assist all those dedicated to minimizing the effects of HIV/AIDS in our community.

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# I. INTRODUCTION

The distribution of HIV/AIDS epidemiology information is a high priority for the Seattle-King County Department of Public Health (SKCDPH). To help ensure that HIV/AIDS epidemiology data are available in formats which are appropriate for users with different needs, data are distributed in periodical statistical reports and also summarized in articles and fact sheets. Many of these reports and articles are included in the **HIV/AIDS Quarterly Epidemiology Report** which has been published jointly by the SKCDPH and the Washington State Department of Health since 1986.

This is the third edition of the **HIV/AIDS Epidemiology Profile for Community Planning.** It includes a variety of HIV/AIDS epidemiology data for the region overall as well as for specific prevention target groups in a summary format to facilitate use of these data for community-based prevention and care services planning and prioritization. This report is part of a nationwide effort strongly promoted by the Centers for Disease Control and Prevention (CDC) to provide community prevention planning groups with local HIV/AIDS epidemiology data. We will continue to update and revise this publication periodically to reflect the needs of community organizations and regional HIV/AIDS planning council activities.

This profile addresses four questions that are key to effective community planning:

- **What are the sociodemographic characteristics of the community's population?**
- **What is the current and future impact of HIV/AIDS on the population?**
- **What is the geographic distribution of HIV/AIDS in the community?**
- **Who is at risk for becoming infected with HIV?**

A number of different data sources from Seattle-King County Department of Public Health and other agencies are used in this report. These include AIDS and symptomatic HIV case reporting, the Adult Spectrum of HIV-related Diseases Study, local and state HIV serosurveys, HIV counseling and testing data, sexually transmitted disease reporting, teenage pregnancy statistics, health and risk behavior surveys, the U.S. census, and other demographic and geographic population data. A more comprehensive discussion of these data sources is included in Appendix B.

# II. DESCRIPTION OF KING COUNTY

The HIV epidemic in the United States consists of multiple unevenly distributed regional epidemics among different population groups. These population groups may comprise persons who practice similar high-risk behavior, such as injection drug use or male-male sex. HIV prevalence in at-risk populations varies geographically across the United States and within states and locales. It is the underlying prevalence of HIV infection and the frequency of high risk contacts between infected and uninfected persons that are the primary determinants of HIV spread. Although race and ethnicity are not risk factors for transmission of HIV or any other sexually transmitted diseases, they are considered markers for complex underlying social, economic, and cultural factors that affect personal behavior and health.

This section presents data on the regional geography and sociodemographic characteristics of the population. This information is important to assess the context of the current and potential impact of HIV/AIDS in King County (KC) relative to other areas of the state and nation. The social, economic, and cultural context of HIV/AIDS must also be considered when designing and implementing prevention programs for diverse populations. More detailed population tables are included in the Appendix or are available on the King County websites at www.metrokc.gov/about.htm

**Geography and service areas:** The 39 counties in Washington State have been divided into six AIDS Service Networks (AIDSNETs). Each AIDSNET is represented on the statewide AIDSNET Council by the most populous county in the network region (see the Appendix for a list of counties by AIDSNET). AIDSNET Region 4 (King County) is unique because it includes just one county. King County consists of 2,128 square miles, which places it eleventh in geographical size among Washington State's 39 counties. While the county has only 3% of the state's land area, it is home to almost one-third of the state's population. Nationally, King County ranks as the twelfth most populous county.

**Seattle and the suburban cities:** Eight of the 20 largest cities in Washington are in King County. Seattle (1998 estimated population 538,926) is the largest city within King County (1998 estimated population 1,671,733). As of mid-1998, the county contained 38 incorporated cities, which accounted for approximately 74% of King County's population. Thirty-three percent of county residents reside in Seattle, 41% in incorporated suburban cities, and 26% in unincorporated King County.

**Population change:** According to the King County Office of Budget and Strategic Planning, the King County population has grown at a rate of about one percent per year since 1990. The effects of the economic turn around and job growth in the county since 1996 should be evident in 1998 when in-migration from other areas may surpass internal population increase from children born in the county. Current forecasts from the State and the Puget Sound Regional Council anticipate a year 2000 population of between 1,679,000 and 1,704,500. Forecasts for 2010 range from 1.8 to over 1.9 million people.

Population growth is unevenly distributed around the county. Suburban cities are acquiring most of the growth through both annexation and construction of new housing units. The cities of Kent, Bellevue, Des Moines, and Lake Forest Park have shown the largest amount of growth since 1990. Seattle continues to grow slowly; its population is now 10% larger than at its low point in 1986. In 1996, one-fourth of the county's new housing units were in the city of Seattle. Unincorporated areas of the county are losing population due to annexation and incorporation.

The age distribution of the county's population is also changing in significant ways. The number of people over 65 has leveled off at about 11% while the number of children and teens is 14% greater than in 1990 and persons in their twenties are 20% lower than in 1990.

[Source: Data in this section on population change were taken from the King County 1997 Annual Growth Report published by the Office of Budget and Strategic Planning.]

**Racial composition:** King County generally has a more racially and ethnically diverse population than the state as a whole. The county is home to more than 50% of the state's African Americans and Asians/Pacific Islanders. Persons of Hispanic ethnicity, however, are less likely to live in King County. Eastern Washington, with only two-thirds of the population of King County, has about 2½ times the Hispanic population.

The overall estimated racial/ethnic composition of King County in 1998 was 79.0% White, 10.4% Asian/Pacific Islander, 5.5% African American, 4.0 Hispanic, and 1.1% American Indian/Alaska Native. In the decade between the 1980 and 1990 census, the minority population of King County rose 42%. Between 1990 and 1996, the estimated growth in minority populations was 21%, compared to not quite 3% in Whites.

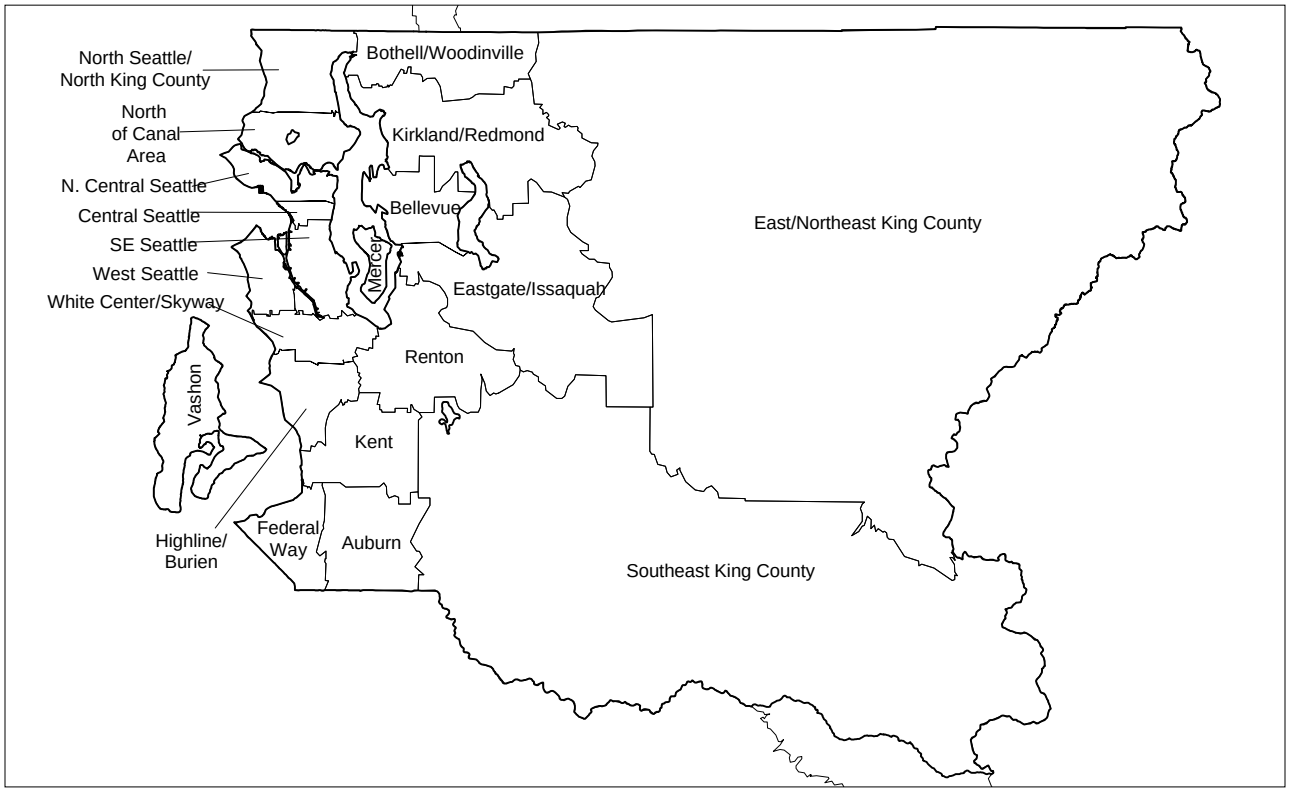
While growth rates of the minority population in the county outside of Seattle exceed the rates of growth in Seattle neighborhoods, Seattle continues to have a higher number of minority residents than does the surrounding county. The largest number of African Americans reside in Southeast Seattle. The Auburn area has the highest Native American population. The highest number of Asians reside in Southeast Seattle. Seattle north of the Ship Canal has the most people of Hispanic ethnicity.

**Socioeconomics:** King County 1990 median household income was $36,179, and the mean was $44,881. In 1990, 8% of households were below the poverty level and the poverty rate was 6% among Whites, 22% among African Americans, 15% among Hispanics and 26% among Native Americans [Source: 1990 census data]; 3.8% of households received food stamps [Source: Department of Social and Health Services]. The poverty rate was somewhat higher in the city of Seattle at 12%. Within the county, areas with the largest percentage of the population below poverty were Central Seattle, Southeast Seattle, Auburn, and Southeast King County. Central Seattle and Southeast Seattle had the highest rates of single parent households at 54.3% and 39.1%, respectively.

The US Census Bureau recently released updated estimates of the 1993 King County population below poverty level based on a small survey sample. This study revealed that in 1993 more than 157,000 residents (about 10% of the non-institutional population) were below the updated poverty threshold. This was an increase of 33% from the 1990 census count. The number of children age 5 to 17 below poverty in 1993 was estimated at 31,000, up 57% since 1990. It should be noted, however, that 1993 was a recession year in King County, with much higher unemployment rates than in 1990 or now. Even King County's higher poverty rates in 1993 were among the lowest rates of any county in the state. [Source: King County Office of Budget and Strategic Planning]

**Public health service delivery:** Public health services are provided by a joint city/county health department, the Seattle-King County Department of Public Health. For smaller area analyses, the county has been divided into 20 Health Planning Areas (HPA) taking into account sociodemographic characteristics, health service utilization, local health department service areas, political jurisdictions, and sense of community self-identity. The HPA shown in the accompanying map (Figure 1) are used in this report for analysis of small area comparisons.

## Figure 1. Map of Health Planning Areas in King County




## Zip codes by Health Planning Area

**SEATTLE**

| | |
|---|---|
| Central | 98101, 98104, 98111, 98114, 98121, 98122 |
| North | 98125, 98133, 98155, 98160, 98177 |
| North Central | 98102, 98109, 98112, 98119, 98199 |
| North of Canal | 98103, 98105, 98107, 98115, 98117, 98145, 98195 |
| Southeast | 98108, 98118, 98124, 98134, 98144 |
| West | 98106, 98116, 98126, 98136 |

**KING COUNTY OUTSIDE SEATTLE**

| | |
|---|---|
| Auburn | 98001, 98002, 98047, 98071 |
| Bellevue | 98004, 98005, 98007, 98008, 98009, 98039 |
| Bothell/Woodinville | 98011, 98028, 98041, 98072 |

**KING COUNTY OUTSIDE SEATTLE (continued)**

| | |
|---|---|
| Burien/Highline | 98062, 98138, 98148, 98158, 98166, 98188, 98198 |
| East/Northeast County | 98014, 98019, 98024, 98045, 98050, 98051, 98065, 98068, 98224, 98288 |
| Eastgate/Issaquah | 98006, 98027 |
| Federal Way | 98003, 98023, 98054, 98063 |
| Kent | 98031, 98032, 98035, 98064 |
| Kirkland/Redmond | 98033, 98034, 98052, 98053, 98073, 98083 |
| Mercer Island | 98040 |
| Renton | 98055, 98056, 98057, 98058, 98059 |
| Southeast County | 98010, 98022, 98025, 98038, 98042, 98048 |
| Vashon | 98013, 98070 |
| White Center/Skyway | 98146, 98168, 98178 |

# III. OVERVIEW OF HIV/AIDS IN KING COUNTY

The Seattle Metropolitan Statistical Area (King, Snohomish and Island counties) ranked 52nd in 1997 in AIDS case rates among the 97 metropolitan areas in the United States with populations of 500,000 or more. This ranking was lower than in 1995 when the Seattle MSA ranked 35th. In 1997, the rate of reported AIDS cases in the Seattle metro area was 16.3 per 100,000 population. New York City had the highest rate at 114.9 cases per 100,000. Other areas with high rates in 1997 were Jersey City (92.5), Miami (81.8), San Francisco (78.0), Newark (69.8), and Fort Lauderdale (69.0). The rate in the Portland area was lower than Seattle at 13.6, as was the Tacoma rate at 11.0 per 100,000.

King County (KC) has the highest rate of AIDS of all Washington State counties. Although KC has only about one-third of the state's population, two-thirds of the state's AIDS cases have been diagnosed in KC residents. Since the mid-1980s, however, there has been a trend toward proportionately fewer AIDS cases occurring in KC: 75% of the state's AIDS cases in 1986-87 compared to 64% in 1993-94 and 55% in 1997-98.

## A. HIV Infection in King County

**Estimated number of people with HIV infection in King County:** Between 6,000 and 9,000 KC residents are estimated to be infected with HIV (Table 1), including more than 2,000 persons living with AIDS. Statewide between 9,000-14,000 persons are estimated to be infected with HIV. These estimates were developed in 1995-96 and were derived from a revised nationwide HIV estimate of 650,000-900,000 with the assumption that the proportions of people living with HIV infection in KC and Washington State were equal to the proportions of people living with AIDS. The Seattle-King County Department of Public Health (SKCDPH) and the Washington State Department of Health previously released a joint publication entitled **HIV/AIDS Estimates and Forecasts** which provides a detailed description of the methods used to estimate number of people living with HIV infection in the different categories listed in Table 1. These estimates will not be further updated until data from HIV infection reporting and other new studies become available, most likely in 2000 or beyond (see comments in the next section below).

It is estimated that 94% of persons with HIV infection in KC are males and 6% are females. Ninety-five percent are under 50 years old, and 75% are younger than 40 years. Whites comprise 80% and people of color 20%. The relatively small number of American Indians/Alaska Natives and Asian/Pacific Islanders with HIV/AIDS made it difficult to calculate reliable estimates for these racial categories, and thus they are included in "others" in Table 1. Men who have sex with men comprise 86% of HIV-infected residents (76% MSM and 10% MSM/injection drug users [IDU]), heterosexual IDU 7%, and heterosexual non-IDU 4%. The "other" category includes HIV transmission by blood products or tissues and cases with unidentified risk.

**Estimated HIV incidence in King County:** As of late 1998, there were no population-based data available in KC for directly measuring the incidence of new HIV infections; furthermore, asymptomatic HIV infection was not reportable in Washington State. These data gaps should be improved during 1999 with the anticipated statewide adoption of HIV infection reporting. Also, in late 1998, the SKCDPH was funded by the Centers for Disease Control and Prevention to conduct an innovative study of HIV incidence using a new laboratory technology which can determine on a blood test if a person is newly infected (within about 130 days of the time of HIV acquisition). Known as the "sensitive/less sensitive" HIV antibody assay, use of this test should yield much better data on local HIV incidence trends by early 2000.

Based on national estimates of HIV incidence, and corroborated by local data, between 370 and 740 KC

residents may acquire HIV infection every year. Subsequent analyses suggest that the true KC incidence may be closer to the lower end of the range. In an article published in the **American Journal of Public Health** in 1996, CDC epidemiologist Scott Holmberg estimated that between 206 and 823 HIV infections occur annually in the Seattle Metropolitan Statistical Area (includes King, Island and Snohomish counties). About 70% of new infections are believed to occur among MSM and 15%-20% among heterosexual injection drug users. Data from two local studies of IDU indicate that about 20-40 IDU become infected with HIV annually. Data from another study show a seroincidence of slightly under 2% after 6 months of follow-up among MSM reporting high risk sexual behaviors in the past year.

**Table 1. Estimates of HIV-infected people in selected populations in King County, 1995**

| CATEGORY | MIDPOINT | | RANGE |
|---|---|---|---|
| | No. | Percent | No. |
| **Gender** | | | |
| Male | 7,050 | 94% | 5,650 - 8,450 |
| Female | 450 | 6% | 350 - 550 |
| **Age Group (yrs)** | | | |
| <13 | 30 | <1% | 20 - 40 |
| 13-19 | 80 | 1% | 60 - 100 |
| 20-24 | 625 | 8% | 500 - 750 |
| 25-29 | 1,500 | 20% | 1,200 - 1,800 |
| 30-39 | 3,375 | 45% | 2,700 - 4,050 |
| 40-49 | 1,475 | 20% | 1,200 - 1,750 |
| 50+ | 400 | 5% | 300 - 500 |
| **HIV Exposure** | | | |
| MSM | 5,725 | 76% | 4,600 - 6,850 |
| IDU/MSM | 750 | 10% | 600 - 900 |
| IDU Heterosexual | 525 | 7% | 400 - 650 |
| Heterosexual | 300 | 4% | 250 - 350 |
| Other | 200 | 3% | 150 - 250 |
| **Race/Ethnicity** | | | |
| White | 6,000 | 80% | 4,800 - 7,200 |
| Black | 825 | 11% | 650 - 1,000 |
| Hispanic | 500 | 7% | 400 - 600 |
| Other | 200 | 3% | 150 - 250 |
| **King County Total** | **7,500** | | **6,000 - 9,000** |

NOTE: Numbers in individual categories may not equal total because of rounding

## B. AIDS Cases in King County

The next sections review the epidemiology of AIDS in KC through 1997 and examine trends over time. The data presented are based on AIDS cases diagnosed through 1997 and reported to the Seattle-King County Department of Public Health by June 30, 1998, unless otherwise noted. Although AIDS statistics may not accurately represent recent trends in new HIV infections because of the approximate 10-12 year delay between acquisition of HIV and development of AIDS, they are as yet the only population-based data available on HIV and have been essential for planning of HIV/AIDS prevention and care services.

**Geographic distribution of AIDS:** Population-based AIDS rates vary widely within KC (Table 2). For cases diagnosed between 1995 and 1997 and reported as of 3/31/98, the three-year average annual rate per 100,000 population was 46.3 in Seattle compared to 7.9 in the remainder of KC. Within Seattle rates varied twelve-fold, from 193.0 per 100,000 in the Central area to 16.4 in North Seattle.

### Table 2. Average annual AIDS rates by geographical area in King County, 1995-1997[1]

| GEOGRAPHICAL AREA | CUMULATIVE AIDS CASES 1982-97 | AIDS CASES 1995 - 97 | RATE PER 100,000 | LOWER 95% CI | UPPER 95% CI |
|---|---|---|---|---|---|
| **SEATTLE** | | | | | |
| Central | 1,306 | 274 | 193.0 | 170.8 | 217.3 |
| North Central | 1,513 | 262 | 94.9 | 83.8 | 107.1 |
| North of Canal | 571 | 102 | 20.3 | 16.6 | 24.7 |
| North | 280 | 62 | 16.4 | 12.6 | 21.0 |
| Southeast Seattle | 354 | 64 | 25.7 | 19.8 | 32.8 |
| West Seattle | 283 | 56 | 25.2 | 19.0 | 32.7 |
| **Subtotal** | **4,307** | **820** | **46.3** | **43.2** | **49.6** |
| **NON-SEATTLE** | | | | | |
| Auburn | 56 | 13 | 5.2 | 2.8 | 8.9 |
| Bellevue | 137 | 28 | 10.9 | 7.3 | 15.8 |
| Bothell/Woodinville | 38 | 12 | 5.5 | 2.8 | 9.6 |
| Burien/Highline | 129 | 32 | 14.4 | 9.8 | 20.3 |
| East/Northeast County | 25 | 12 | 11.9 | 6.1 | 20.7 |
| Eastgate/Issaquah | 37 | 6 | 2.6 | 1.0 | 5.6 |
| Federal Way | 85 | 27 | 11.1 | 7.3 | 16.1 |
| Kent | 89 | 32 | 12.2 | 8.3 | 17.2 |
| Kirkland/Redmond | 103 | 20 | 4.6 | 2.8 | 7.1 |
| Mercer Island | 22 | 7 | 10.8 | 4.4 | 22.1 |
| Renton | 74 | 22 | 6.5 | 4.1 | 9.9 |
| Southeast County | 32 | 6 | 2.4 | 0.9 | 5.1 |
| Vashon | 24 | 2 | 6.4 | 0.7 | 22.1 |
| White Center/Skyway | 123 | 29 | 12.7 | 8.5 | 18.2 |
| **Subtotal** | **974** | **248** | **7.9** | **7.0** | **9.0** |
| ZIP UNKNOWN/HOMELESS | 192 | 68 | — | — | — |
| **ALL KING COUNTY[2]** | **5,473** | **1,136** | **23.2** | **21.8** | **24.6** |

[1]Includes AIDS cases reported through 3/31/98

[2]Includes AIDS cases with unknown or no zip codes

**Comparison of AIDS in Seattle and the rest of King County:** Among the 5,498 cumulative AIDS cases diagnosed through 1997, 82% resided in the city of Seattle, 18% lived in other areas of the county, and <1% had unknown zip code information or did not have a permanent address at the time of their AIDS diagnosis. Among the 980 persons who lived outside Seattle, 588 (60%) were residents of South KC, 368 (38%) were from the Eastside and 24 (2%) from Vashon Island. The relative geographic distribution has remained stable over the past five years. The proportion of KC female AIDS cases was 9% outside Seattle compared to 3% in Seattle (Table 3). Thirty-seven percent of the KC female AIDS cases lived outside Seattle at the time of their diagnosis compared to 17% of the males. AIDS cases outside Seattle were more likely to have been exposed through injection drug use, by heterosexual contact, or have undetermined risk compared to Seattle cases. The racial/ethnic distribution was similar among AIDS cases in Seattle and the rest of the county.

## Table 3. AIDS cases in King County by geographic region, 1982-1997

| | City of Seattle | | KC outside Seattle | |
|---|---|---|---|---|
| | No. | % | No. | % |
| **SEX** | | | | |
| Male | 4,370 | 97% | 896 | 91% |
| Female | 145 | 3% | 84 | 9% |
| **RACE/ETHNICITY** | | | | |
| White, not Hispanic | 3,696 | 82% | 794 | 81% |
| Black, not Hispanic | 429 | 10% | 95 | 10% |
| Hispanic | 238 | 5% | 65 | 7% |
| Asian/Pacific Islander | 85 | 2% | 18 | 2% |
| Am. Indian/AK Native | 67 | 1% | 8 | 1% |
| **EXPOSURE CATEGORY** | | | | |
| Male/male sex | 3,566 | 79% | 661 | 67% |
| Injection drug use (IDU) | 219 | 5% | 66 | 7% |
| IDU & male/male sex | 487 | 11% | 73 | 7% |
| Heterosexual contact | 100 | 2% | 63 | 6% |
| Undetermined/other/pediatric exposures | 143 | 3% | 117 | 12% |
| **TOTAL CASES*** | **4,515** | **82%** | **980** | **18%** |

* Excludes 3 cases whose residence within KC was unknown at time of AIDS diagnosis

**AIDS cases by gender:** Of the total 5,498 AIDS cases diagnosed in KC through 1997, 5,268 (96%) were male and 230 were female (4%) (Table 4). Females as a percent of AIDS cases have risen over time in KC – from 2-3% in 1987-90 to 7% in 1995-96 and 8% in 1997.

**AIDS cases by age:** AIDS affects persons of a relatively young age. Almost half (49%) of all KC AIDS cases diagnosed in 1997 were between 30 and 39 years old at the time of their diagnosis, 23% were 40-49 years old, and 15% were 20-29 years (Table 4). A higher proportion of female (32%) than male (17%) cases were under 30 at the time of their diagnosis. A very low proportion of AIDS reports have been pediatric cases (defined as < 13 years of age at the time of AIDS diagnosis). Just 0.2% of cumulative KC AIDS cases have occurred in children (the comparable U.S. figure is 1.3%). A higher proportion (0.6%) of Washington State cases outside KC have been children. In KC through 1997, a cumulative total of 13 pediatric AIDS cases had been diagnosed since the first case in 1984. Seven of these pediatric cases were diagnosed in the past 5 years. Of the 13 cases, 8 have died. The majority of the KC pediatric AIDS cases have occurred in children less than 5 years old and were attributable to maternal HIV infection. Six pediatric cases have been among children born to white mothers and 7 (54%) to women of color, although only 17% of KC women are people of color.

## Table 4. AIDS cases diagnosed in King County through 1997

| Category | Cases diagnosed in 1993 | | Cases diagnosed in 1994 | | Cases diagnosed in 1995[a] | | Cases diagnosed in 1996[a] | | Cases diagnosed in 1997[a] | | Cumulative Cases Reported 1982-1997[b] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL CASES** | 649 | | 539 | | 501 | | 402 | | 256 | | 5,498 | |
| **SEX** | **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** |
| Male | 615 | 95% | 521 | 97% | 467 | 93% | 375 | 93% | 235 | 92% | 5,268 | 96% |
| Female | 34 | 5% | 18 | 3% | 34 | 7% | 27 | 7% | 21 | 8% | 230 | 4% |
| **RACE/ETHNICITY** | | | | | | | | | | | | |
| White, not Hispanic | 519 | 80% | 433 | 80% | 381 | 76% | 295 | 73% | 180 | 70% | 4,492 | 82% |
| Black, not Hispanic | 71 | 11% | 45 | 8% | 70 | 14% | 51 | 13% | 35 | 14% | 525 | 10% |
| Hispanic | 41 | 6% | 33 | 6% | 34 | 7% | 36 | 9% | 26 | 10% | 303 | 6% |
| Asian/Pacific Islander | 13 | 2% | 13 | 2% | 10 | 2% | 9 | 2% | 6 | 2% | 103 | 2% |
| Am. Indian/AK Native | 5 | 1% | 15 | 3% | 6 | 1% | 11 | 3% | 9 | 4% | 75 | 1% |
| **AGE AT DIAGNOSIS** | | | | | | | | | | | | |
| <13 | 0 | 0% | 2 | <1% | 1 | <1% | 2 | 1% | 1 | <1% | 13 | <1% |
| 13-19 | 0 | 0% | 1 | <1% | 0 | 0% | 1 | <1% | 1 | <1% | 10 | <1% |
| 20-29 | 127 | 20% | 81 | 15% | 72 | 15% | 56 | 14% | 38 | 15% | 948 | 17% |
| 30-39 | 310 | 48% | 250 | 47% | 236 | 47% | 205 | 51% | 125 | 49% | 2,689 | 49% |
| 40-49 | 161 | 25% | 155 | 29% | 136 | 27% | 110 | 27% | 59 | 23% | 1,359 | 25% |
| >49 | 51 | 8% | 50 | 9% | 56 | 11% | 28 | 7% | 32 | 13% | 479 | 9% |
| **HIV EXPOSURE[c]** | | | | | | | | | | | | |
| Male/male sex | 500 | 77% | 430 | 80% | 353 | 70% | 278 | 69% | 162 | 63% | 4229 | 77% |
| Injection drug use (IDU) | 36 | 5% | 27 | 5% | 47 | 9% | 34 | 8% | 11 | 4% | 286 | 5% |
| IDU & male/male sex | 60 | 9% | 50 | 9% | 43 | 9% | 30 | 7% | 29 | 11% | 560 | 10% |
| Heterosexual contact | 33 | 5% | 15 | 3% | 21 | 4% | 20 | 5% | 12 | 5% | 163 | 3% |
| Hemophilia | 2 | <1% | 1 | <1% | 1 | <1% | 3 | 1% | 3 | 1% | 29 | 1% |
| Transfusion | 2 | <1% | 3 | 1% | 1 | <1% | 0 | 0% | 3 | 1% | 50 | 1% |
| Parent at risk/has HIV | 0 | 0% | 2 | <1% | 1 | <1% | 2 | 1% | 1 | <1% | 12 | <1% |
| Undetermined/other | 16 | 2% | 11 | 2% | 34 | 7% | 35 | 9% | 35 | 14% | 168 | 3% |
| **Deaths During Period** | **439** | | **424** | | **437** | | **278** | | **99** | | **3,341** | |

[a] Provisional data due to reporting delays
[b] Cumulative cases in King County residents meeting the 1993 CDC surveillance case definition of AIDS diagnosed through 12/31/97 and reported as of 9/30/98; includes cases diagnosed prior to 1993
[c] Cases with more than one risk factor other than the combinations given are tabulated only in the category listed first

**AIDS cases by race/ethnicity:** The majority of AIDS cases in KC have occurred among Whites (Table 4). However, in the 1990s, people of color have been increasingly affected by AIDS, accounting for 30% of the cases in 1997. African-Americans and Hispanics account for a disproportionate number of cases relative to their population in the county.

AIDS cases were diagnosed among Blacks for the three-year period 1995-97 at the average annual rate of 59.1 per 100,000, 50.6 per 100,000 among Hispanics, and 47.9 among American Indian/Alaska Natives (Table 5) compared to a rates of 21.5 for Whites and 5.0 for Asian/Pacific Islanders. For each racial/ethnic category, rates were considerably higher for males than females. Overall rate in males was 43.3 per 100,000 compared to 3.3 per 100,000 in females, a 13-fold difference. Among men, African Americans and Hispanics had an AIDS rate over twice that of Whites. Among women, the racial discrepancy was much more pronounced, with African American women having a rate 12 times higher than White women and Hispanic women nearly 4 times higher than White women.

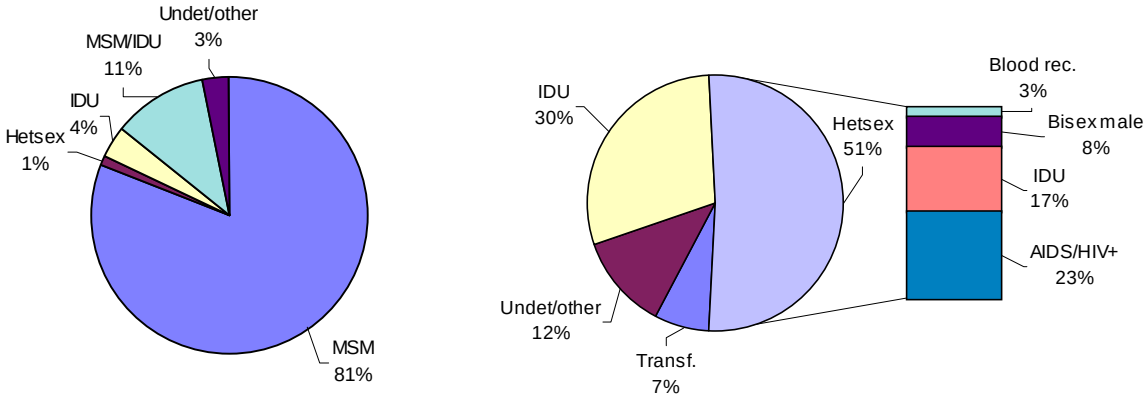
**Table 5. Three-year average annual AIDS rates per 100,000 population by race/ethnicity, King County, 1995-1997**

| | MALE | | FEMALE | | TOTAL | |
|---|---|---|---|---|---|---|
| **RACE/ETHNICITY** | No. | Rate (95% CI) | No. | Rate (95% CI) | No. | Rate (95% CI) |
| White, not Hispanic | 802 | 41.5 (38.7-44.5) | 37 | 1.9 (1.3-2.6) | 839 | 21.5 (20.1-23.0) |
| Black, not Hispanic | 126 | 93.7 (78.1-111.6) | 30 | 23.2 (15.7-33.1) | 156 | 59.1 (50.2-69.2) |
| Hispanic | 84 | 91.6 (73.1-113.4) | 6 | 7.0 (2.5-14.9) | 90 | 50.6 (40.7-62.1) |
| Asian/Pacific Islander | 22 | 8.9 (5.6-13.5) | 3 | 1.2 (0.2-3.3) | 25 | 5.0 (3.2-7.4) |
| American Indian/ Alaska Native | 22 | 73.9 (45.2-114.0) | 6 | 22.1 (8.1-47.5) | 26 | 47.9 (31.3-70.2) |
| **TOTAL, FOR ALL RACES** | **1054** | **43.3 (40.7-46.0)** | **82** | **3.3 (2.6-4.1)** | **1136** | **23.2 (21.8-24.6)** |

* Rates in this table were calculated by summing cases diagnosed during 3 year period 1995-1997 divided by the sum of population estimates for each racial/ethnic group for each of the 3 years. Population data were extrapolated from the 1990 U.S. census.

**AIDS cases by route of exposure:** Among adult/adolescent (13 years and older) male AIDS cases, 81% were men who had sex with other men (MSM), 11% were MSM/IDU, 4% were heterosexual IDU, and 1% were associated with heterosexual transmission (Figure 2). The routes of transmission among KC adult/adolescent males remained relatively stable between 1991 and 1994. In 1995 and 1996, however, a higher proportion of cases were associated with IDU (8%) and a lower proportion with male-male sex (74%) compared to previous years. In 1997, the proportion of male cases among MSM was 69% with an apparent increase in the proportions of MSM/IDUs (12%), heterosexual (2%) and unknown risk (12%) (data not shown). Among the 224 KC adult/adolescent female AIDS cases, 67 (30%) were attributed to injection drug use and 114 (51%) to heterosexual contact (Figure 2) compared to 44% and 39% of all US adult female AIDS cases, respectively. Further exposure characterization of the 114 heterosexually-acquired KC cases showed that 17% were exposed through sex with an IDU, 23% through sex with an HIV-infected man whose transmission route was not identified on the case report, 8% through sex with a bisexual man and 3% through sex with a transfusion or blood product recipient (Figure 2).

## Figure 2. Adult/adolescent AIDS cases by gender and exposure, King County, 1982-1997

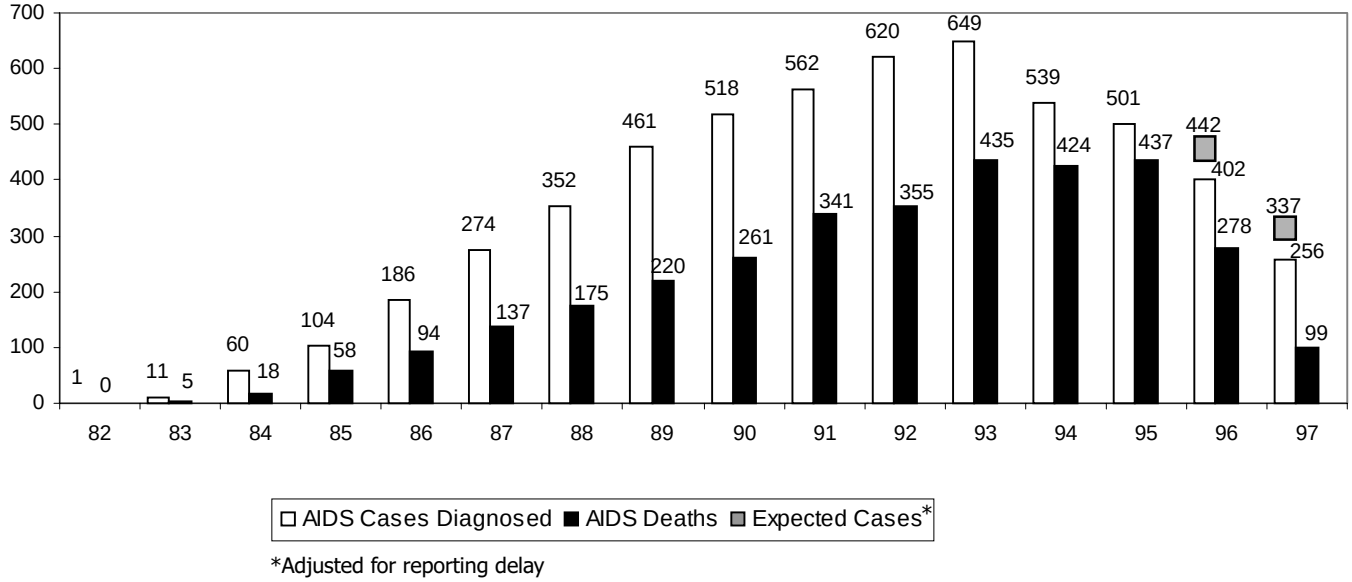



**No. of males: 5,261**

**No. of females: 224**

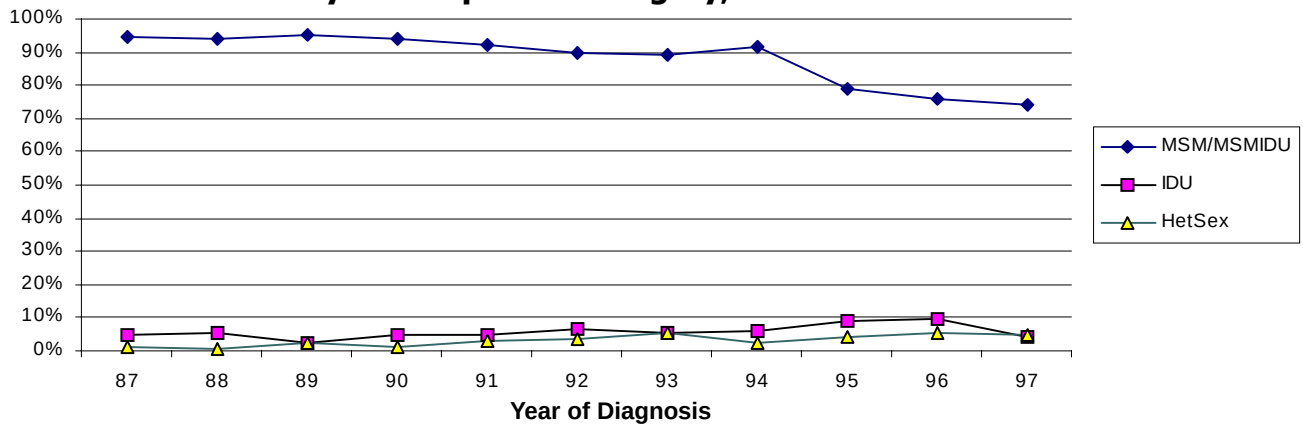
**AIDS case trends 1982-1997:** The number of AIDS cases diagnosed each year in KC increased sharply through 1990. In the early 1990s, the rate of increase slowed with cases peaking in 1993 when 649 cases were reported. Cases declined to 539 and 501 in 1994 and 1995, respectively. Approximately 442 cases in 1996 and 337 cases in 1997 are expected to have been diagnosed after accounting for delayed reporting of cases in more recent years (Figure 3). The total annual number of new AIDS cases in KC is expected to continue to decline due primarily to decreasing cases among men who have sex with men (MSM) (Figure 4). A similar drop in new annual AIDS cases has been observed in many other areas of the country. As a proportion of all cases, however, cases among women and people of color continued to increase through 1997 (Figures 5 and 6).

## Figure 3. AIDS cases and deaths in King County by year, 1982-1997

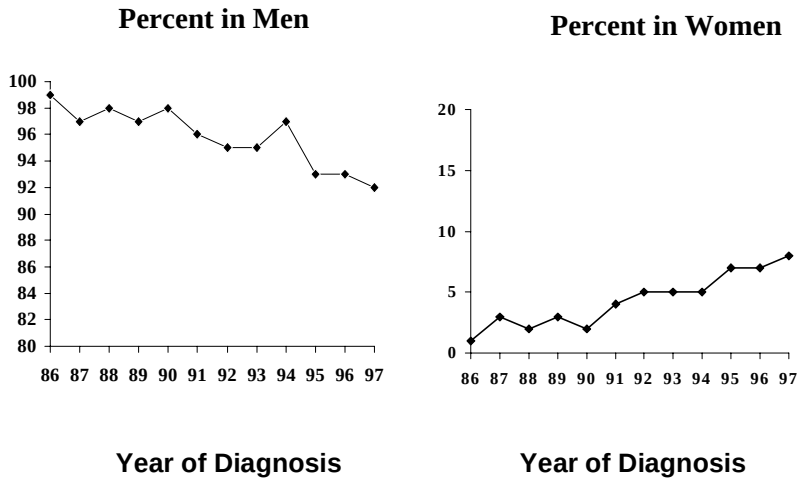



*Adjusted for reporting delay

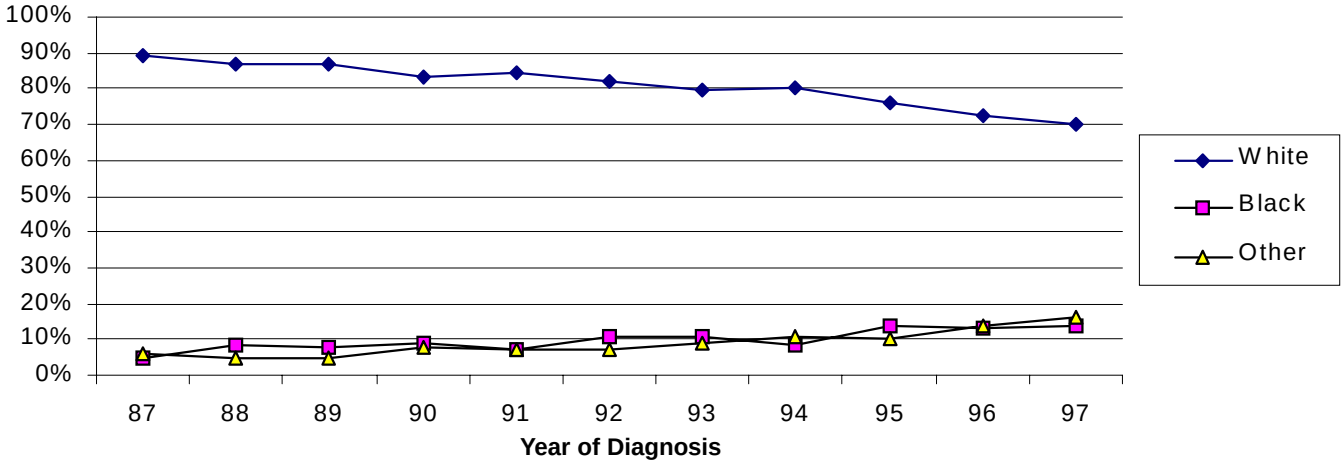
## Figure 4. Percent of total AIDS cases in King County by HIV exposure category, 1987-1997




## Figure 5. Percent of total AIDS cases in King County by sex, 1986-1997




## Figure 6. Percent of total AIDS cases in King County by race, 1987-1997



**AIDS case projections:** Recent advances in the prophylaxis of HIV-related opportunistic infections and in antiretroviral combination drug therapy for HIV (especially the introduction of protease inhibitors beginning in mid-1995) has changed the dynamics of the HIV/AIDS epidemic in terms of disease progression and the distribution of cases. This effect means statistical forecasting techniques such as 'back calculation' or extrapolation that relied on a consistent case series over time cannot now be reliably used to make predictions about the magnitude and direction of new cases and deaths. There has been insufficient time since the introduction of more efficacious drug therapies for HIV infection to establish reliable trend patterns in this new treatment era; furthermore, we cannot know at this time how long-lived the current positive effects of new treatments will be.

Another effect that is largely unmeasured but which drives AIDS case trends is changes in HIV incidence rates over time. It is likely that the highest rates of HIV transmission occurred in the early 1980s with decreases due to HIV prevention efforts and awareness of at-risk communities since then. There is recent concern, as evidenced by rising STD rates in men who have sex with men, that HIV transmission could be on the upswing. Until we have fully implemented HIV case reporting and improved surveillance for HIV incidence such as through the use of new antibody testing technology, we remain unable to adequately measure trends in HIV prevalence and incidence. For these reasons, this 1999 edition of the **HIV/AIDS Epidemiology Profile** presents only limited new information on future AIDS case trends for Seattle-King County.

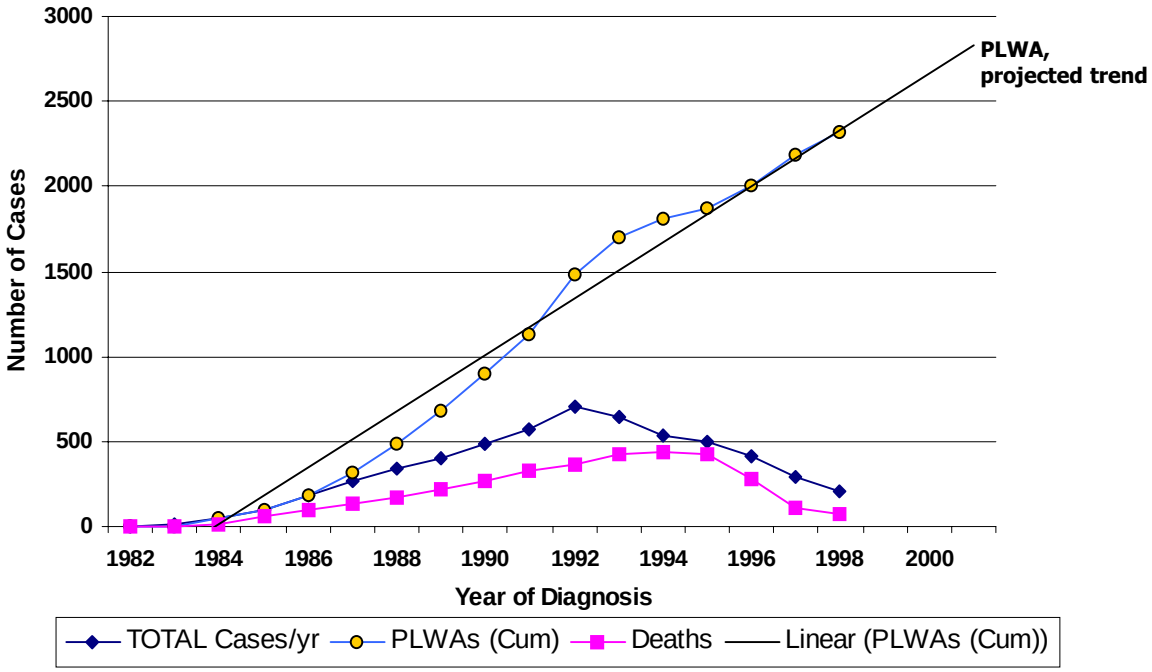
A technical discussion of the methods used in generating the results displayed in Figures 7-10 are described in detail beginning of page 19 on this section. To summarize, data were generated using a statistical program provided by the HIV/AIDS Surveillance Branch of the federal Centers for Disease Control and Prevention (CDC). The program performed the following adjustments on the King County AIDS surveillance data:

> *Compensation for reporting delay:* While AIDS cases are required by law to be reported within 7 days of diagnosis, in reality the median reporting delay from the time of diagnosis to receipt of the case report at the SKCDPH is 5 months with occasional cases not reported for years after diagnosis. Data given in Figures 7-10 are presented by year of diagnosis (not by year of report) and are therefore adjusted for delayed reporting of cases in most recent years.
>
> *Redistribution of cases with no-identified risk (NIR):* AIDS cases initially reported without a known risk factor for HIV infection are investigated by HIV/AIDS Epidemiology Program staff through medical record review and contact with reporting physicians. In rare instances, patients are interviewed after approval of their physician and after obtaining informed consent. These investigations are time consuming and are often not completed for 1-2 years after receipt of the case report. Therefore, more cases reported in recent years are likely to be tabulated in the no-identified risk (NIR) category. For instance, Table 4 on page 10 shows that 14% of cases diagnosed in 1997 and 9% of cases in 1996 are NIR compared to 2% of cases in 1993-94. Computer redistribution of NIR cases is used in Figures 8 and 9 to estimate the eventual reclassification of recent NIR cases into known exposure categories: MSM (includes MSM who also use injection drugs), IDU (non-MSM only) and heterosexual risk.
>
> *Smoothing:* The CDC program performs a statistical smoothing function to allow data users to better visualize trends in case incidence over time.

These analyses show that in recent years there has been a considerable delay in the progression of HIV to AIDS, fewer deaths and an increase in the number of people living with AIDS in King County (Figure 7). As a result, a considerable downward shift has occurred from the number of new AIDS cases that were projected to occur (in the 1996 **Epidemiology Profile**) in 1997 and 1998 and the actual numbers that have occurred. It is tremendously gratifying that the number of new AIDS cases and AIDS-related deaths has been progressively smaller in this era of enhanced treatment and prophylaxis and targeted HIV prevention/intervention programs.

In the 1996 **Epidemiology Profile**, in the absence of knowledge about the long-term efficacy of these new treatments, the number of persons living with AIDS (PLWAs) was projected to continue to decline . Without insight into the long-term efficacy of current treatment it is impossible to predict future annual incidence of AIDS. We can, however, examine the direction of these trends in new cases and annual deaths as they exist today and anticipate an increasing trend in the numbers of PLWAs. The direction the trends in new AIDS cases, annual deaths and cumulative number of PLWAs projected out to 2001 is presented in Figure 7. As indicated below, throughout the epidemic the King County region has seen a steady increase in the cumulative total number of PLWAs. Barring major reversals in treatment advances, this trend is expected to continue. The estimated number of PLWAs in King County (KC) was calculated by subtracting the estimated and adjusted number of cumulative deaths from the estimated and adjusted number of cumulative AIDS cases at the end of each year.

**Figure 7. New AIDS cases, deaths and cumulative number of persons living with AIDS by year - Adjusted and smoothed, King County, 1982-2001**




In addition to improvements in treatment delaying the progression from HIV infection to AIDS, an important factor driving the overall trends in KC has been the decline in the number of new AIDS cases (and deaths) among MSM (Figure 8). This pattern reflects a well-noted peak in HIV transmission among MSM which is believed to have occurred in the early to mid-1980s. Similar trends have been observed in other parts of the country including San Francisco and Los Angeles. While AIDS cases are showing a clear decline among MSM, it is important to note that there is growing concern about recent dramatic increases in STDs among MSM, particularly syphilis. Because many of these patients are also infected with HIV this is an alarming finding and is indicative of an increasing frequency of unsafe sex practices and because of the presence of an STD, a greater danger of HIV transmission. Further discussion of STD trends can be found on pages 38-41.

**Figure 8. New AIDS cases among MSM (including MSM/IDU) - Adjusted and smoothed, King County, 1982-1998**

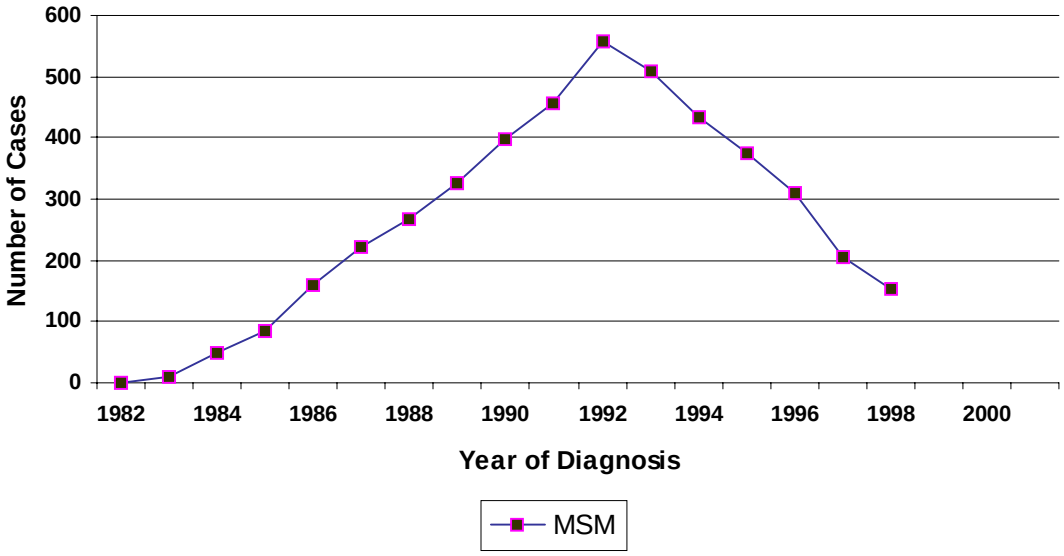
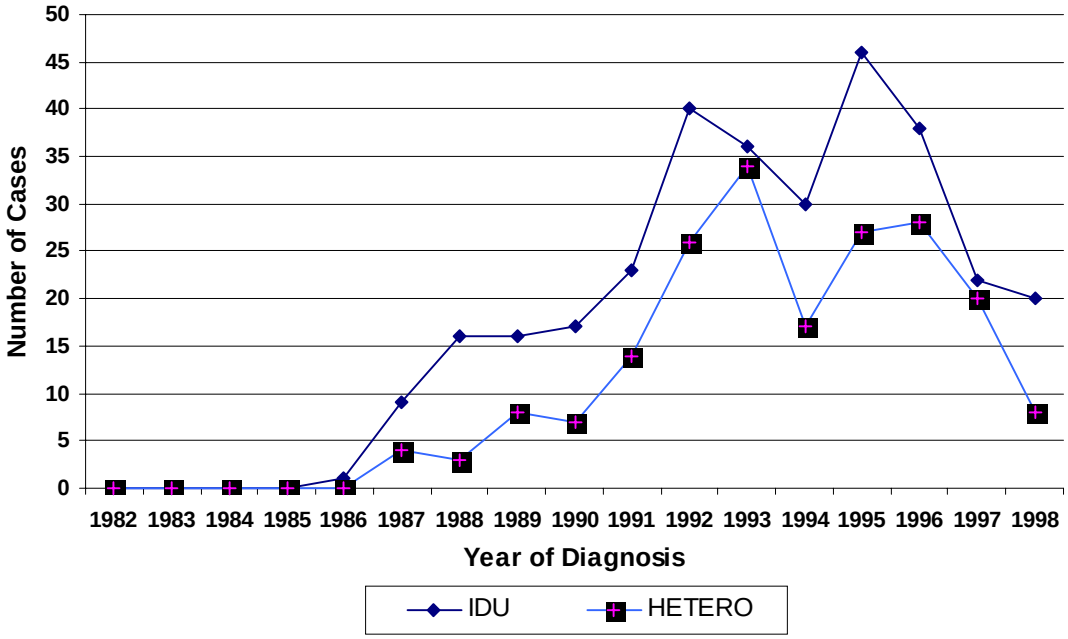


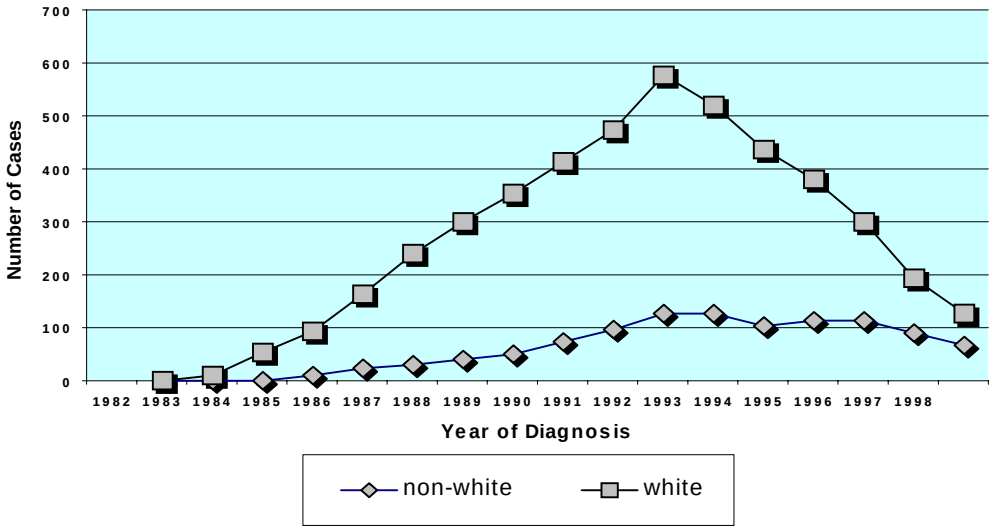

**Figure 9. New AIDS cases among IDU (non-MSM) and heterosexual exposure categories - Adjusted and smoothed, King County, 1982-1998**



AIDS cases among other risk groups (heterosexual risk and IDU (non-MSM)), women, and people of color, constitute a much smaller but growing proportion of AIDS cases. Figure 9 shows the trends in IDU and heterosexual risk over time among King County AIDS cases. As with MSM, the numbers of AIDS cases among heterosexuals and IDUs appears to be declining. Yet, we currently have very little insight into the direction of rates of new HIV infections among these risk groups.

There has been a similar although less marked decline in the numbers of AIDS cases among persons of color (African American, Hispanic, American Indian and Alaska Natives), yet the proportion of new cases among this group is on the rise. There appears to be a slower decline in the number of new AIDS cases among persons of color in comparison to Whites (Figure 10). Proportionately, AIDS cases among women, particularly among African American, Hispanic, and American Indian/Alaska Native women, have continued to increase. Seroprevalence estimates have shown a ten-fold greater HIV seroprevalence among African American in comparison to White women, which would suggest that a disproportionate number of AIDS cases will continue to be diagnosed among African American women.

**Figure 10. New AIDS cases by race - Adjusted and smoothed, King County, 1983-1998**




**HIV/AIDS-related mortality:** By the end of 1997, 3,341(61%) of the 5,498 AIDS cases diagnosed in King County through 1997 had died (Table 4 p.10). Since 1995, there has been a dramatic decline in the number of AIDS-related deaths (Figure 7). This decline averaged 50% per year between 1995-97. Projections of increasing deaths due to AIDS through 1998 made in the previous issue of this report were, fortunately, not realized. HIV/AIDS had been the leading cause of death in 25-44 year old male King County residents from 1989 until 1996. Since 1995, the rate of AIDS-related deaths has dropped precipitously and by 1997 deaths due to HIV/AIDS had fallen behind unintentional injury, cancer and suicide, to the fourth leading cause of death among males in this age group (Figure 11).

Another indicator of the mortality impact of diseases is measured in the years of potential life lost (YPLL) before age 65. The impact of HIV/AIDS has been particularly severe when assessed in this manner because of the relatively young age at which people die from HIV/AIDS compared to other leading causes of death. In 1994, deaths from HIV/AIDs resulted in the second highest YPLL. By 1997, YPLL associated with HIV/AIDS had fallen and ranked in sixth place (Figure 12).

**Figure 11. Leading causes of death for males age 25-44, King County, 1987-1997[1]**

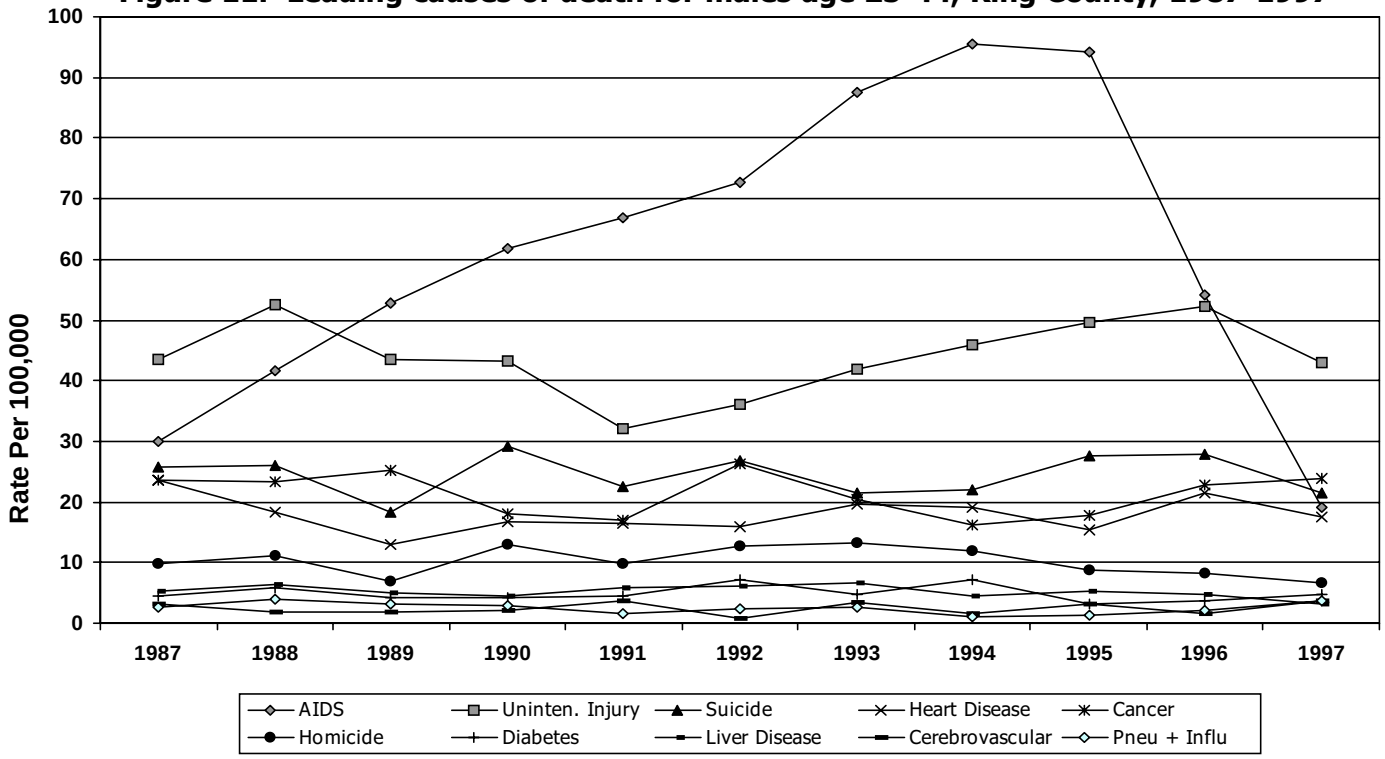
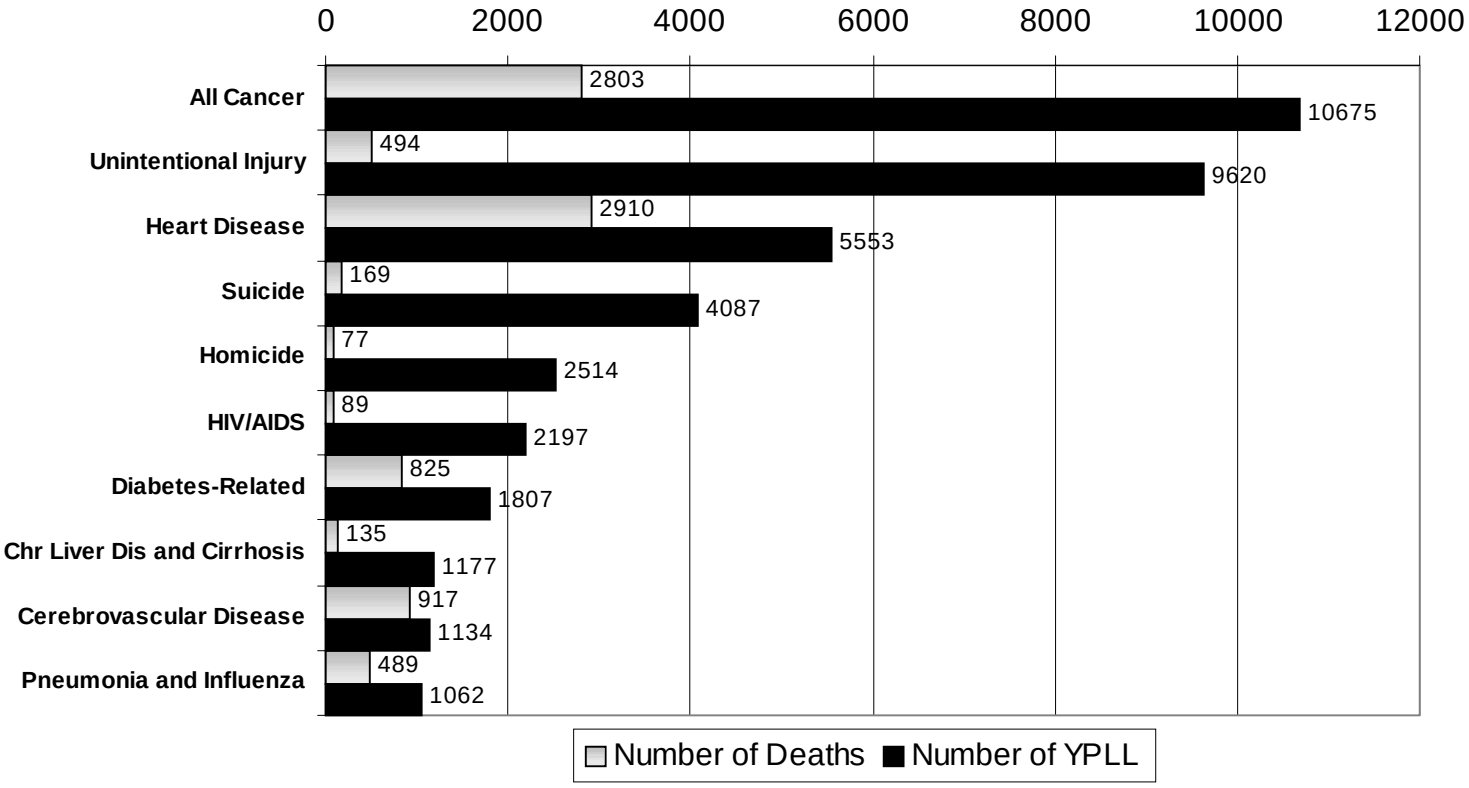



**Figure 12. Years of potential life lost (YPLL) before age 65, King County, 1997[1]**




[1]Death Certificate Data: Washington State Department of Health, Center for Health Statistics.
Population Estimates:
1990-2002: Department of Social and Health Services, Washington State Adjusted Population Estimates, June 30, 1997;
1980-1989 ZIP Code and 1980-1986 Census Tract Population Estimates are based on figures from Claritas Corporation;
1987-1989 Census Tract Population Estimates are from Department of Social and Health Services, December 1995.

# AIDS Case Projections:

## Methodologic notes for adjustment factors and smoothing

**Adjustment for reporting delay**: CDC biostatistical staff estimate reporting delays on a national basis at the end of each calendar quarter. The estimates use a maximum likelihood procedure and are made for groups defined by geographic region, mode of transmission, and race/ethnicity.[1] The methods for selecting factors of importance involve considerable effort and have been described elsewhere.[2]

The basic procedure for adjustment for reporting delay involves the creation of a database of cases that will be used to estimate the reporting delays. These cases are used to obtain the maximum likelihood estimate of a vector p = {p(i)}, where p(i) is the estimated probability that a case is reported within i quarters of diagnosis, i = 0, 1, 2, .... (i = 0 represents cases reported during the quarter of diagnosis). Probabilities are estimated for each quarter for the last 4 years, under the assumption that all cases are reported within 6 years of diagnosis, the maximum delay for cases included in the database. Separate probabilities are estimated for cases reported with a delay of more than 4 years but at most 6 years. Essentially, each case reported with a delay of i calendar quarters is assumed to represent 1/p(i) cases and hence is given a weight of 1/p(i).[3]

**Redistribution of cases reported with no-identified risk (NIR):** Increases in the number of reported AIDS cases with no-identified risk (NIR) have raised concerns that AIDS incidence in some risk groups will be underestimated unless an adjustment is made for this bias. CDC estimates the proportion of NIR cases that should be attributed to each risk group based on the classification of cases which were initially reported with NIR and which subsequently had a completed investigation. These estimates reflect the fact that some of these cases cannot be assigned to a risk group even after an investigation is complete and hence are permanently classified as having no-identified risk.

The tabulation used to estimate these proportions is carried out by sex, race/ethnicity, and broad geographic region (Northeast, South, Midwest and West). Cases once described as "born in a Pattern II country" are excluded from this tabulation. The resulting proportions are used to adjust counts defined by mode of transmission. For example, suppose that data show that half of all non-Hispanic White women and two-thirds of all other women initially reported with NIR were infected with HIV through heterosexual transmission. Then the estimated number of women infected heterosexually with AIDS diagnosed in a specified quarter is the number obtained from the surveillance data base, plus half of the NIR non-Hispanic White women with an AIDS diagnosis in that quarter, plus two-thirds of the NIR women of other race/ethnicity groups diagnosed in that quarter.[3,4]

**Smoothing:** Figures 7-10 utilize the "smoothed incidence series" option provided in the CDC tabulation programs. The smoothed incidence estimates allow the user to better visualize incidence trends over time. The smoothed incidence value at time t is a weighted average of the tabulated incidence values, with weights taken from a Gaussian probability density centered at t and scaled so that the weights are essentially zero outside the interval t $\pm$ 1 year. In all of the tabulation programs, pre-1982 diagnosis dates have been reset to January, 1982. In addition, CDC reports that estimates of reporting delays for less than 4 months are relatively unreliable. As a result, the tabulated and smoothed series are ended 1 and 2 quarters, respectively, before the specified most recent quarter.[3]

[1]Karon JM, Devine OJ, Morgan WM. Predicting AIDS incidence by extrapolating from recent trends, in Castillo-Chavez, C. (ed.), Mathematical and Statistical Approaches to AIDS Epidemiology, Lecture Notes in Biomathematics, Vol. 83, Springer-Verlag, Berlin, 1989, pp. 58-88.

[2]Brookmeyer R, Liao J. The analysis of delays in disease reporting: methods and results for the acquired immunodeficiency syndrome. **Am J Epidem** 1990; 132: 355-365.

[3]CDC. Introduction to PRODAS Reporting Delay and Adjusted Incidence Programs, Version 4.2, July 1998.

[4]Green TA. Using surveillance data to monitor trends in the AIDS epidemic. **Statistics in Medicine** 1998;17:143-154.

# IV. HIV/AIDS EPIDEMIOLOGY IN PREVENTION TARGET POPULATIONS

This part of the epidemiology profile summarizes HIV/AIDS epidemiology in eight important prevention target populations. These include men who have sex with men, substance users (including injection drug users), people of color, women, homeless adults, incarcerated people, heterosexuals, and young people. Data from several sources are incorporated to provide a comprehensive description of the epidemiology of HIV and AIDS in each of these groups.

# HIV/AIDS in Men Who Have Sex With Men (MSM), and MSM Injection Drug Users (MSM/IDU)

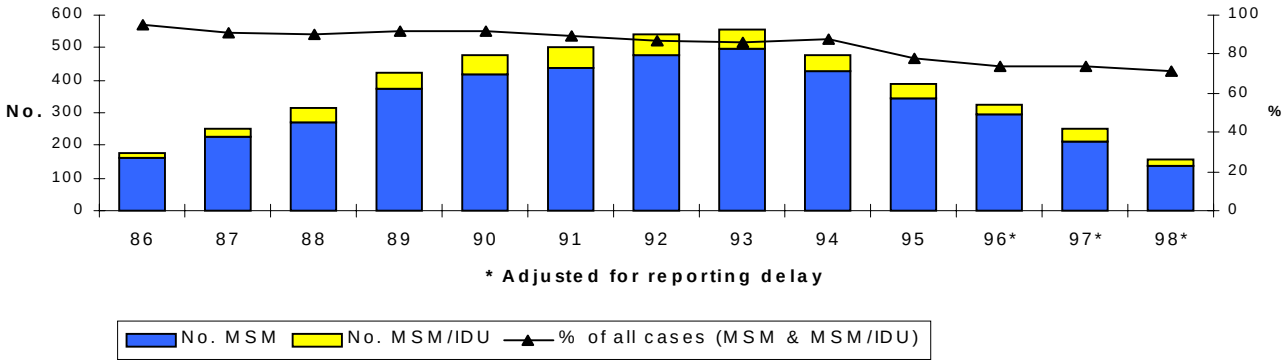
**SUMMARY:** Men who have sex with men (MSM) were the earliest group affected by HIV/AIDS, and continue to bear the largest burden of AIDS, HIV infection, and risk of infection. In King County, 83% of persons living with AIDS are MSM or MSM/IDU. Time trend data through 1997 show that the proportion of AIDS cases who are MSM has gradually decreased while the proportion in women and non-MSM injection drug users have increased somewhat. Twelve percent of MSM currently living with AIDS have injected drugs since 1978. Amphetamines are a frequent drug of choice among MSM injectors and are associated with increased HIV prevalence.

**STATUS AND TRENDS IN AIDS CASES:**

King County AIDS case report data show a trend towards declining annual AIDS diagnoses in MSM which began in 1994 and has continued through 1998 (see figure below). MSM are still by far the largest subgroup with AIDS. The proportion of all AIDS cases that are among MSM who do not inject drugs has dropped from 82% in 1982-85 to 63% in 1997-98.

The proportion of AIDS cases among MSM/IDU has remained at about 10% (varying from 7 to 12%), while the proportion of AIDS cases in heterosexual male and female drug injectors rose from 1% in 1982-85 to 9% in 1995-96, and dropped somewhat to about 7% in 1997-98.

No. and Percent of AIDS Cases in King County MSM by Year of Diagnosis, 1986 - 98




- Compared to AIDS cases, data on earlier (pre-AIDS) stages of HIV indicate an even lower proportion of MSM and a higher proportion of other exposure categories. Of 469 living King County residents reported as of 6/98 with symptomatic HIV disease other than AIDS, 62% were MSM, 19% were MSM/IDU, and 19% had other risks. In a local cohort study, 54% of 518 asymptomatic persons living with HIV as of 10/98 were MSM, 12% were MSM/IDU, and 34% had other risks.

**POPULATION SIZES:**

- Based on data from a variety of sources, the Seattle-King County Department of Public Health (SKCDPH) estimates that MSM number between 32,000 and 53,000 in King County including approximately 2,500 - 3,800 MSM/IDU. HIV seropositive MSM are estimated to number 5,200 - 7,750, including 600 - 900 HIV-infected MSM/IDU.

**HIV SEROPREVALENCE:**

- Local HIV seroprevalence studies show that 4% to 21% of MSM test HIV positive.

- Unlinked (anonymous) HIV surveys conducted from 1996 – 97 at King County's Sexually-transmitted Disease (STD) Clinic showed that the percent of MSM/IDU who were HIV-infected (5.3%) was somewhat higher than the percent of non-injecting, drug-using MSM with HIV infection (4.3%). This compares to a HIV seroprevalence in other (non-MSM) STD clients of less than a half of a percent (0.2%).

- Trends in HIV seroprevalence among MSM from the same unlinked STD clinic study showed a significant decline over time. HIV infection decreased from 36% for all MSM in 1988-89 to 5% in 1996-97. This decline probably represents both a true decline in HIV prevalence and changes in the population of MSM attending the STD clinic.

- In unlinked HIV surveys at drug treatment centers (DTCs) in King County, 7% of MSM/IDU were seropositive during 1995-1997. This is a considerable decline from a high of 32% in 1988-91 and 16.3% in 1992-94. Again, both changes in the seroprevalence among of MSM and changes in the characteristics of MSM attending DTCs may be responsible for the decline.

**HIV SEROINCIDENCE:**

- An annual HIV seroincidence of 1.0% was found as of 6/97 in 570 MSM who had anal intercourse within 12 months of recruitment into a University of Washington vaccine readiness study (Be a Hero or HIVNET). This compares to an annual HIV seroincidence of 1.5% among all six national HIVNET sites that recruited MSM, including Seattle.

- In follow-up studies of MSM repeatedly tested at the SKCDPH HIV/AIDS Clinic, the annual new infection rate (proportion of seroconverters among all persons repeatedly tested) declined from 12% in 1990 to 1% in 1998. This rate remains higher than the rate among women and heterosexual men.

**OTHER MEASURES OF RISK:**

- In 1984, before the AIDS epidemic had severely impacted King County, gonorrhea was diagnosed in more than 300 MSM annually at the SKCDPH STD Clinic. By 1994, the STD Clinic diagnosed only 51 MSM with gonorrhea. Since that time, however, outbreaks of gonorrhea have occurred among MSM. For example, in 1996 117 episodes of gonorrhea were diagnosed in MSM, and similar numbers are expected in 1998.

- After more than a year with no acute new syphilis cases being diagnosed in King County, syphilis has reemerged, and has especially impacted MSM. Early syphilis has been reported among 29 MSM during the first 10½ months of 1998. Syphilis was most often acquired from anonymous partners met in such venues as bath houses and sex clubs. As STDs are important cofactors in HIV transmis-

sion and acquisition, these recent outbreaks suggest a need for increased prevention efforts.

- At the STD Clinic in 1993-96, the risk of gonorrhea or chlamydia were 2 times higher in MSM with a history of anal intercourse in the past 2 months relative to those without such a history. Men with a recent history of receptive anal intercourse were also 2 times more likely to test positive for HIV.

**SUBGROUP HIGHLIGHTS:**

**Young men**

- Young and newly sexually active MSM are at high risk of acquiring HIV. From 1993 through 1997, the HIV seroprevalence at the SKCDPH STD Clinic was 0 (0/25) in MSM under age 20, but jumped to 7% (12/171) in 20 to 24 year olds. A high level of unsafe sexual activity in young men in general is further evidenced by the peaking of gonorrhea rates in King County men 20-24 years of age (data for 1993-97).

**Men of color**

- Most men of color currently living with AIDS reported male-male sex (69%), however this proportion is lower than among White men (93% reporting male-male sex).

- In general, persons of color have a higher prevalence of HIV and AIDS than Whites, but this is not necessarily the case for MSM. For example, non-Asian heterosexuals of color had 3 to 10 times higher HIV seroprevalence rates compared to those of White heterosexuals in the SKCDPH STD Clinic from 1993-97. In contrast, HIV rates among MSM of color attending the STD clinic were no different than those for Whites.

**Bisexual men**

- Of 7,575 MSM who sought HIV counseling and testing at the SKCDPH AIDS HIV/AIDS Program between 1/88 and 8/97, 17% also reported one or more female sexual partners in the past 12 months. This proportion increased from 15% in 1988 to 21% in 1995 and then decreased to 17% in 1997. The proportion of vaginal intercourse that was protected increased from 14% in 1988 to 36% in 1997.

**Amphetamine use in MSM drug injectors**

- Amphetamine use was reported by 40% of MSM drug injectors in comparison to 4% of non-MSM drug injectors in unlinked seroprevalence studies at King County drug treatment centers in 1988-97.

- In an interview study of IDUs conducted in King County 6/94 through 5/98, amphetamine was the most common injection drug for 33% of MSM injectors compared to 5% of all other injectors. In this same study the seroprevalence of HIV was 47% in MSM whose usual injection drug was amphetamine compared to 14% among MSM who primarily injected other drugs.

# Substance Users at Risk for HIV/AIDS

**SUMMARY:** Data from the King County Division of Alcohol and Substance Abuse Services (KCDASAS) and other sources have been used to estimate that about 150,000 people in King County are at increased risk of HIV infection because of illicit drug use or alcohol abuse. KCDASAS estimates that about 10,000 of that number are at increased risk because of crack and other cocaine use. Estimates by the Seattle-King County Department of Public Health HIV/AIDS Epidemiology Unit and other sources indicate that about 15,000 persons are at increased risk because of illicit drug injection. The following comments will focus on the latter group.

**STATUS AND TRENDS IN AIDS CASES:**

- AIDS cases in female and heterosexual male injection drug users (IDU) were first reported in King County in 1986. By June 30, 1998, 289 cases had been diagnosed and reported in this group, representing about 5% of all King County AIDS cases. The proportion of IDU AIDS cases in Washington State outside of King County is higher, at 14%.

- In King County, the proportion of cases attributed to drug injection among heterosexuals has increased slowly, from about 2.5% of cases in 1982-89 to 5% in 1993-94 and 9% in 1995-96. Data for 1997 and preliminary data for the first half of 1998 indicate that about 6-7% of AIDS cases are in drug injectors.

- The proportion of cumulative AIDS cases among IDUs in the U.S. is 25%, or five times that in King County (5%).

- While the number of male IDUs in King County reported with AIDS (221) is higher than the number of female IDUs (68), the proportion of male AIDS cases whose infection was attributed to IDU is 4% compared to 29% of female AIDS cases.

- Injection drug use is a relatively more important route of HIV transmission for King County African Americans (18% of AIDS cases) and American Indians/Alaska Natives (18%) compared to Whites (3%), Hispanics (9%) or Asian/Pacific Islanders (3%).

**POPULATION SIZES:**

- Depending on definitional criteria and the methods used, estimates of the number of drug injectors in King County range from about 10,000 to as many as 25,000. Estimates for important IDU sub-groups of interest are even less reliable and precise.

**HIV SEROPREVALENCE:**

- The numbers of AIDS cases in IDUs by year of diagnosis in conjunction with estimates of the average length of time between HIV infection and the diagnosis of AIDS (back calculation), suggest that HIV probably entered the drug-injecting population in King County in the early to mid-1980s. By 1989 the prevalence of HIV among drug injectors in selected drug treatment centers in the County had reached about 2%, where it has hovered since.

- In unlinked surveys of more than 10,000 drug users entering King County drug treatment programs between 1988-97, 1.9% tested HIV positive. Males had significantly higher HIV prevalence than females (2.1% versus 1.4%, $p<0.05$), whereas gay men who used drugs had the highest HIV rate (16.7%).

- In the unlinked King County surveys, HIV prevalence was highest among amphetamine injectors (17.7%) followed by cocaine injectors (2.9%) and speedball and heroin injectors (1.9% and 1.7% respectively). Amphetamine injectors were more likely to be gay men, accounting for the particularly high HIV prevalence in amphetamine injectors.

- In the unlinked surveys, HIV prevalence among homeless IDUs (3.4%) was twice as high as among IDUs with a permanent address (1.6%).

- HIV prevalence among clients entering drug treatment has not changed significantly over the 9 years that unlinked HIV surveys have been conducted in King County.

- There is reason to think that drug injectors in treatment (such as those in the unlinked surveys) are at lower risk of HIV than other injectors. In one study, HIV prevalence among IDUs recruited at the jail and at needle exchange sites was more than twice as high as IDUs in treatment.

- Evidence of the instability of HIV seroprevalence in IDUs appeared in nearby Vancouver BC in 1994 when an outbreak of HIV infection began. During the 1994-1997 period, the seroprevalence in IDUs there rose from 3% to 23%, with a high incidence rate of 18 new infections per 100 IDUs per year. This continues to be an area of concern and attention.

**OTHER MEASURES OF RISK:**

- Although HIV seroprevalence is relatively low in King County injection drug users, a high proportion have evidence of previous exposure to other blood-borne viruses. These include antibody to hepatitis C virus (present in more than 80%), antibody to hepatitis B virus (present in more than 70%), and antibody to Human T-cell Lymphotropic Virus II (present in 10% or more).

- There is also evidence that transmission of other blood borne viruses in local drug injectors does occur as a result of behaviors that can transmit HIV. In a follow-up study of Seattle-area drug injectors who had no serologic markers of previous exposure, 20% acquired HCV infection and 10% acquired hepatitis B virus infection over a one-year period. These incidence rates suggest that sexual and parenteral risk behaviors persist in this population, and that there is a potential for future spread of HIV among drug injectors. In the same study, HIV incidence was <0.5%/year.

**DATA GAPS:**

- It is commonly argued that the HIV epidemic among drug injectors is really a number of smaller epidemics among different sub-groups. More information is needed about such sub-group differences among substance users: groups defined by race or ethnicity, by residential neighborhood or by drug-distribution structures. Such information could potentially lead to the development of prevention strategies to address specific subgroup needs.

- HIV seroprevalence data are spotty, and tend to neglect drug injectors out of drug treatment. Continued surveillance of HIV incidence to detect outbreaks in early stages is needed.

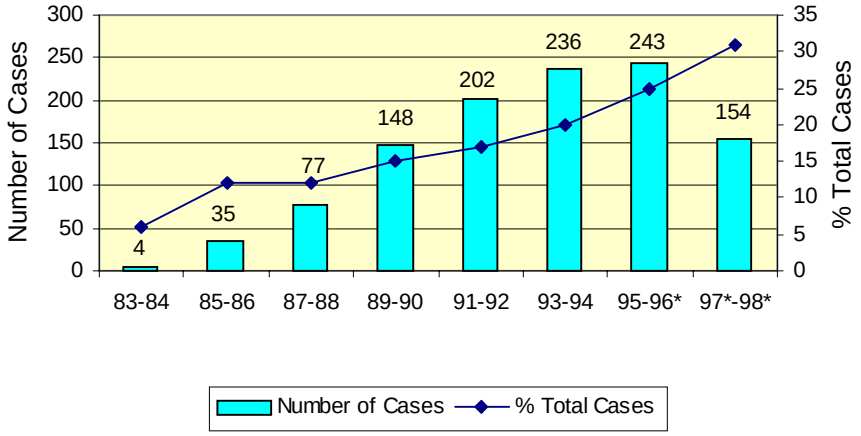
# HIV/AIDS in People of Color

**SUMMARY:** In Seattle-King County, as in the U.S. as a whole, epidemiologic data indicate that HIV and AIDS has disproportionately affected African Americans, American Indians/Alaska Natives, and persons of Hispanic ethnicity compared to Whites or Asian/Pacific Islanders. The racial disparity is even greater among women and children compared to men.

**STATUS AND TRENDS IN AIDS CASES, WITH POPULATION SIZES:**

- Through June 30, 1998, 1,019 people of color residing in King County had been reported with AIDS, representing 18% of the 5,534 total AIDS cases. As shown below, AIDS cases in people of color make up an increasing proportion of all cases in King County, rising from less than 15% of cases in 1983-88 to 17% in 1991-92, 25% in 1995-96, and 31% in 1997-98. This trend has been greatest among African Americans and persons of Hispanic ethnicity.

**No. and Percent of AIDS Cases in King County People of Color, 1983-98***




- AIDS rates in recent years (1995-97) demonstrate the epidemic's disproportionate impact, with rates in African Americans, Hispanics and American Indian/Alaska Natives being over twice that of Whites in King County. AIDS rates in Asian/Pacific Islanders, however, continue to be significantly lower than Whites, as shown below.

| | King Co. 1996 Population Size | | No. King Co. of AIDS cases in 1995-97 | | Average annual AIDS case rate per 100,000 population | (95% Confidence Interval) |
|---|---|---|---|---|---|---|
| | No. | (%) | No. | (%) | | |
| White | 1,293,727 | (79) | 839 | (77) | 21.5 | (20.1 – 23.0) |
| African American | 88,112 | (5) | 156 | (12) | 59.1 | (50.2 – 69.2) |
| Hispanic | 58,570 | (4) | 90 | (7) | 50.6 | (40.7 – 62.1) |
| Asian/Pac Islander | 169,926 | (10) | 25 | (2) | 5.0 | (3.2 – 7.4) |
| Am Ind/AK Native | 18,466 | (1) | 26 | (2) | 47.9 | (31.3 – 70.2) |
| **TOTAL** | **1,628,801** | **(100)** | **1,136** | **(100)** | **23.2** | **(21.8 – 24.6)** |

- The racial disparities are greatest among women and children. The rate of AIDS for African American females was 12 times that of Whites. Also, 7 (58%) of the 12 maternally-acquired pediatric AIDS cases reported in King County through June, 1998 were born to women of color.

- More African American and American Indian/Alaska Native (AI/AN) men and women acquire HIV from injection drug use compared to other groups. The percent of AIDS cases by race for selected HIV exposure categories for males and females is given below (King County data through 6/98).

| **MALES** (N = 5,303) | White | Af Am | Hisp | Asian | AI/AN |
|---|---|---|---|---|---|
| Gay/bisexual (includes gay/bi drug injectors) | 94% | 70% | 82% | 88% | 85% |
| Drug injectors | 3% | 15% | 9% | 3% | 11% |
| Heterosexual contact, non-injectors | <1% | 4% | 2% | 1% | 2% |
| **FEMALES** (N = 231) | | | | | |
| Drug injectors | 26% | 38% | 8% | 0% | 64% |
| Heterosexual contact, non-injectors | 54% | 39% | 69% | 50% | 27% |
| Transfusion recipients | 10% | 3% | 8% | 17% | 0% |
| Undetermined | 9% | 17% | 0% | 33% | 9% |

## HIV SEROPREVALENCE:

- Assessment of several data sources by the Seattle-King County Department of Public Health yields estimates of the prevalence of HIV among persons 15-69 years of 1.2% for African Americans, 1% for Hispanics, 1% for American Indians/Alaska Natives, and 0.1% for Asian/Pacific Islanders. The overall rate in people of color is estimated to be 0.6% with a total of about 1,200 HIV positive people of color in the sexually-active age range of 15 to 69.

- Seroprevalence data from unlinked surveys of King County Sexually-transmitted Disease (STD) Clinic patients indicate higher rates of HIV in heterosexual African American, Hispanic and American Indian men and women and similar rates in Asian/Pacific Islanders compared to Whites. In surveys conducted in 1988-1997, 0.3% of Whites and 0.2% of Asians tested HIV positive compared to 0.8% of African Americans, 0.9% of Hispanics, and 1.7% of American Indians/Alaska Natives. For gay or bisexual men surveyed at the STD Clinic, overall HIV prevalence was 18% and there were no significant differences between races.

- In surveys of women giving birth in King County from 1989 to May 1995 (when the survey ended), the percent of African American women testing HIV positive (0.3%) was 10 times the percent of White women (0.03%). From this study, it is estimated that there are about 225 White, 130 HIV African American, and 50 women of other race/ethnicities with HIV infection in King County.

## OTHER MEASURES OF RISK:

- Information about other STDs is useful in evaluating risk of HIV transmission. King County STD data indicate much higher rates of gonorrhea, syphilis, and chlamydia among African Americans compared to Whites. For example, in 1997 the rate of gonorrhea in African American men was 14 times higher than the rate in Whites, and among African American women 23 times higher. Compared to Whites, 1997 gonorrhea rates were also significantly higher among American Indians/Alaska Natives and Hispanics, but lower among Asian/Pacific Islanders.

- Among adolescents, the birth rate can also be used as an indication of unprotected sexual activity and therefore risk of HIV infection. King County birth rates in 1994-96 for women 15 to 17 years of age were highest among Hispanics (63 per 1,000), American Indians/Alaska Natives (59 per 1,000), and African Americans (44 per 1,000) and lowest among Whites (17 per 1,000) and Asian/Pacific Islanders (14 per 1,000). *(Note: Data on Hispanics may not be reliable because of changes in the way information on Hispanic origin has been collected).*

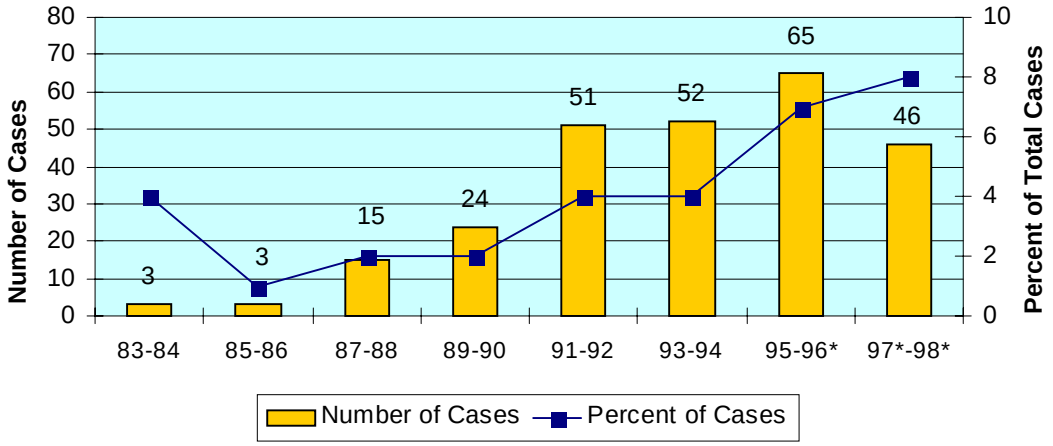
# HIV/AIDS in Women

**SUMMARY:** In King County, women represent a relatively small proportion of the total HIV infections and AIDS cases. However, the proportion of cases in women has increased in recent years, a trend which is expected to continue. Women with HIV/AIDS tend to be younger than men, the majority acquire HIV through sexual contact with HIV-infected men, and women of color are disproportionately affected.

**STATUS AND TRENDS IN AIDS CASES:**

- 231 cumulative AIDS cases have been diagnosed in King County women through June 30, 1998.
- AIDS cases in women have risen from fewer than 10 cases per year in the 1980s to two or three times that number diagnosed in recent years. 1998 appears to be an exception to that trend with only 18 cases among women expected to be diagnosed during that year, based on preliminary results. The proportion of all cases that are among women does not show a drop, however. Women as a proportion of all cases has risen from 1-2% in the 1980s to 7-8% in recent years, as shown in the figure below.

**No. and Percent of AIDS Cases in King County Women, 1983-98***




*Adjusted for reporting delay; 1998 cases estimated from preliminary results.

- Women with AIDS tend to be younger than men—30% of King County women were 20-29 years old at diagnosis compared to 17% of men, suggesting that women are infected with HIV at a younger age than men on average.
- In King County, the rate of AIDS in African American and American Indian/Alaska Native women is over 10 times higher than in White women and the rate in Hispanic women is about 3.5 times that of White women.

**AIDS Cases and Rates per 100,000 by Race in King Co. Women, 1995-97**

| Race/Ethnicity | Number* | Percent | Rate |
|---|---|---|---|
| White, non-Hispanic | 37 | 45% | 2 |
| Black, non-Hispanic | 30 | 37% | 23 |
| Hispanic | 6 | 7% | 7 |
| Asian/ Pacific Islander | 3 | 4% | 1 |
| American Indian/ Alaska Native | 6 | 7% | 22 |
| **Total** | **82** | **100%** | **3** |

*Not adjusted for reporting delay

- Nearly half (49%) of women with AIDS in King County acquired HIV through heterosexual contact, 29% through use of injection drugs, 7% by blood transfusion and 11% by undetermined exposures. It is likely that most of the women in the undetermined exposure category acquired HIV through heterosexual contact; however heterosexual cases are classified as such only when a women reports having heterosexual relations with an HIV positive man or a man in a known risk group (e.g., an IV drug user or bisexual).
- Between 1995 and 1997, only 38% of women diagnosed with AIDS in Washington resided in King County compared to 63% of men diagnosed with AIDS.

**POPULATION SIZES:**

- The estimated number of King County women who are drug injectors or sex partners of drug injectors is 9,000.
- The estimated number of HIV positive women in King County is 350 to 550.

**HIV SEROPREVALENCE:**

- Several anonymous HIV surveys in King County have been conducted to determine HIV prevalence (percent of people currently infected) among selected populations, as shown below.

| Survey | Women No. tested | %HIV + | Survey | Women No. tested | %HIV + |
|---|---|---|---|---|---|
| Childbearing Women 1989-1995 | 123,268 | 0.04% | SKCDPH HIV Counseling 1988-6/98 | 45,173 | 0.4% |
| STD Clinics 1988-1997 | 5,615 | 0.3% | Job Corps (WA State) 1988-1997 | 4,806 | 0.10% |
| Drug Treatment Centers 1988-1997 | 4,418 | 1.4% | Military Recruits (WA State) 1985-1997 | 18,655 | 0.01% |

**OTHER MEASURES OF RISK:**

- Other sexually or parenterally transmitted diseases can indicate risk for HIV infection. For example, gonorrhea rates in King County women have declined steadily from 213 per 100,000 women in 1989 to 64 per 100,000 in 1997. However, the gonorrhea rate in African American women was about 23 times greater than in White women in 1997.

**DATA GAPS:**

- **Population sizes:** More information is needed to accurately determine the number of women in various populations and risk groups. The estimates of women at risk because of drug injecting, having a partner who is a drug injector, being the partner of a man who has sex with men, or trading money or drugs for sex are uncertain at best.
- **Behavioral risks:** Improved surveillance for risk behaviors associated with HIV acquisition is needed.
- **HIV Incidence:** There are no completed incidence (new infections) studies for women in King County; however, interim results of a study among female injection drug users in and out of drug treatment suggests an HIV incidence of less than 1% per year.

# HIV/AIDS in Homeless Persons

**SUMMARY:** Although there have been no local population-based surveys of HIV infection in the homeless in King County, studies from other areas of the country indicate that homeless men and women are at high risk for HIV. Homeless people reported with AIDS in King County were more likely to be non-White and exposed through injection drug use compared to those who were not homeless.

**STATUS OF AIDS CASES:**

- In King County AIDS case statistics, homeless is defined as having no resident zip code at time of the AIDS diagnosis. This definition may undercount the number of homeless AIDS cases if, for example, the zip code of a shelter was reported as the zip code of residence. Seventy-four (2%) of the 3,975 AIDS cases diagnosed in King County between January, 1991 and June, 1998 were reported as homeless at the time of diagnosis.

- Among homeless persons with AIDS, 62% were persons of color and 64% were either IDUs or MSM/IDUs compared to 20% and 15%, respectively, among persons with AIDS who were not reported as homeless.

**KING COUNTY AIDS CASES REPORTED BETWEEN JANUARY, 1991 AND JUNE 30, 1998**

| **Homeless at time of AIDS diagnosis:** | **Yes** | | **No** | |
|---|---|---|---|---|
| | **No.** | **(%)** | **No.** | **(%)** |
| **Sex** | | | | |
| Male | 66 | (89) | 3,716 | (95) |
| Female | 8 | (11) | 185 | (5) |
| **Race/Ethnicity** | | | | |
| White | 28 | (38) | 3,134 | (80) |
| African American | 29 | (39) | 392 | (10) |
| Hispanic | 10 | (14) | 236 | (6) |
| Asian/Pacific Islander | 0 | (0) | 82 | (2) |
| Am Indian/AK Native | 7 | (9) | 57 | (1) |
| **Exposure Category** | | | | |
| Male/male sex (MSM) | 23 | (31) | 2,969 | (76) |
| Injection drug use (IDU) | 28 | (38) | 209 | (5) |
| MSM/IDU | 19 | (26) | 376 | (10) |
| Heterosexual sex | 1 | (1) | 144 | (4) |
| Other (blood products or undetermined) | 3 | (4) | 203 | (5) |
| **TOTAL** | **74** | **(2)** | **3,901** | **(98)** |

**POPULATION SIZE:**

- The McKinney Act (Public Health Law 100-628, November 7, 1988) defines homelessness as: "A homeless person is an individual who lacks a fixed, regular, and adequate residence or an individual who has a primary night-time residence that is either:

  - a supervised or publicly operated shelter designed to provide temporary or transitional living accommodation;

  - a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings."

- Approximately 5,000 persons (500-2,000 of whom are youth) are homeless in King County on any given day, and an estimated 25,000 persons have experienced homelessness in the past year.

**HIV SEROPREVALENCE:**

- In HIV prevalence surveys conducted by the Centers for Disease Control and Prevention between 1989 and 1992 in health clinics serving the homeless in 10 different cities (not including Seattle), the median HIV prevalence (percent of people who were HIV infected) was 3.3%.[1]

- A local HIV survey of injection drug users entering treatment showed that 5.3% of injection drug users without a permanent address were HIV infected compared to 2.4% of those with a permanent address.[2] In this survey, 16% of drug injectors had no permanent address.

- A 1997 time-limited survey of homeless persons attending a downtown Seattle clinic serving a large homeless population found no HIV positives among 103 persons tested (95% confidence interval 0-3.5%).

**DATA GAPS:**

- HIV infection is one of many serious issues facing the homeless. In order to develop effective prevention and intervention programs for this population, a better understanding of the causes of homelessness and its association with mental illness and substance use problems is needed.

- Improved characterization of demographics, risk behaviors, and health status (including HIV, other sexually transmitted diseases, tuberculosis, substance use, and mental illness) among the homeless is also important.

[1]Allen DM, Lehman JS, Green TA, et al. HIV among homeless adults and 'run away youth' 1989 - 1992. **AIDS** 1994;8:1593-1598.

[2]Harris NV, Thiede H, McGough JP, Gordon D. Risk factors for HIV infection among injection drug users: results of blinded surveys in drug treatment centers, King County, Washington 1988-1991. **JAIDS** 1993;6:1275-1282.

# HIV Infection in Incarcerated People in King County

**SUMMARY:** Although there have been no comprehensive population-based surveys of HIV infection among persons jailed in King County, studies of incarcerated people in other states and counties indicate that those who are incarcerated have a higher prevalence of HIV than the general population and are at increased risk for infection. HIV infection among inmates is a significant health concern especially given that the average daily population in the two King County Department of Adult Detention jail facilities^ has increased 6% in the past year and 68% in the past 10 years. Seattle-King County Department of Public Health jail health staff estimate that the prevalence of HIV among inmates on any given day is between one and five percent. With an average daily census in 1997 of about 2500, this means 25 to 125 people with HIV are incarcerated in the two jail facilities on a typical day. Incarcerated persons tend to be at increased risk of HIV infection due to a high prevalence of injecting drug use behavior and sexually transmitted diseases which facilitate the spread of HIV.

^The Regional Justice Center in Kent and the King County Correctional Facility in downtown Seattle; King County data in this fact sheet refer to persons incarcerated at these two jail facilities.

## STATUS AND TRENDS IN HIV INFECTION:

The number of people incarcerated in the US has risen dramatically in recent years. It is now estimated that over 1.75 million people with HIV are in jails or prisons and that HIV prevalence among inmates is 2.3% overall with a range of 0-14%.[1]

The Washington State Department of Health surveyed incoming inmates to Washington State correctional facilities in 1995 and 1997 and found HIV prevalence of 1.0% in males and 0.8% in females.

Results of voluntary HIV testing in King County correctional facilities during the past 12 years of testing are shown in the tables below. Of 10,950 tests performed, 248 people tested HIV positive (2.3%). Jail staff estimate that 1% to 5% of the jail population is HIV positive at any given time.

**SKCDPH HIV/AIDS Program Unduplicated Jail Clients by Risk Category and Gender, 6/1/86 through 6/30/98**

| MALES: Risk Category | #Tested | #HIV Positive | %HIV Positive |
|---|---|---|---|
| Injection drug use (IDU) | 3,264 | 61 | 2% |
| Male-male sex (MSM) and IDU | 330 | 39 | 12% |
| MSM | 231 | 39 | 17% |
| Partner of HIV positive | 84 | 6 | 7% |
| Partner of IDU | 952 | 9 | 1% |
| Sex for money or drugs | 871 | 9 | 1% |
| Other risk^^ | 1,197 | 6 | 1% |
| No risk identified | 1,775 | 33 | 2% |
| **Total, males** | **8,704** | **202** | **2%** |

**^^'**Other risk' category includes: heterosexual exposure to more than 3 sex partners in the past year or exposure to blood products or transfusion prior to 1985.

| FEMALES: Risk Category | #Tested | #HIV Positive | %HIV Positive |
|---|---|---|---|
| IDU | 1,265 | 26 | 2% |
| Partner of MSM | 68 | 1 | 1% |
| Partner of HIV positive | 24 | 2 | 8% |
| Partner of IDU | 197 | 1 | 1% |
| Sex for money or drugs | 205 | 4 | 2% |
| Other risk^^ | 189 | 0 | 0% |
| No Risk identified | 298 | 12 | 4% |
| **Total, females** | **2,246** | **46** | **2%** |

**^^'**Other risk' category includes: heterosexual exposure to more than 3 sex partners in the past year or exposure to blood products or transfusion prior to 1985.

## OTHER MEASURES OF RISK:

**Prevalence of Injecting Drug Use:** Although it is not known how many jail inmates locally have used needles to inject drugs, data from other studies place the prevalence of drug injection in prison and jail populations at between 20-30%.[2]

**Prevalence of STDs:** The prevalence of sexually transmitted diseases in the local jail population is unknown; however, several studies have documented a higher rate of STDs in incarcerated populations than in the general population. One study of women entering a Washington State prison showed a 23% self-reported rate of previous STDs.[3]

**Hepatitis C Infection:** Results from the SKCDPH's RAVEN Study showed that 85% of injection drug users recently released from jail were infected with hepatitis C, a virus that is spread primarily through sharing of needles and other drug injection equipment.

[1]Maruschak L. HIV in Prisons and Jails, 1995. US Department of Justice, Bureau of Justice Statistics, August 1997. On line at: www.ojp.usdoj.gov/bjs.

[2]Harlow CW. HIV in Prisons and Jails. US Department of Justice, Bureau of Justice Statistics, September 1993.

[3]Young DS. Health Status and Service Use among Incarcerated Women. Family and Community Health. October 1998, pp16-31.

# HIV/AIDS in Heterosexuals

**SUMMARY:** The proportion of AIDS cases attributable to heterosexual transmission in Seattle-King County, as in the U.S. as a whole, is on the rise. This trend is particularly pronounced among women compared to men, and among younger (20-29) rather than older women (>30). HIV infection and AIDS continues to have a major impact on the health of King County. The proportion of total AIDS cases in King County acquired via heterosexual contact is 3%. Heterosexual men and women represent a relatively small proportion of the total HIV infections and AIDS cases, though half of the women with AIDS in King County acquired HIV through heterosexual contact. Young adults, adolescents, and people of color are at much higher risk of contracting STDs, indirect indicators of unprotected sexual activity that could result in transmission of HIV.

**STATUS AND TRENDS IN AIDS CASES:**

- Nationally in 1997, the total proportion of AIDS cases for both men and women due to heterosexual contact was 13%. Among women it was 38% vs. only 7% for men. Since 1992, heterosexual transmission has been the most common route of infection for women.

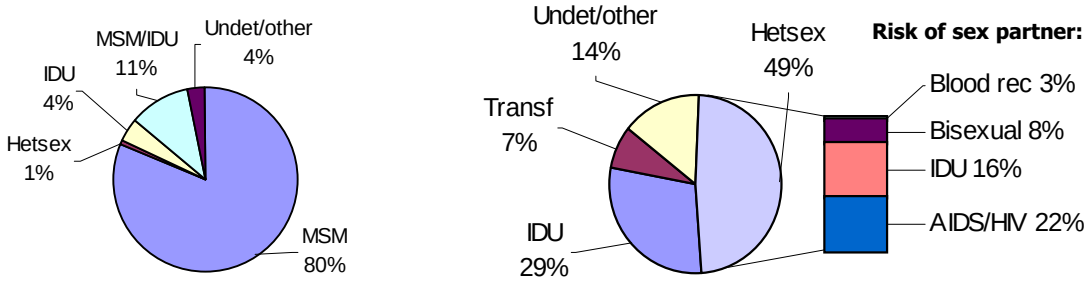
- As the U.S. epidemic has spread to more men, including men who are bisexually active or inject drugs, an increasing percentage of women are infected heterosexually.

- This same pattern has been observed in King County. As of 6/98, 114 (49%) of the 231 cumulative AIDS cases in women residing in King County have been due to heterosexual transmission of HIV. For men during this same time period, only 51 (1%) of 5,303 cumulative AIDS cases were due to heterosexual transmission.

- In the 5 year period 1993-97, an average of 20 new heterosexually-transmitted AIDS cases were diagnosed each year in King County.

- A closer look at the risk of the male sexual partner of King County women infected heterosexually indicates that 22% had HIV or AIDS (but whose risk was otherwise unspecified), 16% used injection drugs, 8% were sexually active with other men, and 3% had received blood products (see figure below).

**AIDS Cases Diagnosed In King County Through 6/98 by Gender and Exposure Category**




**Males N=5,303**

**Females N=231**

- Although the majority of cumulative AIDS cases have been in men who have sex with men (MSM) both in King County (87%) and outside King County (67%), a generally increasing proportion of cases have been due to heterosexual contact, injection drug use in non-MSM or have been in women (see table below). Outside King County, a higher proportion of cases consistently occur in these non-MSM exposure categories. These data suggest that there will be increasing cases of heterosexually-acquired HIV and AIDS among women, especially those residing outside King County.

## Trends in Percent of AIDS Cases in King Co. (KC) vs. WA Counties other than KC (non-KC), 1993-97[1]

| Category | 1993 | | 1994 | | 1995 | | 1996 | | 1997[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | KC | Non-KC | KC | Non-KC | KC | Non-KC | KC | Non-KC | KC | Non-KC |
| Heterosexual Contact | 5% | 9% | 3% | 12% | 4% | 11% | 5% | 16% | 5%[1] | 12%[1] |
| Injection Drug Use | 6% | 17% | 5% | 19% | 9% | 20% | 8% | 17% | 4%[1] | 18%[1] |
| Adult Female | 5% | 12% | 3% | 13% | 7% | 17% | 6% | 18% | 8% | 15% |

[1]Preliminary data due to reporting delays; the proportions of cases in heterosexual contact and IDU categories are expected to increase as cases initially reported with no identified risk are investigated and reclassified

**POPULATION SIZES:**

- The estimated King County population of 15-69 year old heterosexuals is 1,122,500 (derived from 1995 estimated population minus estimated exclusively MSM population).

- Estimated number of heterosexual, non-injection drug users in King County who are HIV positive is 400-650.

**HIV SEROPREVALENCE:**

- Cumulative HIV prevalence among female and male, non-IDU, heterosexual STD clinic clients in King County from 1996-97 was 0.2%.

- Cumulative HIV prevalence among heterosexual men entering drug treatment centers in King County from 1995-97 was 0.9%.

**OTHER MEASURES OF RISK:**

- Sexually transmitted diseases are an indirect indicator of unprotected sexual activity that could result in transmission of HIV. Due to a considerably shorter incubation period for STDs, these data may provide more timely information on behavioral trends in the community.

- In 1996, the reported rate of sexually-transmitted chlamydia in King County was 1,512 per 100,000 persons ages 15-19 compared to 585 per 100,000 in 25-29 year-olds. The chlamydia rate in African Americans ages 15-29 was 9 times greater than that in Whites of the same age.

**DATA GAPS:**

- As of late 1998, there were no population-based data available in King County for directly measuring the incidence of new HIV infection and asymptomatic HIV was not reportable.

- Improved ongoing surveillance for risk behaviors associated with HIV acquisition is needed.

# HIV/AIDS in Young People

**SUMMARY:** HIV infection does not appear to be widespread among the general King County adolescent population, although it is present A much higher proportion of 20-24 year olds and 25-29 year olds are infected with HIV indicating that many new infections occur in early adulthood. Young men who have sex with other men (MSM) are disproportionately affected compared to other youth, and are at the greatest risk of HIV infection.

## STATUS AND TRENDS IN AIDS CASES:

- From 1982 through 6/30/98, 5,534 AIDS cases were diagnosed in King County residents. Of these, 13 (0.02%) were less than 13 years old; 10 (0.02%) were 13-19; 135 (2.4%) were 20-24; 818 (14.8%) were 25-29; and 4,558 (82.4%) were 30 years or older.

- The number of AIDS cases in younger age groups is a poor indicator of HIV infection because of the long average delay (10 years or more) between acquisition of HIV infection and the onset of AIDS. However, many of the people who develop AIDS between the ages of 25 and 29 were infected with HIV as teens, and AIDS case statistics for these ages may better indicate the epidemiology of HIV among young adults.

**KING COUNTY AIDS CASES IN YOUNGER AGE GROUPS, 6/30/82 – 6/30/98**

| | 13-19 years | | 20-24 years | | 25-29 years | |
|---|---|---|---|---|---|---|
| | No. | (%) | No. | (%) | No. | (%) |
| **Sex** | | | | | | |
| Male | 7 | (70) | 121 | (90) | 763 | (93) |
| Female | 3 | (30) | 14 | (10) | 55 | (7) |
| **Race/Ethnicity** | | | | | | |
| White | 5 | (50) | 100 | (74) | 642 | (78) |
| African American | 4 | (40) | 19 | (14) | 89 | (11) |
| Hispanic | 0 | (0) | 9 | (7) | 60 | (7) |
| Asian/Pacific Islander | 0 | (0) | 4 | (3) | 7 | (1) |
| Am Indian/AK Native | 1 | (10) | 3 | (2) | 20 | (2) |
| **Exposure Category** | | | | | | |
| Male-male sex | 2 | (20) | 81 | (60) | 588 | (72) |
| Injection drug use (IDU) | 1 | (10) | 12 | (9) | 50 | (6) |
| Male-male/IDU | 1 | (10) | 23 | (17) | 110 | (13) |
| Heterosexual sex | 1 | (10) | 8 | (6) | 35 | (4) |
| Transfusion | 1 | (10) | 1 | (1) | 6 | (1) |
| Hemophiliac | 3 | (30) | 2 | (1) | 6 | (1) |
| Undetermined/other | 1 | (10) | 8 | (6) | 23 | (3) |
| **TOTAL** | **10** | | **135** | | **818** | |

## POPULATION SIZES:

- Estimated King County population (1998): age 15-19: 107,309; age 20-24: 93,035
- Estimated King County population of gay or bisexual males age 15-24: 9,500

## HIV SEROPREVALENCE:

- Anonymous HIV prevalence (percent of people currently infected with HIV) surveys have been conducted in several specific populations in King County. These surveys and other data sources all have unique features, and results can not be extrapolated to the general population. The estimated number of persons with HIV is 80 for age 13-19 and 625 for age 20-24.

| Source of data | Age (yrs.) | HIV+/ No. tested | % HIV+ |
|---|---|---|---|
| AIDS Prevention Unit, 1993-97 | <20 | 3/527 | 0.57 |
| AIDS Prevention Unit, 1993-97 | 20-24 | 47/1,815 | 2.59 |
| STD Clinic Survey, 1993-97 | <20 | 0/791 | 0 |
| STD Clinic Survey, 1993-97 | 20-24 | 15/1,985 | 0.76 |
| Drug Treatment Centers Survey, 1993-97 | <20 | 0/55 | 0 |
| Drug Treatment Centers Survey, 1993-97 | 20-24 | 3/359 | 0.83 |
| Youth Clinic Survey, 1993 | <25 | 2/138 | 1.45 |
| Adolescent Clinic Survey, 1993-94 | 13-22 | 2/628 | 0.32 |
| Childbearing Women Survey, 1989-94 | <20 | 7/8,708 | 0.08 |
| Young Men's Survey, 1997-98 | 15-18 | 0/85 | 0 |
| Young Men's Survey, 1997-98 | 19-22 | 5/201 | 2.5 |
| Job Corps, 1993-97 (Seattle MSA)* | 16-24 | 2/2,180 | 0.09 |
| Military recruits, 1985-97 (Seattle MSA)* | <20 | 1/18,166 | 0.01 |
| Military recruits, 1985-97 (Seattle MSA)* | 20-24 | 8/10,113 | 0.08 |

* The Seattle MSA includes King, Snohomish and Island counties

## IMPORTANT SUBGROUP: YOUNG GAY MALES:

- Three-quarters of the AIDS cases between age 13 and 24 were in males who had sex with other males, 9% were injection drug users, 6% had heterosexual risk, and 6% had no identified risk. In addition, HIV prevalence among 20-24 year old gay/bisexual males was 9.3% compared to 0.4% among females and heterosexual males in a STD clinic survey.

- Preliminary results from the SKCDPH Young Men's Survey show that 37% of 15-18 year old MSM participants and 50% of 19-22 year old MSM participants who had anal sex in the past 6 months had also had anal sex without a condom.

## OTHER RELEVANT INFORMATION FOR HIV PREVENTION:

- Diagnosis of a sexually transmitted disease indicates unsafe sexual behavior which may also increase the risk of HIV. Young people continue to have the highest rates of STDs. In King County, the 1997 gonorrhea rate per 100,000 was 351.5 for 18-19 year olds compared to 142.1 for 30-34 year olds.

- Results from risk behavior surveys provide important information about behaviors that may place young people at risk for HIV infection. The Seattle Public Schools 1995 Teen Health Risk Survey showed that 48% of high school students had had sex, and of those, over 46% had not used a condom the last time they had sex. In a 1993 survey of high risk youth 18 years and younger, 95% reported they were sexually active, 87% used alcohol, 78% marijuana, 16% hallucinogens, 11% cocaine, and 4% injected drugs.

- According to the Seattle Public Schools 1995 Teen Health Risk Survey, 1% of high school students said they were homosexual, 4% bisexual, 91% heterosexual, and 4% said they were unsure.

# V. OTHER INDICATORS OF BEHAVIORAL RISKS

Although AIDS case report data have been shown to provide very accurate information on the epidemiology of AIDS, as previously mentioned there are no population-based data available on HIV prevalence or rates of new infection in the general population. HIV surveys in specific subpopulations and results from HIV testing and counseling programs provide some information on HIV in the community. There is also other information that can contribute to a more complete picture of the current and potential impact of HIV in our region. These surrogate data include other sexually transmitted disease (STD) statistics and study results, teen pregnancy rates, and health and risk behavior surveys.

Data sources for these include the Washington State Department of Health IDRH Assessment Unit and the Center for Health Statistics and the SKCDPH. Population data are from Department of Social and Health Services, Washington State Adjusted Population Estimates, June 30, 1997 (1990-2002), Zip Code and 1980-1986 Census Tract Population Estimates are based on figures from Claritas Corporation (1980-1989), and the Census Tract Population Estimates are from Department of Social and Health Services, December 1995 (1987-1989). Data from these sources were used in the descriptions of the specific target groups in Section IV. In addition, some general King County STD and teenage pregnancy statistics are presented in this section.

**Sexually transmitted disease rates:** Diagnosis of a sexually transmitted disease indicates unsafe sexual behavior; STDs may also increase a person's risk of acquiring and transmitting HIV infection. Although HIV is not transmitted as readily as certain other STDs and the risk of acquisition of HIV depends on the level of HIV occurrence in the population, STD statistics provide useful information for HIV education and prevention programs about the extent of unsafe sexual behaviors in specific geographical areas and populations and about STDs as transmission cofactors for HIV.

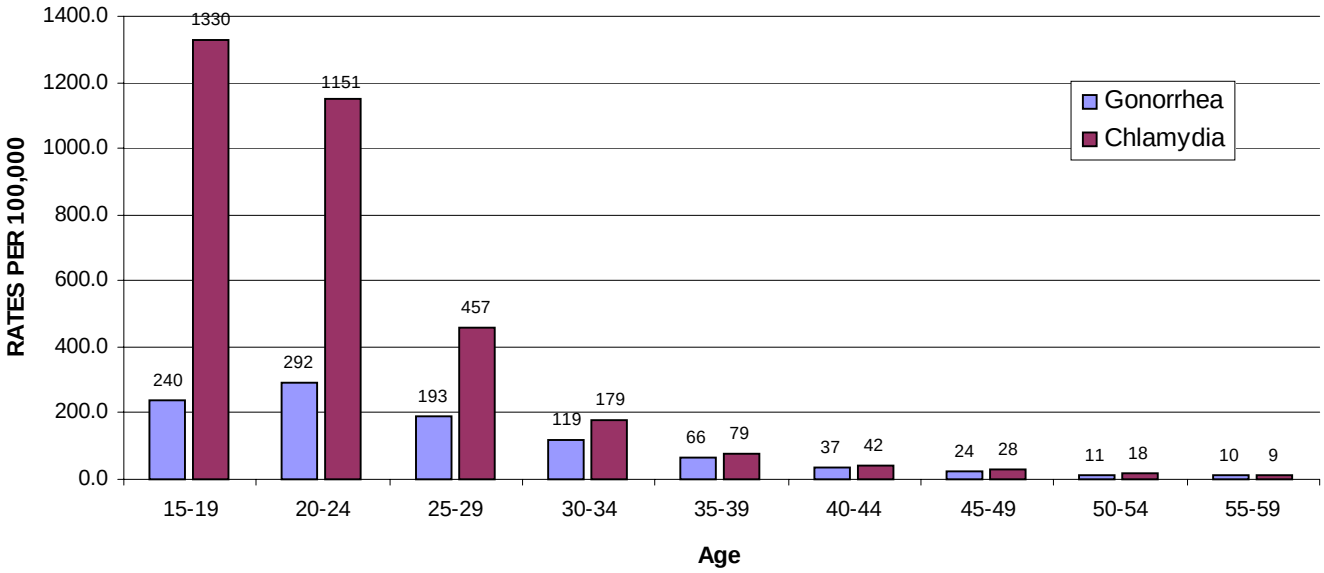
The STD data presented below are based on cases reported to the SKCDPH. Because of the small number of primary syphilis cases reported (10) between 1995 and 1997, no data are included on syphilis. Not reflected in the 1995-97 data is a recent upsurge in the diagnosis of syphilis and other STDs in MSM in 1998. Eleven new cases, eight of which occurred in MSM, were diagnosed in December 1998, the largest one-month number in several years. This is an area of immediate concern and a reflection of high risk behavior especially considering that 60% of the MSM with syphilis and 20% of MSM with other STDs are also infected with HIV. Data on trends in non-MSM groups are not currently available.

Figure 13 shows the King County 1995-1997 average annual rate of gonorrhea and chlamydia by age. The majority of cases (67% of gonorrhea and 86% of chlamydia) were diagnosed in persons under 30 years. The 15-19 year age group had the highest rates: 1330 per 100,000 for chlamydia and 240 per 100,000 for gonorrhea compared to 66 and 79 per 100,000, respectively, for the 35-39 year age group.

Table 6 compares 1995-97 average annual gonorrhea and chlamydia rates in different geographic areas of King County. Because gonorrhea and chlamydia are most commonly diagnosed in persons younger than 30 years, only rates for 15-29 year olds are included. Rates vary greatly across the county with gonorrhea and chlamydia rates almost two and three times higher, respectively, in Seattle than rates in other areas of King County. Within Seattle, the Central and Southeast areas have the highest rates. In areas outside Seattle, the highest rates are in White Center/Skyway and Burien/Highline.

Table 7 shows gonorrhea rates per 100,000 in 15 to 29 year olds in King County between 1988 and 1997. Rates declined through 1996 in both Seattle and other areas of the county among males and females and in all racial/ethnic categories, but then appeared to be on an upswing for all of these subgroups in 1997. Discrepancies continue to persist with higher rates in Seattle compared to the rest of the county and among African Americans, Hispanics, and American Indians/Alaskan Natives compared to Whites and Asian/Pacific Islanders.

**Figure 13. Three-year average annual rates of chlamydia and gonorrhea by age, King County, 1995-1997**




Chlamydia rates in 15-29 year old King County residents are presented in Table 8. Many chlamydia infections are asymptomatic and may only be diagnosed because infected persons are screened. Some of the differences in chlamydia reporting statistics may be due to differences in screening policies and programs. Overall, rates dropped between 1988 and 1996 in Seattle and other areas of the county, among females, Whites, African Americans but like gonorrhea, appeared to be on an upswing in 1997.

Increased rates of chlamydia were observed among males, American Indians/Alaskan Natives, Hispanics and Asian/Pacific Islanders. As with gonorrhea, discrepancies persist with higher chlamydia rates in Seattle compared to the rest of the county, and in people of color compared to Whites. Females have higher rates than males, but this may be at least partially related to more routine screening of women.

Furthermore, recent data suggest that gonorrhea rates in MSM in the Clinic doubled from 1997 to 1998 and, for the first time ever, significant numbers of chlamydial infections were seen in MSM attending the STD Clinic.

Compared to gonorrhea and chlamydia, relatively few cases of acute hepatitis B were reported and three-year average annual rates are presented rather than trend data by year. Like HIV, hepatitis B is also transmitted through sharing of injection drug equipment. Hepatitis B rates, however, may underrepresent risky behaviors because of vaccine-acquired immunity. Three-year average annual acute hepatitis B rates are shown in Table 9. Rates were higher in Seattle than other areas of the county, among men compared to women, and among Whites, African Americans, American Indians/Alaskan Natives and Hispanics compared to Asians.

## Table 6. Average annual gonorrhea and chlamydia rates per 100,000 in 15-29 year olds by Health Planning Area, King County, 1995-1997

| | GONORRHEA | | CHLAMYDIA | |
|---|---|---|---|---|
| **Health Planning Area** | **Rate per 100,000** | **95% CI** | **Rate per 100,000** | **95% CI** |
| **SEATTLE** | | | | |
| Central | 873.6 | 774.9-981.6 | 1948.0 | 1799.0-2106.1 |
| North Central | 311.5 | 265.4-363.3 | 644.1 | 577.0-716.9 |
| North of Canal | 90.2 | 73.7-109.4 | 499.4 | 459.3-542.2 |
| North Seattle | 168.3 | 126.1-219.9 | 965.1 | 859.8-1080.0 |
| Southeast Seattle | 873.4 | 791.7-961.4 | 3028.6 | 2874.6-3188.9 |
| West Seattle | 348.9 | 291.6-414.2 | 1441.1 | 1321.9-1568.4 |
| **SUBTOTAL** | **364.4** | **343.6-386.1** | **1213.5** | **1175.3-1252.6** |
| **NON - SEATTLE** | | | | |
| Auburn | 126.8 | 98.7-160.4 | 679.9 | 612.5-752.9 |
| Bellevue | 87.2 | 62.1-119.3 | 552.4 | 485.7-625.7 |
| Bothell/Woodinville | 43.6 | 25.0-70.7 | 291.6 | 239.1-352.3 |
| East/Northeast County | 23.9 | 6.5-59.9 | 233.2 | 166.0-319.0 |
| Eastgate/Issaquah | 45.0 | 26.7-71.0 | 307.2 | 255.4-366.5 |
| Federal Way | 209.8 | 172.0-253.4 | 897.8 | 817.6-984.0 |
| Highline/Burien | 355.7 | 304.0-413.7 | 1293.5 | 1193.1-1400.3 |
| Kent | 173.4 | 140.4-211.9 | 841.5 | 766.5-921.9 |
| Kirkland/Redmond | 54.8 | 40.3-72.9 | 326.4 | 289.3-367.0 |
| Mercer Island | 49.0 | 15.8-112.4 | 156.7 | 89.7-254.0 |
| North County | 69.7 | 44.3-104.6 | 530.4 | 454.8-615.0 |
| Renton | 244.2 | 203.1-291.4 | 840.0 | 761.9-924.0 |
| Southeast County | 30.9 | 16.5-52.7 | 304.0 | 253.7-361.5 |
| Vashon Island | ** | ** | 69.2 | 14.0-196.0 |
| White Center/Skyway | 427.3 | 363.0-499.8 | 1862.6 | 1725.3-2008.0 |
| **SUBTOTAL** | **145.3** | **135.8-155.2** | **677.9** | **657.4-698.9** |
| **KING COUNTY TOTAL** | **237.4** | **227.6-247.5** | **942.2** | **922.5-962.2** |

** The number of cases is too small to calculate a meaningful rate

## Table 7. Gonorrhea rates per 100,000 in 15-29 year olds, King County, 1988-1997

| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SEX** | | | | | | | | | | |
| Male | 583.6 | 544.4 | 481.4 | 482.8 | 403.3 | 301.9 | 256.7 | 261.7 | 195.0 | 233.3 |
| Female | 718.8 | 628.7 | 486.9 | 484.6 | 407.7 | 302.6 | 280.4 | 271.1 | 184.0 | 280.0 |
| **RACE** | | | | | | | | | | |
| White | 239.5 | 222.8 | 213.0 | 213.3 | 218.4 | 159.4 | 125.6 | 118.2 | 93.8 | 109.7 |
| African American | 6066.4 | 5745.8 | 4509.3 | 4300.5 | 3384.2 | 2293.1 | 2131.4 | 1957.2 | 1304.3 | 1778.4 |
| Am Ind/AK Native | 1007.2 | 898.8 | 614.3 | 579.7 | 493.5 | 386.2 | 446.1 | 457.2 | 270.4 | 401.3 |
| Asian/Pacific Islander | 128.8 | 187.8 | 140.0 | 124.5 | 140.4 | 81.4 | 49.2 | 81.9 | 53.1 | 93.1 |
| **ETHNICITY** | | | | | | | | | | |
| Hispanic | 1171.3 | 766.1 | 629.4 | 816.6 | 618.6 | 503.8 | 240.2 | 309.7 | 166.8 | 330.2 |
| **LOCATION** | | | | | | | | | | |
| Seattle | 1234.3 | 1157.0 | 946.3 | 928.3 | 653.9 | 494.1 | 405.4 | 400.2 | 298.1 | 394.8 |
| KC minus Seattle[1] | 264.3 | 239.7 | 192.9 | 214.9 | 183.0 | 150.2 | 152.4 | 165.6 | 110.1 | 160.0 |
| King County | 650.4 | 586.1 | 484.1 | 483.7 | 405.5 | 302.3 | 268.4 | 266.3 | 189.6 | 256.2 |

## Table 8. Chlamydia rates per 100,000 in 15-29 year olds, King County, 1988-1997

| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SEX** | | | | | | | | | | |
| Male | 453.4 | 447.8 | 487.0 | 523.6 | 441.5 | 392.0 | 399.8 | 405.8 | 411.1 | 548.5 |
| Female | 1721.6 | 1610.9 | 1598.3 | 1647.4 | 1483.1 | 1219.1 | 1422.2 | 1332.2 | 1264.4 | 1740.9 |
| **RACE** | | | | | | | | | | |
| White | 814.4 | 761.0 | 790.1 | 784.7 | 743.7 | 563.8 | 585.4 | 529.5 | 467.5 | 586.5 |
| African American | 4293.7 | 4617.8 | 4524.2 | 5021.4 | 4233.9 | 3474.5 | 4188.2 | 3860.2 | 3577.3 | 5255.8 |
| Am Ind/AK Native | 1491.4 | 1641.3 | 1363.0 | 1487.9 | 1618.6 | 1235.8 | 1396.4 | 934.2 | 1371.5 | 1565.0 |
| Asian | 438.6 | 581.9 | 624.0 | 646.0 | 627.6 | 550.4 | 596.3 | 639.5 | 703.2 | 910.7 |
| **ETHNICITY** | | | | | | | | | | |
| Hispanic | 686.4 | 811.2 | 992.3 | 1213.7 | 1090.0 | 1328.9 | 1725.0 | 1692.6 | 1696.0 | 2363.4 |
| **LOCATION** | | | | | | | | | | |
| Seattle | 1470.8 | 1498.8 | 1500.3 | 1557.2 | 1206.3 | 982.1 | 1179.0 | 1140.5 | 1081.0 | 1422.1 |
| KC minus Seattle[1] | 787.7 | 729.7 | 755.5 | 792.4 | 679.4 | 595.0 | 638.3 | 616.0 | 575.4 | 839.0 |
| King County | 1080.2 | 1023.1 | 1037.2 | 1079.7 | 956.4 | 800.4 | 903.7 | 861.4 | 830.3 | 1133.2 |

[1]King County outside the city of Seattle

## Table 9. Three-year average annual acute hepatitis B rates per 100,000 in 15-29 year olds, King County, 1995-1997

| SEX | Rate | 95% CI[1] |
|---|---|---|
| Male | 11.9 | 9.0-15.5 |
| Female | 5.1 | 3.2-7.6 |
| **RACE** | | |
| White | 8.4 | 6.3-10.8 |
| Black | 8.3 | 2.7-19.1 |
| Am Ind/AK Native | 7.5 | 0.3-38.2 |
| Asian | 5.4 | 2.0-11.6 |
| **ETHNICITY** | | |
| Hispanic | 13.7 | 5.0-29.5 |
| **LOCATION** | | |
| Seattle | 15.6 | 11.5-20.6 |
| KC-Seattle[2] | 4.3 | 2.8-6.3 |
| King County | 8.6 | 6.8-10.7 |

[1]95% Confidence Interval
[2]King County outside the city of Seattle

**Teenage pregnancy rates:** Another indicator of unprotected sex among adolescent females is teenage pregnancy rates. Pregnancy rates are based on reported birth and abortion data and do not include miscarriages and fetal deaths (spontaneous abortions after 20 weeks). Pregnancy rates in 15-17 year old females declined from a high of 120.8/1,000 in 1988 to 62.0/1,000 in 1996 in Seattle and from 47.4/1,000 in 1986 to 36.7/1,000 in 1996 in other areas of King County. In King County as a whole, 1,258 or about 4% of 15-17 year old girls became pregnant in 1996. For further information on teen pregnancy see: Adolescent Pregnancy, Birth and Abortion, September 1997, Data Watch Vol. 1, No. 1.

## Table 10. Pregnancy rates per 1,000 15-17 year old females, King County, 1985-1996

| | Seattle | | King Co. Outside Seattle | | King County | |
|---|---|---|---|---|---|---|
| Year | Number of pregnancies | Rate per 1,000 | Number of pregnancies | Rate per 1,000 | Number of Pregnancies[1] | Rate per 1,000 |
| **1985** | 583 | 86.3 | 890 | 46.4 | 1487 | 57.3 |
| **1986** | 658 | 98.5 | 924 | 47.4 | 1582 | 60.5 |
| **1987** | 660 | 101.7 | 901 | 46.4 | 1566 | 60.4 |
| **1988** | 752 | 120.8 | 859 | 43.2 | 1612 | 61.8 |
| **1989** | 648 | 110.7 | 840 | 45.2 | 1489 | 60.9 |
| **1990** | 657 | 112.8 | 775 | 41.6 | 1434 | 58.6 |
| **1991** | 639 | 108.6 | 749 | 39.2 | 1390 | 55.6 |
| **1992** | 583 | 98.2 | 761 | 38.2 | 1349 | 52.1 |
| **1993** | 524 | 85.9 | 785 | 37.9 | 1317 | 49.1 |
| **1994** | 540 | 87.2 | 810 | 37.8 | 1359 | 49.2 |
| **1995** | 463 | 71.0 | 820 | 38.1 | 1290 | 46.0 |
| **1996** | 427 | 62.0 | 824 | 36.7 | 1258 | 42.9 |

[1]The number of pregnancies in King County may be slightly higher than the sum of pregnancies in Seattle and in King County minus Seattle due to missing data on census tract for persons known to live in King County

# VI. APPENDIX

## A. Glossary

**1987 AIDS case definition:** The CDC surveillance definition for AIDS implemented in 1987 included 23 clinical AIDS indicator diseases (MMWR 1987 Vol. 36, No. 1S). The 1987 case definition was based on the 1986 HIV Classification System and replaced the 1985 case definition.

**1993 AIDS case definition:** The 1993 CDC surveillance definition for AIDS in adult and adolescents was implemented January 1, 1993 (MMWR 1992. Vol. 41, No. RR-17). It adds to the 23 indicator conditions from the 1987 AIDS definition the following: 1) persons with HIV infection and CD4+ T-lymphocyte count <200/$mm^3$ or percent <14 of total lymphocytes and no AIDS-defining conditions; 2) HIV-infected persons with pulmonary TB, recurrent pneumonia, or invasive cervical cancer. Other countries have not adopted the inclusion of severe immunosuppression as an AIDS-defining condition.

**1993 HIV classification system**: The 1993 CDC adult/adolescent AIDS case definition is based on the 1993 HIV Classification System (MMWR 1992. Vol. 41, No. RR-17). This system classifies HIV according to clinical and immunosuppression stages as shown in the table below. In 1994, CDC published a revised pediatric HIV classification system for children under 13 years (MMWR 1994. Vol. 43, No. RR-12), which is also organized according to clinical and immunosuppression stages of HIV infection although the categorization of CD4 counts is different. AIDS and Symptomatic non-AIDS HIV-related conditions in children, adolescents, and adults have been reportable in Washington State since 1987 (WAC 246-100).

### 1993 HIV CLASSIFICATION SYSTEM FOR ADULTS/ADOLESCENTS

| | ***Category A*** | ***Category B*** | ***Category C*** |
|---|---|---|---|
| ***CD4 Count*** | ***Asymptomatic/ Acute HIV*** | ***Symptomatic non-AIDS*** | ***Symptomatic AIDS*** |
| ***500 +*** | ***A1*** | ***B1*** | ***C1*** |
| ***200-499*** | ***A2*** | ***B2*** | ***C2*** |
| ***<200*** | ***A3*** | ***B3*** | ***C3*** |

**Reporting required - AIDS**

**Reporting required - Symptomatic non-AIDS**

**Not reportable in Washington State as of 12/98 (reporting of asymptomatic HIV infection is expected to be implemented in mid-1999)**

**AIDS:** Acquired immunodeficiency syndrome, the end-stage of HIV infection.

**AIDS case reporting delay:** The time between diagnosis of an AIDS case and the receipt of the case report by the health department.

**AIDS case reporting completeness:** The proportion of all diagnosed AIDS cases which are reported to the health department after allowing for a certain reporting delay time.

**CDC:** Centers for Disease Control and Prevention, a federal agency headquartered in Atlanta. The Division of HIV/AIDS Prevention is part of the National Center for HIV, STD, and TB Prevention.

**95% confidence intervals (CI):** The 95% CI is used to illustrate the uncertainty of a point estimate such as a rate, and is defined as follows: the range of values within which, upon repeated measure, the rate can be expected to fall 95% of the time**.**

**Cumulative cases:** All cases occurring during an extended period of time. Example: The cumulative number of AIDS cases in Washington State from 1982 to the present is 7,226.

**HIV:** Human immunodeficiency virus type 1; previously known as HTLV-III or LAV, the cause of AIDS.

**Health planning area(s) (HPA):** King County is divided into 20 health planning areas based on aggregations of census tract areas which were originally designed by the SKCDPH to correspond as closely as possible to neighborhoods, clinic utilization, travel patterns, and other factors of community interaction. Since census tract is not recorded for AIDS cases, zip code-defined HPAs are used for geographic analysis of AIDS data.

**Incidence:** The number of new cases within a given time period (usually one year). Example: The incidence of AIDS in Washington in 1995 was 857 cases.

**IDU:** Injection drug user. For the purposes of defining HIV exposure, any injection drug use not prescribed by a medical professional since 1978 is included.

**KC:** King County.

**PLWA:** Persons currently living with AIDS**.**

**MSA:** Metropolitan Statistical Area: the Seattle MSA includes King, Snohomish, and Island counties.

**MSM:** Men who have sex with other men, whether or not they self-identify as homosexual; includes both homosexual and bisexual men.

**Median survival time:** The interval between the diagnosis of a specific illness (i.e. AIDS) and the point in time at which 50% of persons with this condition have died; often expressed in months for AIDS.

**NIR:** No identified risk. These are persons with no reported history of exposure to HIV through any of the routes listed in the hierarchy of exposure categories (e.g. in Table 4). NIR cases include persons whose risk is currently under investigation by local health department officials; persons whose exposure history is incomplete because they died, declined to be interviewed, or were lost to follow up; and persons who were interviewed or for whom other follow-up information was available and no exposure mode was identified. Persons who have an exposure mode identified at the time of follow-up are reclassified into the appropriate exposure category.

**Prevalence:** The number of existing cases in a population at a specific point in time. Example: The prevalence of HIV positive persons in King County in 1995 was 7,500.

**Rate:** A fixed ratio between two things; a quantity, amount, or degree of something measured per unit of something else, usually a period of time. Example: 55 miles per hour is a rate of speed; 55 cases per 100,000 population per year is an annual incidence rate.

**SI:** Severe immunosuppression defined as a CD4+ T-lymphocyte count $<200/mm^3$ or percent <14 of total lymphocytes. Under the expanded 1993 CDC AIDS case definition, SI in the presence of HIV infection is an AIDS-defining condition.

**SKCDPH:** Seattle-King County Department of Public Health.

**STD:** Sexually-transmitted disease.

**YPLL:** Years of potential life lost before a certain age (often 65). This measure is useful to compare the societal impact of mortality due to different causes.

# B. Data Sources

A summary of the main data sources used to develop the Seattle-King County **HIV/AIDS Epidemiology Profile for Community Planning** is presented below. Call the SKCDPH HIV/AIDS Epidemiology Program at (206) 296-4645 for additional information.

**King County AIDS/B1/B2 Case Registry (1982-ongoing)**
This database includes demographic, geographic, exposure, and some diagnostic and laboratory data for AIDS and B1/B2 (non-AIDS symptomatic HIV-related disease) cases who reside in King County at time of diagnosis. These data provide good population-based epidemiological information on AIDS in King County because AIDS case reporting is about 90% complete. AIDS reporting is the only source of population-based HIV epidemiology data and has been widely used for HIV/AIDS prevention and care services planning. B1/B2 reporting provides epidemiological data on the earlier stages of HIV infection and can contribute a more recent picture of the HIV epidemic. However, B1/B2 reporting is probably less than 60% complete and can not be considered population-based. AIDS and B1/B2 reporting data include limited information that is readily available in medical records. Because of the delay between acquisition of HIV infection and progression to AIDS, AIDS data may not accurately reflect the epidemiology of recently-infected populations. It is anticipated that Washington State will adopt HIV case reporting in mid-1999. Surveillance for all stages of HIV infection will greatly enhance our understanding of the current epidemiology of HIV/AIDS and assist in better planning for prevention and care services.

Basic cumulative AIDS statistics are published weekly and more detailed statistics are available in the **HIV/AIDS Quarterly Epidemiology Report**. The SKCDPH HIV/AIDS Epidemiology Program conducts AIDS/B1/B2 surveillance in King County and manages the King County data. With the assistance of local health departments, the Washington State Department of Health Infectious Disease and Reproductive Health Assessment Unit conducts surveillance in the rest of the state and manages the statewide case registry.

**Adult Spectrum of HIV-related Diseases Study (ASD) (1989-ongoing)**
The Adult Spectrum of HIV-related Diseases (ASD) Study is an ongoing medical record review follow-up study of persons with HIV infection seen in outpatient settings. ASD is funded by the Center for Disease Control and Prevention (CDC) and Seattle-King County is one of 11 participating sites nationwide. Demographic, exposure, clinical, laboratory, treatment, and health utilization information is gathered semi-annually. These data are representative of people with HIV infection seeking care at a variety of outpatient facilities in King County. Updates from the ASD study are published in the *HIV/AIDS Quarterly Epidemiology Report*. The SKCDPH HIV/AIDS Epidemiology Program manages this database.

**Record-based HIV Prevalence Surveys in Drug Treatment Centers (1988-ongoing)**
To monitor HIV seroprevalence in sentinel populations at higher risk of HIV infection, the CDC funds surveys in drug treatment centers in selected cities nationwide. These surveys are ongoing, anonymous, record-based HIV prevalence surveys which include HIV status, demographic, exposure, sexual, and injection drug behavior characteristics of drug users entering treatment. These data provide good epidemiological information on drug users entering drug treatment in King County, but can not be generalized beyond the surveyed population. These surveys do not provide information on HIV seroincidence. Updates from this study are published annually in the *HIV/AIDS Quarterly Epidemiology Report*. The SKCDPH HIV/AIDS Epidemiology Program manages this database.

**Record-based HIV Prevalence Surveys in STD Clinics (1988-ongoing)**
To monitor HIV seroprevalence in sentinel populations at higher risk of HIV infection, the CDC funds surveys in sexually-transmitted disease (STD) clinics in selected cites nationwide. In 1998, CDC reduced the number of sites funded for the STD survey and Seattle was among those defunded. The STD survey was continued with local funding in 1998; the status of the 1999 survey is uncertain. This anonymous

record-based HIV prevalence survey has been conducted annually at the SKCDPH STD clinic since 1988. Data collected include HIV status, demographic, exposure, sexual behavior and STD diagnoses. These data provide good epidemiological information on STD clinic clients, but can not be generalized beyond the surveyed populations. These surveys do not provide information on HIV seroincidence. Updates are published annually in the *HIV/AIDS Quarterly Epidemiology Report*. The SKCDPH HIV/AIDS Epidemiology Program manages this database.

**Record-based HIV Prevalence Surveys in Adolescents (1993 - 1994)**
Anonymous record-based HIV prevalence surveys funded by the CDC were conducted in a high risk adolescent population (1993) and at an adolescent health clinic (1993-94) in King County. Data include HIV status, demographics, sexual, and drug use behavior characteristics. Data from these surveys can not be generalized beyond the surveyed populations. These surveys do not provide information on HIV seroincidence. The SKCDPH HIV/AIDS Epidemiology Program manages this database.

**Interview Follow-up HIV Study of Injection Drug Users (RAVEN) (1994-ongoing)**
This study is funded by the National Institute for Drug Abuse (NIDA) and the CDC. Injection drug users in drug treatment programs and not in treatment programs are interviewed at baseline and one year later about sexual and drug use behaviors. HIV, hepatitis C, hepatitis B, HTLV I and II, herpes simplex virus type 2, and syphilis status are assessed at baseline and follow-up. This study provides information on the prevalence and incidence of HIV and other parenterally-transmitted pathogens among injection drug users both in and out of treatment and the relationship between past or newly acquired infection and sexual and drug use behaviors. Updates from the RAVEN study are published in the *HIV/AIDS Quarterly Epidemiology Report* and in peer-reviewed journals. The SKCDPH HIV/AIDS Epidemiology Program manages this database.

**Record-based HIV Survey of Childbearing Women (1989-May 1995)**
The HIV Survey of Childbearing Women was funded by the CDC and conducted statewide between 1989 and May 1995. The HIV status of childbearing women was assessed through anonymous testing of dried blood specimens from newborn infants. The database contains HIV status, demographic and geographic information on childbearing women and was the only population-based source of HIV data. Results from this study were published in the 3rd quarter 1996 *HIV/AIDS Quarterly Epidemiology Report*. The Washington State Department of Health Infectious Disease and Reproductive Health Assessment Unit manages this database.

**Seattle-King County Department of Public Health HIV Counseling and Testing Data (1987-ongoing)**
This database ("lab slip database") includes HIV results, demographic, and risk data for all publicly funded HIV counseling and testing (CT) sites. The SKCDPH HIV/AIDS Program (HAP) collects additional data on clients tested at HAP and HAP outreach sites and publishes the results in *The Quarterly Data Report of the HIV/AIDS Program*.

**Demographic, Socioeconomic, and Geographic Population Data**
Projected and adjusted demographic population data for King County and smaller geographical areas of King County are based on 1990 census data. (The next census will take place in 2000.) Sociodemographic data (i.e. household income, unemployment, and education) in this report are from 1990 census data. Income-related measures are current as of 1989 and education measures as of 1990. Population data are obtained from the Washington State Department of Social and Health Services, Office of Research and Analysis. Population growth forecasts were obtained from the King County Office of Budget and Strategic Planning and the Puget Sound Regional Council. Some of these data are available to the SKCDPH HIV/AIDS Epidemiology Program through the VISTA database and data analysis system developed by the SKCDPH Epidemiology, Planning and Evaluation Program.

**Mortality Statistics**
Death certificate information includes the cause of death for deaths occurring in King County. Persons with AIDS who die in King County are included regardless of where they resided at the time of their AIDS diagnosis (AIDS cases are reported in the county of residence at time of diagnosis). These data are available to the SKCDPH HIV/AIDS Epidemiology Program through the VISTA database and data analysis system. The mortality statistics are based on data collected by the SKCDPH's Office of Vital Statistics.

**Sexually Transmitted Disease Reporting Data**
This database includes demographic, geographic and diagnosis data on those sexually transmitted diseases (STD) which are legally notifiable under state administrative code. Statistics are compiled by the SKCDPH STD Program. These data are available to the SKCDPH HIV/AIDS Epidemiology Program through the VISTA database and data analysis system developed by the SKCDPH Epidemiology, Planning, and Prevention Program.

**Sexually Transmitted Disease Database**
This database includes demographic, geographic, diagnosis and sexual orientation data for clients seen at the Seattle-King County Department of Public Health (SKCDPH) Sexually Transmitted Disease (STD) Clinic. The SKCDPH STD Clinic manages this database.

**Teenage Pregnancy Data**
This database contains pregnancy data collected from birth certificates and provider reporting of induced abortions. Spontaneous abortions and fecal deaths (miscarriages after 20 weeks) are not included. These data are available to the SKCDPH HIV/AIDS Epidemiology Program through the VISTA database and data analysis system developed by the SKCDPH Epidemiology, Planning, and Prevention Program.

**Phone Survey of Men who Sex with Men (1992)**
This 1992 random digit dial survey includes information on HIV testing and HIV-related beliefs, attitudes, behaviors among men who have sex with men who resided in five Seattle neighborhoods. Articles from this study were published in the *HIV/AIDS Quarterly Epidemiology Report*, 1st and 3rd Qtr. 1994, and 3rd Qtr. 1995. Information on this survey is available from the SKCDPH HIV/AIDS Program Clinic Services group at 206-296-4848.

**Military Recruit Data (1985-97)**
Aggregated statistical results from HIV screening of military recruit applicants are published annually by the CDC. State and Metropolitan Statistical Area (MSA) specific results are available and include demographic (gender and race) and HIV prevalence information. Data for Washington State and the Seattle and Tacoma MSAs are available from the SKCDPH HIV/AIDS Epidemiology Program and are published annually in the *HIV/AIDS Quarterly Epidemiology Report.*

**Job Corps Data (1988-1997)**
Aggregated statistical results from HIV screening of entrants to the job corps—a residential occupational training program for disadvantaged youth administered by the Department of Labor—are provided to state and local health department by the CDC. Data include HIV prevalence and demographic information. Data for Washington State and the Seattle MSA are available from the SKCDPH HIV/AIDS Epidemiology Program and are published annually in the *HIV/AIDS Quarterly Epidemiology Report*.

**1995 Seattle Teen Health Survey**
This health behavior survey, which includes sexual behavior questions, is conducted biannually in Seattle schools and include students in grades 8 through 12. The 1995 survey included all high school students and a sample of 8th graders. Results from the 1995 survey were published in a report which is available from the Seattle School District's Health Curriculum Office.

# C. AIDSNET Regions and Counties

## Cumulative AIDS cases and deaths by resident county and AIDSNET region, at the time AIDS diagnosis, 1982-1997

| | | TOTAL CASES[1] | | DEATHS | | PRESUMED LIVING | |
|---|---|---|---|---|---|---|---|
| | | No. | (%)[2] | No. | (%)[3] | No. | (%)[3] |
| **Region 1:** | Adams | 2 | ( 0.0) | 0 | ( 0) | 2 | (100) |
| | Asotin | 12 | ( 0.1) | 4 | ( 33) | 8 | ( 67) |
| | Columbia | 3 | ( 0.0) | 2 | ( 67) | 1 | ( 33) |
| | Ferry | 4 | ( 0.0) | 3 | ( 75) | 1 | ( 25) |
| | Garfield | 0 | ( 0.0) | 0 | ( 0) | 0 | ( 0) |
| | Lincoln | 2 | ( 0.0) | 2 | (100) | 0 | ( 0) |
| | Okanogan | 16 | ( 0.2) | 6 | ( 38) | 10 | ( 63) |
| | Pend Oreille | 8 | ( 0.1) | 4 | ( 50) | 4 | ( 50) |
| | Spokane | 326 | ( 3.9) | 191 | ( 59) | 135 | ( 41) |
| | Stevens | 13 | ( 0.2) | 6 | ( 46) | 7 | ( 54) |
| | Walla Walla | 45 | ( 0.5) | 21 | ( 47) | 24 | ( 53) |
| | Whitman | 6 | ( 0.1) | 4 | ( 67) | 2 | ( 33) |
| | **SUBTOTAL** | **437** | **( 5.2)** | **243** | **( 56)** | **194** | **( 44)** |
| **Region 2:** | Benton | 56 | ( 0.7) | 25 | ( 45) | 31 | ( 55) |
| | Chelan | 29 | ( 0.3) | 19 | ( 66) | 10 | ( 34) |
| | Douglas | 2 | ( 0.0) | 2 | (100) | 0 | ( 0) |
| | Franklin | 13 | ( 0.2) | 8 | ( 62) | 5 | ( 38) |
| | Grant | 24 | ( 0.3) | 16 | ( 67) | 8 | ( 33) |
| | Kittitas | 13 | ( 0.2) | 7 | ( 54) | 6 | ( 46) |
| | Yakima | 106 | ( 1.3) | 56 | ( 53) | 50 | ( 47) |
| | **SUBTOTAL** | **243** | **( 2.9)** | **133** | **( 55)** | **110** | **( 45)** |
| **Region 3:** | Island | 47 | ( 0.6) | 31 | ( 66) | 16 | ( 34) |
| | San Juan | 14 | ( 0.2) | 9 | ( 64) | 5 | ( 36) |
| | Skagit | 42 | ( 0.5) | 27 | ( 64) | 15 | ( 36) |
| | Snohomish | 433 | ( 5.2) | 249 | ( 58) | 184 | ( 42) |
| | Whatcom | 117 | ( 1.4) | 60 | ( 51) | 57 | ( 49) |
| | **SUBTOTAL** | **653** | **( 7.8)** | **376** | **( 58)** | **277** | **( 42)** |
| **Region 4:** | King | 5525 | ( 65.9) | 3423 | ( 62) | 2102 | ( 38) |
| **Region 5:** | Kitsap | 144 | ( 1.7) | 91 | ( 63) | 53 | ( 37) |
| | Pierce | 700 | ( 8.4) | 409 | ( 58) | 291 | ( 42) |
| | **SUBTOTAL** | **844** | **( 10.1)** | **500** | **( 59)** | **344** | **( 41)** |
| **Region 6:** | Clallam | 35 | ( 0.4) | 18 | ( 51) | 17 | ( 49) |
| | Clark | 290 | ( 3.5) | 166 | ( 57) | 124 | ( 43) |
| | Cowlitz | 72 | ( 0.9) | 39 | ( 54) | 33 | ( 46) |
| | Grays Harbor | 35 | ( 0.4) | 20 | ( 57) | 15 | ( 43) |
| | Jefferson | 19 | ( 0.2) | 11 | ( 58) | 8 | ( 42) |
| | Klickitat | 9 | ( 0.1) | 7 | ( 78) | 2 | ( 22) |
| | Lewis | 32 | ( 0.4) | 23 | ( 72) | 9 | ( 28) |
| | Mason | 52 | ( 0.6) | 12 | ( 23) | 40 | ( 77) |
| | Pacific | 11 | ( 0.1) | 8 | ( 73) | 3 | ( 27) |
| | Skamania | 7 | ( 0.1) | 5 | ( 71) | 2 | ( 29) |
| | Thurston | 119 | ( 1.4) | 64 | ( 54) | 55 | ( 46) |
| | Wahkiakum | 0 | ( 0.0) | 0 | ( 0) | 0 | (0) |
| | **SUBTOTAL** | **681** | **( 8.1)** | **373** | **( 55)** | **308** | **( 45)** |
| **TOTAL** | | 8383 | (100.0) | 5048 | ( 60) | 3335 | ( 40) |

[1] Cases through 1997 and reported by 7/98; not adjusted for reporting delay

[2] Percent of Washington state cases (column %)

[3] Percent of individual county's cases (row %)

# D. POPULATION TABLES

## King County population by gender and race, 1998

| Location | Race/ethnicity | Total Pop. | Male Pop. | Female Pop. |
|---|---|---|---|---|
| King County | TOTAL | 1,671,733 | 831,538 | 840,195 |
| King County | White (non-Hispanic) | 1,319,771 | 655,738 | 664,033 |
| King County | Black (non-Hispanic) | 92,445 | 46,887 | 45,558 |
| King County | Am Ind/AK Native | 17,621 | 8,600 | 9,021 |
| King County | Asian/PI | 174,084 | 85,100 | 88,984 |
| King County | Hispanic | 67,812 | 35,213 | 32,599 |
| | | | | |
| Seattle | TOTAL | 538,926 | 266,042 | 272,884 |
| Seattle | White (non-Hispanic) | 365,400 | 179,333 | 186,067 |
| Seattle | Black (non-Hispanic) | 59,516 | 29,921 | 29,595 |
| Seattle | Am Ind/AK Native | 6,841 | 3,333 | 3,508 |
| Seattle | Asian/PI | 81,087 | 39,721 | 41,366 |
| Seattle | Hispanic | 26,082 | 13,734 | 12,348 |
| | | | | |
| KC-Seattle[2] | TOTAL | 1,132,807 | 565,496 | 567,311 |
| KC-Seattle[2] | White (non-Hispanic) | 954,371 | 476,405 | 477,966 |
| KC-Seattle[2] | Black (non-Hispanic) | 32,929 | 16,966 | 15,963 |
| KC-Seattle[2] | Am Ind/AK Native | 10,780 | 5,267 | 5,513 |
| KC-Seattle[2] | Asian/PI | 92,997 | 45,379 | 47,618 |
| KC-Seattle[2] | Hispanic | 41,730 | 21,479 | 20,251 |

## King County population by health planning area and race/ethnicity[1], 1998

| Health Planning Area | TOTAL | White (non-Hispanic) | Black (non-Hispanic) | Am Ind/ Ak Native | Asian/PI | Hispanic |
|---|---|---|---|---|---|---|
| **SEATTLE** | | | | | | |
| Central | 50,491 | 25,256 | 15,626 | 862 | 5,605 | 3,142 |
| North Central | 90,162 | 75,111 | 4,783 | 864 | 6,096 | 3,308 |
| North of Canal | 169,802 | 139,398 | 4,348 | 1,976 | 17,599 | 6,481 |
| North Seattle | 59,723 | 44,441 | 2,420 | 703 | 9,205 | 2,954 |
| SE Seattle | 90,358 | 22,720 | 27,576 | 1,257 | 33,089 | 5,716 |
| W Seattle | 78,390 | 58,474 | 4,763 | 1,179 | 9,493 | 4,481 |
| SUBTOTAL | 538,926 | 365,400 | 59,516 | 6,841 | 81,087 | 26,082 |
| **NON-SEATTLE** | | | | | | |
| Auburn | 102,116 | 88,365 | 1,800 | 2,366 | 5,501 | 4,084 |
| Bellevue | 79,391 | 64,445 | 2,040 | 281 | 9,822 | 2,803 |
| Bothell/Woodinville | 72,220 | 65,513 | 767 | 412 | 3,595 | 1,933 |
| Burien /Highline | 84,883 | 69,455 | 4,063 | 1,078 | 6,103 | 4,184 |
| E/NE County | 35,199 | 32,859 | 177 | 384 | 721 | 1,058 |
| Eastgate/Issaquah | 85,511 | 74,054 | 1,130 | 302 | 8,037 | 1,988 |
| Federal Way | 84,449 | 67,301 | 4,003 | 705 | 8,471 | 3,969 |
| Kent | 90,679 | 74,701 | 3,586 | 811 | 7,355 | 4,226 |
| Kirkland/Redmond | 155,241 | 135,274 | 2,628 | 804 | 11,581 | 4,954 |
| Mercer Island | 21,740 | 18,344 | 394 | 54 | 2,625 | 323 |
| N County | 70,151 | 57,798 | 1,055 | 538 | 8,502 | 2,258 |
| Renton | 87,597 | 71,429 | 4,176 | 845 | 8,099 | 3,048 |
| SE County | 85,008 | 78,443 | 966 | 900 | 2,304 | 2,395 |
| Vashon | 10,949 | 10,245 | 67 | 101 | 283 | 253 |
| White Center/Skyway | 67,673 | 46,145 | 6,077 | 1,199 | 9,998 | 4,254 |
| SUBTOTAL | 1,132,807 | 954,371 | 32,929 | 10,780 | 92,997 | 41,730 |
| KING COUNTY TOTAL | 1,671,733 | 1,319,771 | 92,445 | 17,621 | 174,084 | 67,812 |

[1]In this table, race categories (White (non-Hispanic), Black (non-Hispanic), Am Ind/AkNative, Asian/PI, and Hispanic) are mutually exclusive

## King County population by gender and age, 1998

| | AGE IN YEARS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **PLACE** | **Total pop.** | **0-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30-39** | **40-49** | **50-59** | **60-99** |
| **King Co.** | | | | | | | | | | |
| TOTAL | 1,671,733 | 227,651 | 116,950 | 107,309 | 93,035 | 111,732 | 295,524 | 299,518 | 186,545 | 233,469 |
| Males | 831,538 | 116,599 | 59,620 | 54,578 | 46,993 | 57,383 | 149,745 | 151,924 | 93,584 | 101,112 |
| Females | 840,195 | 111,052 | 57,330 | 52,731 | 46,042 | 54,349 | 145,779 | 147,594 | 92,961 | 132,357 |
| | | | | | | | | | | |
| **Seattle** | | | | | | | | | | |
| TOTAL | 538,926 | 59,220 | 28,961 | 29,397 | 32,680 | 40,806 | 106,223 | 93,739 | 54,744 | 93,156 |
| Males | 266,042 | 30,058 | 14,522 | 14,730 | 16,744 | 21,189 | 54,787 | 48,392 | 27,511 | 38,109 |
| Females | 272,884 | 29,162 | 14,439 | 14,667 | 15,936 | 19,617 | 51,436 | 45,347 | 27,233 | 55,047 |
| | | | | | | | | | | |
| **KC-Seattle[1]** | | | | | | | | | | |
| TOTAL | 1,132,807 | 168,431 | 87,989 | 77,912 | 60,355 | 70,926 | 189,301 | 205,779 | 131,801 | 140,313 |
| Males | 565,496 | 86,541 | 45,098 | 39,848 | 30,249 | 36,194 | 94,958 | 103,532 | 66,073 | 63,003 |
| Females | 567,311 | 81,890 | 42,891 | 38,064 | 30,106 | 34,732 | 94,343 | 102,247 | 65,728 | 77,310 |

## E. HIV/AIDS Epidemiology Information Resources

Seattle-King County Dept. of Public Health HIV/AIDS Epidemiology Program: (206) 296-4645

Seattle-King County Dept. of Public Health AIDS Prevention Project resource library: (206) 296-4649

Seattle-King County Dept. of Public Health AIDS Prevention Project hotline: (206) 296-4999

Seattle-King Department of Public Health Web homepage: http://www.metrokc.gov/health

See AIDS Information section

Washington State Dept. of Health AIDS Hotline: 1-800-272-AIDS (2437)

CDC National AIDS hotline:

1-800-342-AIDS (2437)
1-800-344-SIDA (7432) (Spanish)
1-800-243-7889 (Deaf access)

CDC National AIDS Clearinghouse 1-800-458-5231 or 1-301-217-0023

CDC HIV/AIDS Web homepage: http://www.cdc.gov/nchstp/hiv_aids/dhap.htm

HIV/AIDS Surveillance Report, CDC (semiannual)—National Clearinghouse or CDC Web homepage

World Health Organization (WHO) AIDS hotline: 1-202-861-4346