



## Facts About...

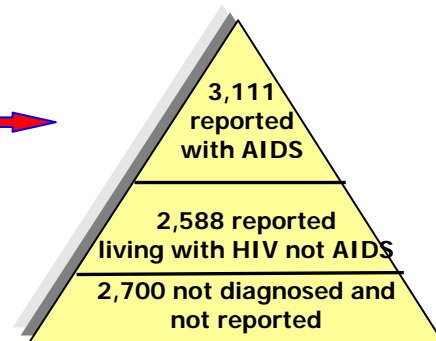
### HIV Infection in King County

**SUMMARY:** Many overlapping HIV epidemics make up the estimated 8,400 HIV-infected residents of King County, with striking variations in infection rates across different populations. Infection with HIV is largely predicted by sexual and needle-sharing practices. Sexually active gay and bisexual men in King County are at highest risk, with an estimated 16% infected. Meanwhile, about 4% of heterosexual injection drug users are infected. Excluding men who have sex with men and injection drug users, about 1 of every 1,000 persons who report neither HIV risk are infected. The rates of HIV infection also vary by sex, race, age, and residence. Rates are higher among African Americans, Hispanics, and Native Americans compared with Whites and Asian & Pacific Islanders. Rates are also higher among men, people aged 30-45 years, and residents of Seattle. An increasing proportion of the 350-400 new HIV diagnoses each year are among Blacks, foreign-born people, and people with heterosexual-acquired transmission. These variations emphasize the need to target HIV prevention programs to specific populations at risk.

#### KING COUNTY RESIDENTS CURRENTLY LIVING WITH HIV/AIDS (Table 1):

- As of December 2001, the Washington Department of Health estimated 12,000 - 13,000 Washington residents are infected with HIV, including persons living with AIDS<sup>1</sup>. Because 64.2% of reported HIV and AIDS cases statewide are residents of King County, we estimate 7,200 to 8,400 King County residents currently living with HIV infection or AIDS. Although this estimate is still approximately correct, Public Health will update the estimate in 2006.
- The estimated 8,400 King County residents currently living with HIV/AIDS include 3,111 who have developed severe complications of HIV infection, or AIDS. The remaining 5,300 have HIV infection but have not developed AIDS.
- CDC estimates that one-quarter to one-third of all HIV infected persons in the US are undiagnosed and unaware of their status<sup>2</sup>. Among the 5,300 persons with HIV infection but not AIDS, 2,588 have been reported to Public Health, an estimated 700 are diagnosed with HIV but have not been reported, and perhaps 2,000 are undiagnosed and unaware of their infection status.
- An additional 4,186 persons diagnosed with HIV or AIDS in King County have died over the past two decades.

**An Estimated 8,400 Persons  
Currently Live with HIV or  
AIDS in King County**



- An estimated 16% of sexually active men who have sex with men (MSM) are infected with HIV. MSM who also inject drugs have an even higher HIV infection rate, with perhaps 25% infected.
- About 4% of heterosexual drug injectors (IDU) are infected with HIV.
- About 15% of the estimated 175 to 200 persons with inherited severe bleeding disorders (hemophilia) in King County are HIV-infected. These infections occurred prior to screening of blood products for HIV in 1985.

Table 1. Seattle and King County residents living with HIV or AIDS as of 9/30/2005

Demographic Characteristics of King County Residents	Actual Reports		Estimated Prevalence		
	Number Reported	Percent	Estimated Number	2000* Population	Percent of Population
<b>King County Total</b>	5,699	100	8,400	1,737,034	0.5%
<b>SEX</b>					
Male	5,151	90	7,630	864,457	0.8%
Female	548	10	770	872,577	0.1%
<b>RACE/ETHNICITY</b>					
White, not Hispanic	4,028	71	6,150	1,309,120	0.5%
Black, not Hispanic	899	16	1,240	105,205	1.2%
Hispanic	507	9	690	95,242	0.7%
Asian/ Pacific Islander**	138	2	180	210,156	0.1%
Native American/ Alaska Native**	83	1	140	17,311	0.8%
Unknown or Multiple Race**	44	<1	N.A.	Not applicable	N.A.
<b>SEX &amp; RACE/ETHNICITY</b>					
White** Female	213	4	320	659,849	<0.1%
White** Male	3,815	67	5,810	649,271	0.9%
Black** Female	248	4	330	51,310	0.6%
Black** Male	651	11	940	53,895	1.7%
Hispanic Female	43	<1	60	43,580	0.1%
Hispanic Male	464	8	620	51,662	1.2%
Asian & Pacific Islander** Female	14	<1	<50	109,111	<0.1%
Asian/ Pacific Islander** Male	124	2	150	101,045	0.1%
Am Indian / Alaskan N** Female	26	<1	<50	8,727	<0.6%
Am Indian / Alaskan N** Male	57	1	100	8,584	1.2%
Unknown or Multiple Race** Female	4	<1	N.A.	Not applicable	N.A.
Unknown or Multiple Race** Male	40	<1	N.A.	Not applicable	N.A.
<b>HIV EXPOSURE CATEGORY</b>					
Men who have sex w/men (MSM)	3,993	70	6,310	40,000	16%
Injection drug user (IDU)	347	6	620	15,000	4.1%
MSM-IDU	491	9	800	3,150	25%
Blood product exposure	37	1	70	Unknown	Unknown
Heterosexual contact	427	7	560	1,245,000	0.05%
Perinatal exposure	20	<1	<50	Unknown	Unknown
SUBTOTAL- known risk	5,315	93	8,400	Not applicable	N.A.
Undetermined/ other	384	7	N.A.	Not applicable	N.A.
<b>AGE AT HIV DIAGNOSIS</b>					
0-14 years	21	1			
15-19 years	105	2	210	434,736	<0.1%
20-24 years	579	10	830	116,597	0.7%
25-29 years	1,110	19	1,680	141,795	1.2%
30-39 years	2,492	44	3,680	308,187	1.2%
40-49 years	1,097	19	1,560	292,470	0.5%
50 years and over	285	5	440	443,249	0.1%
<b>PLACE OF BIRTH</b>					
Native-born	4,741	83	7,350	1,468,749	0.5%
Foreign-born	680	12	1,050	268,285	0.4%
Unknown birthplace	278	5	N.A.	Not applicable	N.A.

\* 2000 Census Population as of April 1, 2000, with race estimates 'bridged' into mutually exclusive categories. The populations among HIV exposure categories were drawn from a variety of sources. The midpoint estimated population is shown for MSM (range 30,000 to 50,000), and MSM/IDU (range 2,500 to 3,800).

\*\* and not Hispanic

\*\*\* Residence as best determined from zip code.

**KING COUNTY RESIDENTS CURRENTLY LIVING WITH HIV/AIDS (Continued):**

- Among the estimated 1.2 million King County residents who are heterosexual (i.e. not MSM or IDU), fewer than one tenth of one percent are infected (<0.1%).
- The estimated HIV prevalence rate is higher among African Americans (1.2%), Native Americans (0.8%), and Hispanics (0.7%), than among Whites (0.5%) or Asian or Pacific Islanders (0.1%).
- The estimated HIV prevalence rate among White men (0.9%) is about half that for African American men (1.7%), and lower than for Hispanic men (1.2%) and Native American men (1.2%).
- Data from the Survey of Childbearing Women between January 1989 and May, 1995 showed one of every 2,400 King County women giving birth were HIV infected (0.04%), with no change over time. The rate of HIV infection was ten times higher among African American women giving birth than for White women giving birth (0.3% vs. 0.03%). Although this survey ended in 1995, these data may still be the best existing measure of the general low-risk population.
- A much higher proportion of Seattle residents (1.3%) are HIV infected, compared with King County residents living outside Seattle (0.1%). While 32% of King County residents live in Seattle, about 83% of King County's HIV-infected residents live there.
- Most King County residents reported with HIV were age 25-29 (20%), age 30-34 (23%), or age 35-39 (20%) at the time of diagnosis. Only 2% of persons were under age 20. This distribution has remained largely unchanged throughout the epidemic.
- The age distribution is different among males and females. Many females are younger than males when first diagnosed with HIV. This is probably because most women are heterosexually infected and tend to be younger than their male partners.
- Ninety percent of persons living with HIV or AIDS in King County are male and 10% are female. Most are White (71%), 16% are Black, 9% Hispanic, 2% Asian & Pacific Islander, and 1% are Native American. Seven percent of cases have no acknowledged behavioral exposure to HIV (using the standard CDC-defined categories). Among cases with known exposure, 75% are men who have sex with men (MSM), 9% are MSM who also inject drugs (MSM-IDU), 9% are injection drug users (IDU), and 8% report having a heterosexual partner with HIV or at risk of HIV infection.

**PERSONS LIVING WITH HIV AND AIDS BY GENDER, RACE/ETHNICITY, AND EXPOSURE CATEGORY (Table 2):**

- The distribution of exposure categories differs by race and gender. MSM exposure is the most common among all males, accounting for 85% of known exposures among White men, 61% among Black men, 79% among Hispanic men, 87% among Asian & Pacific Islander men, and 56% among Native American men. MSM-IDU is the second most common known exposure among White men (11%), Hispanic men (8%), and Native American men (26%). Heterosexual is second among Black men (18%), and Asian men (5%).
- Heterosexual transmission is the most common known exposure among women who are White (61%), Black (66%), Hispanic (77%), or Asians/Pacific Islander (78%). Among the few Native American/Alaska Native female cases, IDU is the most common known risk behavior (71%), while 29% had heterosexual partners at risk.

**Table 2: King County Residents Living with HIV or AIDS as of 9/30/2005  
Sex by Race / Ethnicity by Mode of Exposure**

	White		Black		Hispanic		Asian / PI <sup>2</sup>		Native Amer.		Total <sup>1</sup>	
	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct
<b>MALES</b>												
<b>MSM</b>	3,171	79%	333	37%	337	66%	96	70%	30	36%	3,993	70%
<b>IDU</b>	109	3%	74	8%	31	6%	3	2%	7	8%	228	4%
<b>MSM/IDU</b>	397	10%	37	4%	34	7%	4	3%	14	17%	491	9%
<b>Heterosexual</b>	46	1%	97	11%	20	4%	5	4%	2	2%	171	3%
<b>Blood Exposure</b>	17	0%	1	0%	2	1%	1	1%	0	0%	21	0%
<b>Perinatal</b>	1	0%	3	1%	0	0%	1	1%	0	0%	5	0%
<b>Unknown or Other</b>	74	2%	106	12%	40	8%	14	10%	4	5%	242	4%
<b>Subtotal Males</b>	3,815	95%	651	72%	464	92%	124	90%	57	69%	5,151	90%
<b>FEMALES</b>												
<b>IDU</b>	61	2%	37	4%	4	1%	0	0%	17	20%	119	2%
<b>Heterosexual</b>	107	3%	108	12%	23	5%	7	5%	7	8%	256	4%
<b>Blood Exposure</b>	4	0%	10	1%	1	0%	1	1%	0	0%	16	0%
<b>Perinatal</b>	4	0%	8	1%	2	0%	1	1%	0	0%	16	0%
<b>Unknown or Other</b>	37	1%	85	9%	13	3%	5	4%	2	2%	142	2%
<b>Subtotal Females</b>	213	5%	248	28%	43	8%	14	10%	26	31%	548	10%
<b>Total M + F</b>	4,028	100%	899	100%	507	100%	138	100%	83	100%	5,699	100%

1. Nine persons of unknown race are included in the total column.

2. PI = Pacific Islander

#### TRENDS IN HIV AMONG KING COUNTY RESIDENTS (Table 3, Figures 2 and 3):

We analyzed trends based upon the year of initial diagnosis with HIV infection. Although HIV reporting data are still incomplete, the number of new diagnoses appears level at 350-400 new diagnoses each year since 1998. The trends discussed below are based upon changes in proportions over time. This allows direct comparison of time periods with varying total numbers of persons diagnosed. It also allows comparison of two groups that are changing at different rates, and allows analysis of incomplete data. Trend data are based on the year that HIV infection was diagnosed, regardless of how long each person may have been infected before being tested.

Using data reported through September 2005, we compared the characteristics of persons first diagnosed with HIV infection during 1996-1998, to those diagnosed 1999-2001, and in 2002-2004. A chi-square test for trend was used to determine if the change in proportions for each group was statistically significant over those three periods. The statistically significant changes are shown in Table 3; only the significant changes are discussed below. These may demonstrate shifts in the epidemic, artifacts from implementing surveillance for HIV infection in 1999, or longer delays in getting tested among some groups.

- The percentage of new diagnoses among persons with a known risk of a heterosexual sex partner with a known risk factor for HIV infection increased from 6% (1996-98) to 11% (2002-04).
- The proportion of new diagnoses among White men has declined from 66% (1996-98) to 57% (2002-04), mostly due to the leveling in diagnoses among MSM. However, the proportion of new diagnoses has increased among Black men (11% to 16%).
- As heterosexual transmission has increased, new HIV/AIDS cases among Black females have also risen, from 3% of total cases (1996-98) to 6% (2002-04).

**Table 3: Demographic characteristics by year of HIV diagnosis among 9,700 King County residents diagnosed through 2004 and reported to Public Health through 09/30/2005\***

	1982-1989		1990-1992		1993-1995		1996-1998		1999-2001		2002-2004		Trend**
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
<b>TOTAL</b>	<b>2,850</b>	<b>100</b>	<b>1,970</b>	<b>100</b>	<b>1,536</b>	<b>100</b>	<b>1,119</b>	<b>100</b>	<b>1,144</b>	<b>100</b>	<b>1,081</b>	<b>100</b>	
<b>HIV Exposure Category</b>													
Men having sex w/men (MSM)	2,239	(79)	1,485	(75)	1,119	(73)	764	(68)	754	(66)	705	(65)	
Injection drug user (IDU)	128	(4)	117	(6)	100	(7)	77	(7)	78	(7)	69	(6)	
MSM-IDU	334	(12)	223	(11)	137	(9)	95	(8)	81	(7)	76	(7)	
Heterosexual contact	53	(2)	67	(3)	85	(6)	64	(6)	132	(12)	114	(11)	up
Blood product exposure	56	(2)	24	(1)	9	(1)	6	(1)	8	(1)	3	(0)	
Perinatal exposure	7	(0.2)	9	(0.5)	5	(0.3)	3	(0.3)	4	(0.3)	0	(0.0)	
SUBTOTAL- known risk	2,817		1,925		1,455		1,009		1,057		967		
Undetermined/ other	33	(1)	45	(2)	81	(5)	110	(10)	87	(8)	114	(11)	
<b>Sex &amp; Race/Ethnicity</b>													
<b>Male</b>	2,745	(96)	1,867	(95)	1,414	(92)	1,012	(90)	1,008	(88)	960	(89)	
White Male	2,392	(84)	1,530	(78)	1,090	(71)	734	(66)	692	(60)	612	(57)	down
Black Male	189	(7)	175	(9)	173	(11)	123	(11)	156	(14)	173	(16)	up
Hispanic Male	98	(3)	102	(5)	103	(7)	106	(9)	107	(9)	109	(10)	
Asian / PI Male***	29	(1)	39	(2)	18	(1)	28	(3)	34	(3)	33	(3)	
Native American Male	33	(1)	13	(1)	24	(2)	16	(1)	10	(1)	13	(1)	
Multiple or unknown race Male	4	(0)	8	(0)	6	(0)	5	(0)	9	(1)	20	(2)	
<b>Female</b>	105	(4)	103	(5)	122	(8)	107	(10)	136	(12)	121	(11)	
White Female	66	(2)	61	(3)	55	(4)	49	(4)	44	(4)	33	(3)	
Black Female	26	(1)	30	(2)	46	(3)	39	(3)	72	(6)	66	(6)	up
Hispanic Female	3	(0)	4	(0)	14	(1)	5	(0)	14	(1)	8	(1)	
Asian / PI Female***	3	(0)	3	(0)	1	(0)	6	(1)	1	(0)	4	(0)	
Native American Female	5	(0)	5	(0)	4	(0)	8	(1)	3	(0)	8	(1)	
Multiple or unk. race Female	2	(0)	0	(0)	2	(0)	0	(0)	2	(0)	2	(0)	
<b>Race/Ethnicity</b>							1119		1144		1081		
White, not Hispanic	2,458	(86)	1,591	(81)	1,145	(75)	783	(70)	736	(64)	645	(60)	down
Black, not Hispanic	215	(8)	205	(10)	219	(14)	162	(14)	228	(20)	239	(22)	up
<i>Foreign-born Black</i>	9	(0)	18	(1)	22	(1)	42	(4)	87	(8)	101	(9)	up
<i>U.S.-born Black</i>	204	(7)	186	(9)	192	(13)	114	(10)	32	(3)	137	(13)	
Hispanic	101	(4)	106	(5)	117	(8)	111	(10)	121	(11)	117	(11)	
Asian / Pacific Islander	32	(1)	42	(2)	19	(1)	34	(3)	35	(3)	37	(3)	
Native American/AK Native	38	(1)	18	(1)	28	(2)	24	(2)	13	(1)	21	(2)	
Multiple or unknown race	6	(0)	8	(0)	8	(0)	5	(0)	11	(1)	22	(2)	up
<b>Age at diagnosis of HIV</b>													
0-19 years	65	(2)	33	(2)	19	(1)	20	(2)	21	(2)	11	(1)	
20-29	907	(32)	522	(26)	391	(25)	255	(23)	263	(23)	233	(22)	
30-39	1,260	(44)	878	(45)	679	(44)	522	(47)	521	(46)	464	(43)	
40-49	464	(16)	410	(21)	327	(21)	241	(22)	264	(23)	279	(26)	up
50-59	124	(4)	94	(5)	105	(7)	66	(6)	66	(6)	78	(7)	
60+	30	(1)	33	(2)	15	(1)	15	(1)	9	(1)	16	(1)	
<b>King County Residence</b>													
City of Seattle	2,514	(88)	1,726	(88)	1,312	(85)	925	(83)	956	(83)	840	(78)	down
North and East King County	171	(6)	121	(6)	107	(7)	87	(8)	68	(8)	95	(9)	
South and West King County	165	(6)	123	(6)	117	(8)	107	(10)	120	(10)	146	(14)	up

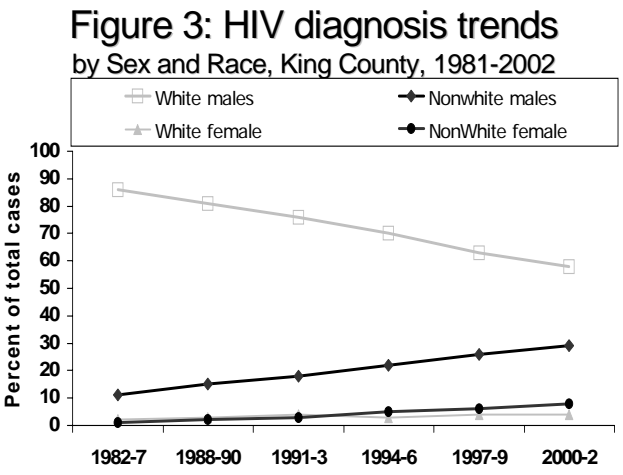
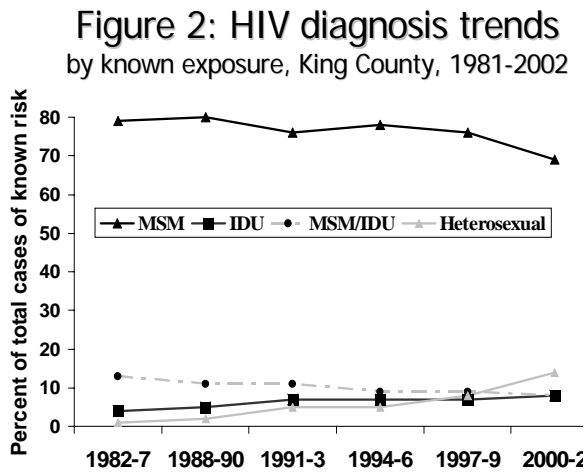
\* Includes persons diagnosed with AIDS or who later developed AIDS

\*\* Indicates statistically significant (p<.05) trend in the proportion of cases by 3-year interval between 1996 and 2004

\*\*\* PI = Pacific Islander

While the proportion of new HIV diagnoses has declined among Whites (from 70% to 60%), the proportion of new diagnoses among Blacks increased (from 14% to 22%) between 1996-98 and 2002-04. Much of this increase can be explained by near doubling of the number of foreign born Blacks entering the country including some as a part of HIV/AIDS refugee resettlement programs (4% in 1996-98 to 9% in 2002-04).

- Persons newly diagnosed with HIV/AIDS are increasingly more likely to reside in King County, outside of Seattle proper (from 17% in 1996-98 to 22% in 2002-04).
- During the period 2002 through 2004, there were no new HIV/AIDS diagnoses among children under 13, and eleven among teens age 13-19 years. Eight percent of new diagnoses were persons 20-24 years old, 14% were 25-29 years old, 43% were 30-39 years old, 26% were 40-49 years of age, and 9% were age 50 or older.



**Measures of HIV Incidence:** The trend analyses presented above are limited because they depend upon the diagnosis of HIV infection, yet we know some individuals may be infected for ten years or longer before diagnosis. HIV incidence data tell us the number of persons actually *infected* within a given period of time. One method of deriving HIV incidence data is to conduct repeated testing among certain individuals and note when a negative test is followed by a positive result. A second method is the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS), which uses a modified (less-sensitive) HIV enzyme-linked immunosorbant assay (LS-EIA) to identify recently infected persons, permitting incidence estimates based on single tests rather than requiring repeated testing. Both methods measure only persons who present for HIV testing at selected sites, and may not fully represent the infected population.

- Among King County men who have sex with men (MSM) who were tested more than once at the Public Health HIV/AIDS Program alternative test site between 1986 and 1998, HIV incidence ranged between 1.3 and 1.7 per 100 person-years. (Data not shown)
- STARHS incidence was measured among all persons who underwent HIV testing at PHSKC testing sites in King County (excluding jails). Between 1997 and 2004, overall annual HIV incidence ranged between 0.6 and 1.0 per 100 person-years. In 2003-2004, overall incidence was 0.8 per 100 person-years (95% CI: 0.5, 1.4). Incidence was highest among MSM-IDU (3.8 per 100 person-years [95% CI: 1.2, 10.0]) and MSM (2.8 per 100 person-years [95% CI: 1.7, 4.8]). No consistent trend in incidence was observed for any risk population (data not shown).

References

1. HIV Prevalence Estimation in Washington (working document)
2. Glynn M., Rhodes P. Estimated HIV prevalence in the United States at the end of 2003 (Abstract T1-B1101). Presented at the National HIV Prevention Conference, Atlanta GA, June 2005.