hiv/aids

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EPIDEMIOLOGY REPORT

WASHINGTON STATE • SEATTLE & KING COUNTY

Washington State/Seattle-King County HIV/AIDS Epidemiology Report

Summary Tables

HIV/AIDS Epidemiology and Surveillance News

Credits

This is the sixtieth edition of a report on the epidemiology of HIV and AIDS. Produced as a joint project by Public Health-Seattle & King County and the Washington State Infectious Disease and Reproductive Health Assessment Unit, it is funded in part by a Centers for Disease Control and Prevention cooperative agreement for HIV/AIDS surveillance. We wish to thank the health care providers caring for people with HIV/AIDS and the clinics and patients participating in epidemiologic studies. Their cooperation with the public health departments' HIV/AIDS control efforts provides the basis for the data presented in this report. We also wish to acknowledge the outstanding assistance of our staff including Beth Sohlberg, Linda Oakley, Tom Davis, Laura Arnold, Peter deTurk and Betsy Klebanoff-Hills at Public Health-Seattle & King County, and Mark Charonis, Sandy Hitchock, Anna Meddaugh, Laraine Shann at the Washington State Infectious Disease and Reproductive Health (IDRH) Assessment Unit.

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HIV/AIDS Reporting Requirements

Washington State implemented HIV infection reporting on September 1, 1999. Health care providers are required to report all HIV infections, regardless of the date of the patient's initial diagnosis, to the local health department. However, the requirement is limited to those patients who seek HIV care or are tested on or after September 1, 1999.

Local health department officials forward case reports to the State Department of Health, replacing the name of the patient with a standard code prior to forwarding if the report indicates asymptomatic infection. As has been the case since 1984, AIDS and symptomatic HIV case reports are not subject to coding.

Laboratory evidence of HIV infection (i.e., western blot assays, p24 antigen detection, viral culture, nucleic acid detection [viral load]) also became reportable by laboratories effective September 1, 1999. Low CD4 counts (<200/ul or <14% of total lymphocytes) already have been reportable since 1993. However, laboratory reporting does not relieve health care providers of their duty to report since most of the critical information necessary for surveillance and follow-up is not available for reporting by laboratories.

For further information about HIV/AIDS reporting requirements, please call your local health department or the Washington Department of Health at 1-888-367-5555. In King County contact the HIV/AIDS Epidemiology Program at (206) 296-4645.

The HIV/AIDS Epidemiology Program's publications are also on the internet at:
www.metrokc.gov/health/apu/epi

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Alternative Formats Provided Upon Request.

Table 1. Surveillance of reported AIDS[1] cases, deaths, and persons living with AIDS by time of case report - King County, other WA counties, all WA state, U.S.

		Adult/Adolescent	Pediatric[2]	Total
King County	*New cases reported in 2nd half 2002*	120	0	120
	Cases reported year to date	278	0	278
	Cumulative Cases	6,666	14	6,680
	Cumulative Deaths	3,755	8	3,763
	Persons Living[3]	2,911	6	2,917
Other Counties	*New cases reported in 2nd half 2002*	77	0	77
	Cases reported year to date	184	0	184
	Cumulative Cases	3,686	18	3,704
	Cumulative Deaths	1,921	11	1,932
	Persons Living[3]	1,765	7	1,772
WA State	*New cases reported in 2nd half 2002*	197	0	197
	Cases reported year to date	462	0	462
	Cumulative Cases	10,352	32	10,384
	Cumulative Deaths	5,676	19	5,695
	Persons Living[3]	4,676	13	4,689
U.S.	*Cases reported as of 12/31/01[4]*			
	Cumulative Cases	807,075	9,074	816,149
	Cumulative Deaths	462,653	5,257	467,910
	Persons Living[3]	344,422	3,817	348,239

[1]AIDS by 1993 surveillance case definition

[2]Age < 13 years at time of AIDS diagnosis

[3]Persons reported with AIDS and not known to have died

[4]Most recent date that complete U.S. statistics are available

Table 2. Cumulative AIDS case counts and deaths by resident county and AIDSNet region at diagnosis - Reported as of 12/31/02 - WA State

		TOTAL CASES		DEATHS		PRESUMED LIVING	
		Number	(%)[1]	Number	(%)[2]	Number	(%)[2]
Region 1	Adams	4	(0.0)	1	(0.0)	3	(0.1)
	Asotin	14	(0.1)	6	(0.1)	8	(0.2)
	Columbia	3	(0.0)	3	(0.1)	0	(0.0)
	Ferry	7	(0.1)	6	(0.1)	1	(0.0)
	Garfield	0	(0.0)	0	(0.0)	0	(0.0)
	Lincoln	3	(0.0)	2	(0.0)	1	(0.0)
	Okanogan	21	(0.2)	7	(0.1)	14	(0.3)
	Pend Orille	8	(0.1)	5	(0.1)	3	(0.1)
	Spokane	425	(4.1)	237	(4.2)	188	(4.0)
	Stevens	20	(0.2)	7	(0.1)	13	(0.3)
	Walla Walla	57	(0.5)	28	(0.5)	29	(0.6)
	Whitman	10	(0.1)	4	(0.1)	6	(0.1)
	Subtotal R1	**572**	**(5.5)**	**306**	**(5.4)**	**266**	**(5.7)**
Region 2	Benton	73	(0.7)	31	(0.5)	42	(0.9)
	Chelan	32	(0.3)	20	(0.4)	12	(0.3)
	Douglas	2	(0.0)	2	(0.0)	0	(0.0)
	Franklin	33	(0.3)	12	(0.2)	21	(0.4)
	Grant	28	(0.3)	19	(0.3)	9	(0.2)
	Kittitas	14	(0.1)	9	(0.2)	5	(0.1)
	Klickitat	11	(0.1)	8	(0.1)	3	(0.1)
	Yakima	142	(1.4)	71	(1.2)	71	(1.5)
	Subtotal R2	**335**	**(3.2)**	**172**	**(3.0)**	**163**	**(3.5)**
Region 3	Island	55	(0.5)	33	(0.6)	22	(0.5)
	San Juan	17	(0.2)	10	(0.2)	7	(0.1)
	Skagit	48	(0.5)	27	(0.5)	21	(0.4)
	Snohomish	542	(5.2)	283	(5.0)	259	(5.5)
	Whatcom	146	(1.4)	74	(1.3)	72	(1.5)
	Subtotal R3	**808**	**(7.8)**	**427**	**(7.5)**	**381**	**(8.1)**
Region 4	King	6,680	(64.3)	3,763	(66.1)	2,917	(62.2)
Region 5	Kitsap	184	(1.8)	101	(1.8)	83	(1.8)
	Pierce	933	(9.0)	497	(8.7)	436	(9.3)
	Subtotal R5	**1,117**	**(10.8)**	**598**	**(10.5)**	**519**	**(11.1)**
Region 6	Clallam	49	(0.5)	25	(0.4)	24	(0.5)
	Clark	381	(3.7)	192	(3.4)	189	(4.0)
	Cowlitz	85	(0.8)	48	(0.8)	37	(0.8)
	Grays Harbor	46	(0.4)	23	(0.4)	23	(0.5)
	Jefferson	24	(0.2)	13	(0.2)	11	(0.2)
	Lewis	38	(0.4)	25	(0.4)	13	(0.3)
	Mason	67	(0.6)	17	(0.3)	50	(1.1)
	Pacific	17	(0.2)	8	(0.1)	9	(0.2)
	Skamania	7	(0.1)	5	(0.1)	2	(0.0)
	Thurston	156	(1.5)	73	(1.3)	83	(1.8)
	Wahkiakum	2	(0.0)	0	(0.0)	2	(0.0)
	Subtotal R6	**872**	**(8.4)**	**429**	**(7.5)**	**443**	**(9.4)**
Total		**10,384**	**(100.0)**	**5,695**	**(100.0)**	**4,689**	**(100.0)**

[1]Percent of Washington State cases (column %)
[2]Percent of individual county's cases (row %)

Table 3. Demographic characteristics of cumulative reported AIDS[1] cases - King County, other Washington Counties, All Washington State, United States

	King County 12/31/2002		Other Counties 12/31/2002		All Washington 12/31/2002		Total U.S. 12/31/2001[2]	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Sex								
Male	6,316	(95)	3,234	(87)	9,550	(92)	670,687	(82)
Female	364	(5)	470	(13)	834	(8)	145,461	(18)
Unknown Sex	0	(0)	0	(0)	0	(0)	1	(<1)
Age Group								
Under 13	14	(<1)	18	(<1)	32	(<1)	9,074	(1)
13-19	12	(<1)	27	(1)	39	(<1)	4,428	(1)
20-29	1,093	(16)	700	(19)	1,793	(17)	133,725	(16)
30-39	3,241	(49)	1,615	(44)	4,856	(47)	362,021	(44)
40-49	1,721	(26)	919	(25)	2,640	(25)	216,387	(27)
50-59	482	(7)	291	(8)	773	(7)	66,060	(8)
60 and over	117	(2)	134	(4)	251	(2)	24,453	(3)
Unknown Age	0	(0)	0	(0)	0	(0)	1	(<1)
Race / Ethnicity								
White non Hispanic	5,260	(79)	2,919	(79)	8,179	(79)	343,889	(42)
Black non-Hispanic	763	(11)	339	(9)	1,102	(11)	313,180	(38)
Hispanic	430	(6)	288	(8)	718	(7)	149,752	(18)
Asian/Pacific Islander	129	(2)	59	(2)	188	(2)	6,157	(1)
American Indian/Alaskan Native	98	(1)	85	(2)	183	(2)	2,537	(<1)
Unknown Race	0	(0)	14	(<1)	14	(<1)	634	(<1)
HIV Exposure Category								
Male-male sex	4,967	(74)	2,037	(55)	7,004	(67)	368,971	(45)
Injection drug use (IDU)	390	(6)	552	(15)	942	(9)	201,326	(25)
IDU & male-male sex	688	(10)	349	(9)	1,037	(10)	51,293	(6)
Heterosexual contact	275	(4)	347	(9)	622	(6)	90,131	(11)
Hemophilia	31	(0)	58	(2)	89	(1)	5,528	(1)
Transfusion	54	(1)	68	(2)	122	(1)	9,352	(1)
Mother at risk/has HIV	13	(<1)	15	(<1)	28	(<1)	8,284	(1)
Undetermined/other[3]	262	(4)	278	(8)	540	(5)	81,264	(10)
Total Cases	**6,680**	**(100)**	**3,704**	**(100)**	**10,384**	**(100)**	**816,149**	**(100)**

[1]AIDS by 1993 surveillance case definition

[2]Most recent date that complete U.S. statistics are available

[3]Includes persons for whom exposure information is incomplete (due to death, refusal to be interviewed, or loss to follow-up), patients still under investigation, patients whose only risk was heterosexual contact where the risk of the sexual partner wasundetermined, persons exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined.

Table 4A. Cumulative AIDS[1] cases by gender, race/ethnicity, and HIV exposure cateorgy, reported as of 12/31/02 - King County

EXPOSURE CATEGORY	WHITE[2]		BLACK[2]		HISPANIC		ASIAN/PI[2,3]		AM INDIAN[4]		TOTAL	
	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)
MALE												
Male-male sex	4,177	(82)	360	(56)	289	(71)	94	(79)	47	(59)	**4,967**	**(79)**
Injection drug use (IDU)	152	(3)	85	(13)	39	(10)	3	(3)	9	(11)	**288**	**(5)**
IDU & male-male sex	559	(11)	69	(11)	33	(8)	7	(6)	20	(25)	**688**	**(11)**
Heterosexual contact	31	(1)	51	(8)	13	(3)	1	(1)	2	(3)	**98**	**(2)**
Hemophilia	29	(1)	1	(<1)	0	(0)	1	(1)	0	(0)	**31**	**(<1)**
Transfusion	27	(1)	2	(<1)	3	(1)	2	(2)	0	(0)	**34**	**(1)**
Mother at risk/has HIV	2	(<1)	3	(0)	0	(0)	0	(0)	0	(0)	**5**	**(<1)**
Undetermined / other	95	(2)	69	(11)	28	(7)	11	(9)	2	(3)	**205**	**(3)**
MALE SUBTOTAL	**5,072**	**(80)**	**640**	**(10)**	**405**	**(6)**	**119**	**(2)**	**80**	**(1)**	**6,316**	**(100)**
FEMALE												
Injection drug use (IDU)	51	(27)	37	(30)	2	(8)	0	(0)	12	(67)	**102**	**(28)**
Heterosexual contact	97	(52)	56	(46)	16	(64)	4	(40)	4	(22)	**177**	**(49)**
Hemophilia	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	**0**	**(0)**
Transfusion	13	(7)	5	(4)	1	(4)	1	(10)	0	(0)	**20**	**(5)**
Mother at risk/has HIV	3	(2)	3	(2)	2	(8)	0	(0)	0	(0)	**8**	**(2)**
Undetermined / other	24	(13)	22	(18)	4	(16)	5	(50)	2	(11)	**57**	**(16)**
FEMALE SUBTOTAL	**188**	**(52)**	**123**	**(34)**	**25**	**(7)**	**10**	**(3)**	**18**	**(5)**	**364**	**(100)**
TOTAL	**5,260**	**(79)**	**763**	**(11)**	**430**	**(6)**	**129**	**(2)**	**98**	**(1)**	**6,680**	**(100)**

Table 4B. Cumulative AIDS[1] cases by gender, race/ethnicity, and HIV exposure category, reported as of 12/31/02 - Washington State

EXPOSURE CATEGORY	WHITE[2]		BLACK[2]		HISPANIC		ASIAN/PI[2,3]		AM INDIAN[4]		TOTAL	
	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)	NUMBER	(%)
MALE												
Male-male sex	5,919	(77)	478	(53)	401	(62)	122	(75)	75	(51)	**7,004**	**(73)**
Injection drug use (IDU)	438	(6)	144	(16)	83	(13)	5	(3)	25	(17)	**695**	**(7)**
IDU & male-male sex	848	(11)	92	(10)	54	(8)	8	(5)	35	(24)	**1,037**	**(11)**
Heterosexual contact	98	(1)	78	(9)	34	(5)	6	(4)	5	(3)	**222**	**(2)**
Hemophilia	82	(1)	1	(<1)	1	(<1)	2	(1)	0	(0)	**86**	**(1)**
Transfusion	62	(1)	3	(<1)	7	(1)	2	(1)	0	(0)	**74**	**(1)**
Mother at risk/has HIV	5	(<1)	5	(1)	0	(0)	0	(0)	1	(1)	**11**	**(<1)**
Undetermined / other	238	(3)	95	(11)	64	(10)	17	(10)	6	(4)	**421**	**(4)**
MALE SUBTOTAL	**7,690**	**(81)**	**896**	**(9)**	**644**	**(7)**	**162**	**(2)**	**147**	**(2)**	**9,539**	**(100)**
FEMALE												
Injection drug use (IDU)	147	(30)	67	(33)	9	(12)	2	(8)	22	(61)	**247**	**(30)**
Heterosexual contact	245	(50)	91	(44)	47	(64)	9	(35)	8	(22)	**400**	**(48)**
Hemophilia	3	(1)	0	(0)	0	(0)	0	(0)	0	(0)	**3**	**(<1)**
Transfusion	32	(7)	8	(4)	3	(4)	3	(12)	2	(6)	**48**	**(6)**
Mother at risk/has HIV	7	(1)	5	(2)	4	(5)	1	(4)	0	(0)	**17**	**(2)**
Undetermined / other	55	(11)	35	(17)	11	(15)	11	(42)	4	(11)	**119**	**(14)**
FEMALE SUBTOTAL	**489**	**(59)**	**206**	**(25)**	**74**	**(9)**	**26**	**(3)**	**36**	**(4)**	**831**	**(100)**
TOTAL	**8,179**	**(79)**	**1,102**	**(11)**	**718**	**(7)**	**188**	**(2)**	**183**	**(0)**	**10,370**	**(100)**

[1]AIDS by 1993 surveillance case definition
[2]And not Hispanic
[3]Asian or Pacific islander
[4]American Indian or Alaska Native

Table 5. Cumulative AIDS[1] cases by gender, race and age at diagnosis - reported as of 12/31/02 - King County and Washington State

	KING COUNTY				WASHINGTON STATE			
	MALE		FEMALE		MALE		FEMALE	
Age	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Under 5	4	(<1)	5	(1)	6	(<1)	8	(2)
5-12	2	(<1)	3	(1)	3	(<1)	1	(<1)
13-19	8	(<1)	4	(1)	20	(1)	7	(1)
20-20	998	(16)	95	(26)	595	(18)	105	(22)
30-39	3,080	(49)	161	(44)	1,435	(44)	180	(38)
40-49	1,657	(26)	64	(18)	808	(25)	111	(24)
50-59	461	(7)	21	(6)	251	(8)	40	(9)
60 and over	106	(2)	11	(3)	116	(4)	18	(4)
Total	**6,316**	**(100)**	**364**	**(100)**	**3,234**	**(100)**	**470**	**(100)**

[1]AIDS by 1993 surveillance case definition

Table 6. AIDS[1] cases, deaths, and case-fatality rates by year - reported as of 12/31/02 - King County and Washington State

	KING COUNTY				WASHINGTON STATE		
YEAR OF DIAGNOSIS	CASES	(% TOTAL WA CASES)	DEATHS[2]	CASE-FATALITY RATE (%)[3]	CASES	DEATHS[2]	CASE-FATALITY RATE (%)[3]
1982	1	(100)	1	(100)	1	1	(100)
1983	11	(55)	11	(100)	20	20	(100)
1984	60	(76)	58	(97)	79	77	(97)
1985	105	(80)	101	(96)	132	128	(97)
1986	187	(75)	180	(96)	250	243	(97)
1987	274	(74)	262	(96)	370	354	(96)
1988	353	(71)	325	(92)	497	460	(93)
1989	460	(73)	419	(91)	628	569	(91)
1990	520	(69)	456	(88)	759	668	(88)
1991	563	(66)	473	(84)	856	722	(84)
1992	620	(67)	447	(72)	923	683	(74)
1993	646	(65)	402	(62)	997	636	(64)
1994	544	(61)	257	(47)	893	446	(50)
1995	506	(64)	145	(29)	790	246	(31)
1996	419	(59)	71	(17)	714	143	(20)
1997	299	(56)	44	(15)	532	80	(15)
1998	254	(61)	31	(12)	414	65	(16)
1999	197	(53)	22	(11)	372	55	(15)
2000	265	(59)	36	(14)	451	59	(13)
2001[4]	224	(55)	16	(7)	405[4]	32	(8)
2002[4]	172	(57)	6[4]	(3)	301[4]	8[4]	(3)
Total	**6,680**	**(64)**	**3,763**	**(56)**	**10,384**	**5,695**	**(55)**

[1]AIDS by 1993 surveillance case definition
[2]Number of deaths among persons diagnosed each year
[3]Percent of cases diagnosed in each year whose deaths have been reported to date
[4]Reporting for recent years is incomplete

Table 7A. AIDS cases by HIV exposure category and year of diagnosis Reported as of 12/31/02 - King County

	1998		1999		2000		2001[1]		2002[1,2]	
	Number	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**
Male-male sex	237	(57)	204	(55)	257	(57)	232	(57)	154	(51)
Injection drug use (IDU)	59	(14)	48	(13)	59	(13)	44	(11)	35	(12)
IDU & male-male sex	36	(9)	35	(9)	33	(7)	35	(9)	27	(9)
Heterosexual contact	33	(8)	37	(10)	51	(11)	50	(12)	40	(13)
Hemophilia	0	(0)	2	(1)	3	(1)	1	(<1)	0	(0)
Transfusion	3	(1)	2	(1)	3	(1)	0	(0)	1	(<1)
Mother at risk/has HIV	0	(0)	0	(0)	2	(<1)	0	(0)	0	(0)
Undetermined / other[2]	46	(11)	44	(12)	43	(10)	43	(11)	44	(15)
Total	**414**	**(100)**	**372**	**(100)**	**451**	**(100)**	**405**	**(100)**	**301**	**(100)**

Table 7B. AIDS cases by HIV exposure category and year of diagnosis Reported as of 12/31/02 - Other Counties

	1998		1999		2000		2001[1]		2002[1,2]	
	Number	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**
Male-male sex	73	(46)	73	(42)	91	(49)	87	(48)	60	(47)
Injection drug use (IDU)	33	(21)	33	(19)	32	(17)	29	(16)	18	(14)
IDU & male-male sex	12	(8)	15	(9)	10	(5)	18	(10)	7	(5)
Heterosexual contact	22	(14)	24	(14)	20	(11)	20	(11)	20	(16)
Hemophilia	0	(0)	1	(1)	2	(1)	1	(1)	0	(0)
Transfusion	1	(1)	1	(1)	2	(1)	0	(0)	0	(0)
Mother at risk/has HIV	0	(0)	0	(0)	1	(1)	0	(0)	0	(0)
Undetermined / other[3]	19	(12)	28	(16)	28	(15)	26	(14)	24	(19)
Total	**160**	**(100)**	**175**	**(100)**	**186**	**(100)**	**181**	**(100)**	**129**	**(100)**

Table 7C. AIDS cases by HIV exposure category and year of diagnosis Reported as of 12/31/02 - Washington State

	1998		1999		2000		2001[1]		2002[1,2]	
	Number	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**
Male-male sex	237	(57)	204	(55)	257	(57)	232	(57)	154	(51)
Injection drug use (IDU)	59	(14)	48	(13)	59	(13)	44	(11)	35	(12)
IDU & male-male sex	36	(9)	35	(9)	33	(7)	35	(9)	27	(9)
Heterosexual contact	33	(8)	37	(10)	51	(11)	50	(12)	40	(13)
Hemophilia	0	(0)	2	(1)	3	(1)	1	(<1)	0	(0)
Transfusion	3	(1)	2	(1)	3	(1)	0	(0)	1	(<1)
Mother at risk/has HIV	0	(0)	0	(0)	2	(<1)	0	(0)	0	(0)
Undetermined / other[2]	46	(11)	44	(12)	43	(10)	43	(11)	44	(15)
Total	**414**	**(100)**	**372**	**(100)**	**451**	**(100)**	**405**	**(100)**	**301**	**(100)**

[1]Reporting for recent years is incomplete

[2]Year to date (cases reported as of 12/31/02)

[3]Includes patients for whom exposure information is incomplete (due to death, refusal to be interviewed, or loss to follow-up), patients still under investigation, patients whose only risk was heterosexual contact where the risk of the sexual partner was undetermined, persons exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined

Table 8A. AIDS cases by age/gender and year of diagnosis Reported as of 12/31/02 - King County

	1998		1999		2000		2001[1]		2002[1,2]	
	Number	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**
Adult Male Cases	230	(91)	181	(92)	230	(87)	198	(88)	147	(85)
Adult Female Cases	24	(9)	16	(8)	34	(13)	26	(12)	25	(15)
Pediatric Cases	0	(0)	0	(0)	1	(<1)	0	(0)	0	(0)
Total	**254**	**(100)**	**197**	**(100)**	**265**	**(100)**	**224**	**(100)**	**172**	**(100)**

Table 8B. AIDS cases by age/gender and year of diagnosis Reported as of 12/31/02 - Other Counties

	1998		1999		2000		2001[1]		2002[1,2]	
	Number	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**
Adult Male Cases	140	(88)	141	(81)	155	(83)	159	(88)	105	(81)
Adult Female Cases	20	(13)	34	(19)	30	(16)	22	(12)	24	(19)
Pediatric Cases	0	(0)	0	(0)	1	(1)	0	(0)	0	(0)
Total	**160**	**(100)**	**175**	**(100)**	**186**	**(100)**	**181**	**(100)**	**129**	**(100)**

Table 8C. AIDS cases by age/gender and year of diagnosis Reported as of 12/31/02 - Washington State

	1998		1999		2000		2001[1]		2002[1,2]	
	Number	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**
Adult Male Cases	370	(89)	322	(87)	385	(85)	357	(88)	252	(84)
Adult Female Cases	44	(11)	50	(13)	64	(14)	48	(12)	49	(16)
Pediatric Cases	0	(0)	0	(0)	2	(<1)	0	(0)	0	(0)
Total	**414**	**(100)**	**372**	**(100)**	**451**	**(100)**	**405**	**(100)**	**301**	**(100)**

Table 9. Deaths of reported AIDS cases by year of death Reported as of 12/31/02 - King County, Other Counties, WA State

	1998		1999		2000		2001		2002[1,2]	
	Number	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**	**Number**	**(%)**
King County	90	(58)	67	(49)	85	(56)	73	(57)	44	(58)
Other Counties	64	(42)	70	(51)	67	(44)	54	(43)	32	(42)
Washington State	154	(100)	137	(100)	152	(100)	127	(100)	76	(100)

[1]Reporting for recent years is incomplete

[2]Year to date (deaths reported as of 12/31/02)

Table 10. Demographic characteristics of cumulative HIV non-AIDS[1] cases - King County, other WA counties, all WA State, US

	King County[1] 12/31/2002		Other Counties[1] 12/31/2002		All Washington[1] 12/31/2002		Total U.S.[2] 12/31/2001	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Sex								
Male	2,015	(89)	873	(77)	2,888	(85)	122,801	(71)
Female	241	(11)	263	(23)	504	(15)	51,216	(29)
Unknown	0	(0)	0	(0)	0	(0)	9	(<1)
Age Group								
Under 13	17	(1)	19	(2)	36	(1)	3,923	(2)
13-19	50	(2)	41	(4)	91	(3)	6,587	(4)
20-29	757	(34)	383	(34)	1,140	(34)	52,591	(30)
30-39	980	(43)	416	(37)	1,396	(41)	66,267	(38)
40-49	358	(16)	221	(19)	579	(17)	32,812	(19)
50-59	84	(4)	48	(4)	132	(4)	8,964	(5)
60 and over	10	(<1)	8	(1)	18	(1)	2,873	(2)
Unknown	0	(0)	0	(0)	0	(0)	9	(<1)
Race / Ethnicity								
White /non Hispanic	1,660	(74)	846	(74)	2,506	(74)	61,641	(35)
Black /non-Hispanic	347	(15)	128	(11)	475	(14)	88,981	(51)
Hispanic	154	(7)	102	(9)	256	(8)	19,629	(11)
Asian/Pacific Islander	56	(2)	23	(2)	79	(2)	852	(<1)
American Indian/Alaskan Native	29	(1)	20	(2)	49	(1)	962	(1)
Unknown	10	(<1)	17	(1)	27	(1)	1,961	(1)
HIV Exposure Category								
Male-male sex	1,576	(70)	517	(46)	2,093	(62)	52,139	(30)
Injection drug use (IDU)	143	(6)	207	(18)	350	(10)	23,514	(14)
IDU & male-male sex	197	(9)	94	(8)	291	(9)	6,651	(4)
Heterosexual contact	141	(6)	174	(15)	315	(9)	27,754	(16)
Hemophilia	9	(<1)	5	(<1)	14	(<1)	601	(<1)
Transfusion	7	(<1)	5	(<1)	12	(<1)	961	(1)
Mother at risk/has HIV	15	(1)	18	(2)	33	(1)	3,336	(2)
Undetermined / other[3]	168	(7)	116	(10)	284	(8)	59,070	(34)
Total Cases	**2,256**	**(100)**	**1,136**	**(100)**	**3,392**	**(100)**	**174,026**	**(100)**

[1] HIV infection reports received as of 12/30/02. HIV reporting was implemented in 9/99; reporting of cases diagnosed before 9/99 is incomplete at this time.

[2] Includes HIV case reports from 36 states and territories with confidential named HIV reporting; excludes WA State at this time. Most recent date that complete U.S. statistics are available.

[3] Includes persons for whom exposure information is incomplete (due to death, refusal to be interviewed, or loss to follow-up), patients still under investigation, patients whose only risk was heterosexual contact where the risk of the sexual partner was undetermined, persons exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined.

AIDS cases and annual rates per 100,000 population, by area and age group, reported through December 2001, United States

Area of residence	2000		2001		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Alabama	482	10.8	438	9.8	6,632	74	6,706
Alaska	23	3.7	18	2.8	490	5	495
Arizona	443	8.6	540	10.2	7,925	41	7,966
Arkansas	194	7.2	199	7.4	3,139	38	3,177
California	4,696	13.8	4,315	12.5	123,200	619	123,819
Colorado	339	7.8	288	6.5	7,351	30	7,381
Connecticut	614	18.0	584	17.1	11,972	176	12,148
Delaware	220	28.0	248	31.1	2,803	24	2,827
District of Columbia	873	152.9	870	152.1	13,796	173	13,969
Florida	4,905	30.6	5,138	31.3	83,888	1,436	85,324
Georgia	1,231	15.0	1,745	20.8	24,347	212	24,559
Hawaii	115	9.5	124	10.1	2,569	16	2,585
Idaho	22	1.7	19	1.4	514	3	517
Illinois	1,758	14.1	1,323	10.6	26,047	272	26,319
Indiana	382	6.3	378	6.2	6,466	49	6,515
Iowa	92	3.1	90	3.1	1,392	10	1,402
Kansas	127	4.7	98	3.6	2,453	12	2,465
Kentucky	210	5.2	333	8.2	3,648	27	3,675
Louisiana	661	14.8	861	19.3	13,350	125	13,475
Maine	40	3.1	48	3.7	995	9	1,004
Maryland	1,455	27.4	1,860	34.6	23,228	309	23,537
Massachusetts	1,185	18.6	765	12.0	16,797	211	17,008
Michigan	761	7.6	548	5.5	11,755	108	11,863
Minnesota	184	3.7	157	3.2	3,896	23	3,919
Mississippi	428	15.0	418	14.6	4,821	56	4,877
Missouri	452	8.1	445	7.9	9,594	60	9,654
Montana	16	1.8	15	1.7	338	3	341
Nebraska	77	4.5	74	4.3	1,157	10	1,167
Nevada	283	14.0	252	12.0	4,637	28	4,665
New Hampshire	30	2.4	40	3.2	910	9	919
New Jersey	1,875	22.2	1,756	20.7	43,068	756	43,824
New Mexico	144	7.9	143	7.8	2,179	8	2,187
New York	6,301	33.2	7,476	39.3	147,065	2,276	149,341
North Carolina	674	8.3	942	11.5	11,240	116	11,356
North Dakota	3	0.5	3	0.5	109	1	110
Ohio	588	5.2	581	5.1	11,834	124	11,958
Oklahoma	353	10.2	243	7.0	4,004	26	4,030
Oregon	208	6.1	259	7.5	5,039	17	5,056
Pennsylvania	1,658	13.5	1,840	15.0	26,033	336	26,369
Rhode Island	99	9.4	103	9.7	2,130	23	2,153
South Carolina	789	19.6	729	17.9	10,151	86	10,237
South Dakota	8	1.1	25	3.3	187	4	191
Tennessee	839	14.7	602	10.5	9,114	52	9,166
Texas	2,631	12.6	2,892	13.6	56,344	386	56,730
Utah	148	6.6	124	5.5	2,076	21	2,097
Vermont	38	6.2	25	4.1	422	6	428
Virginia	872	12.3	951	13.2	13,842	176	14,018
Washington	496	8.4	532	8.9	9,971	34	10,005
West Virginia	61	3.4	100	5.5	1,168	10	1,178
Wisconsin	213	4.0	193	3.6	3,737	31	3,768
Wyoming	11	2.2	5	1.0	189	3	192
Subtotal	40,307	14.3	41,755	14.7	780,012	8,660	788,672
U.S. dependencies, possessions, and associated nations							
Guam	13	8.4	12	7.6	58	0	58
Pacific Islands, U.S.	0	0.0	1	0.3	5	0	5
Puerto Rico	1,346	35.3	1,242	32.3	25,730	389	26,119
Virgin Islands, U.S.	34	28.1	35	28.6	501	17	518
Total[1]	41,795	14.6	43,158	14.9	807,075	9,074	816,149

[1]U.S. totals presented in this report include data from the United States (50 states and the District of Columbia), and from U.S. dependencies, possessions, and independent nations in free association with the United States. See Technical Notes. Totals include 777 persons whose area of residence is unknown.

Source: CDC. HIV/AIDS Surveillance Supplemental Report, 2001; 13(No. 2):8.

AIDS cases and annual rates per 100,000 population, by area and age group, reported through December 2001, United States, continued

Metropolitan area of residence (with 500,000 or more population)	2000		2001		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	30	4.3	21	3.0	606	1	607
Albany-Schenectady, N.Y.	115	13.1	80	9.1	1,807	25	1,832
Albuquerque, N.Mex.	72	10.1	63	8.7	1,163	2	1,165
Allentown, Pa.	49	7.7	85	13.2	910	11	921
Ann Arbor, Mich.	35	6.0	14	2.4	412	9	421
Atlanta, Ga.	704	17.0	1,293	30.3	17,041	116	17,157
Austin, Tex.	179	14.2	208	15.8	4,046	27	4,073
Bakersfield, Calif.	82	12.4	106	15.7	1,124	8	1,132
Baltimore, Md.	967	37.8	1,287	50.0	15,580	212	15,792
Baton Rouge, La.	143	23.7	221	36.4	2,110	19	2,129
Bergen-Passaic, N.J.	210	15.3	187	13.6	5,608	83	5,691
Birmingham, Ala.	115	12.5	109	11.7	1,996	23	2,019
Boston, Mass.	1,013	16.7	659	10.8	14,758	187	14,945
Buffalo, N.Y.	81	6.9	136	11.7	1,945	19	1,964
Charleston, S.C.	116	21.1	55	9.9	1,608	12	1,620
Charlotte, N.C.	125	8.3	182	11.8	2,278	23	2,301
Chicago, Ill.	1,520	18.3	1,053	12.6	22,462	241	22,703
Cincinnati, Ohio	74	4.5	40	2.4	1,938	15	1,953
Cleveland, Ohio	163	7.2	212	9.4	3,533	43	3,576
Colorado Springs, Colo.	24	4.6	19	3.6	472	5	477
Columbia, S.C.	153	28.4	178	32.7	2,197	18	2,215
Columbus, Ohio	116	7.5	102	6.5	2,315	13	2,328
Dallas, Tex.	647	18.3	749	20.5	13,082	37	13,119
Dayton, Ohio	64	6.7	60	6.3	1,056	17	1,073
Daytona Beach, Fla.	80	16.1	107	21.0	1,237	14	1,251
Denver, Colo.	250	11.8	217	10.0	5,830	21	5,851
Detroit, Mich.	550	12.4	389	8.7	8,123	73	8,196
El Paso, Tex.	78	11.4	115	16.7	1,184	10	1,194
Fort Lauderdale, Fla.	855	52.4	689	41.3	13,345	249	13,594
Fort Wayne, Ind.	24	4.8	22	4.4	334	3	337
Fort Worth, Tex.	189	11.0	132	7.5	3,364	26	3,390
Fresno, Calif.	93	10.0	56	5.9	1,252	14	1,266
Gary, Ind.	59	9.3	54	8.5	783	6	789
Grand Rapids, Mich.	37	3.4	42	3.8	805	4	809
Greensboro, N.C.	96	7.6	124	9.8	1,784	21	1,805
Greenville, S.C.	119	12.3	107	10.9	1,607	7	1,614
Harrisburg, Pa.	69	11.0	123	19.5	1,134	8	1,142
Hartford, Conn.	235	20.4	195	16.8	4,158	46	4,204
Honolulu, Hawaii	84	9.6	52	5.9	1,838	13	1,851
Houston, Tex.	687	16.4	801	18.7	19,735	163	19,898
Indianapolis, Ind.	161	10.0	175	10.7	3,046	20	3,066
Jacksonville, Fla.	285	25.8	311	27.5	4,715	70	4,785
Jersey City, N.J.	220	36.1	256	42.1	6,735	120	6,855
Kansas City, Mo.	178	10.0	164	9.1	4,091	14	4,105
Knoxville, Tenn.	45	6.5	33	4.7	759	6	765
Las Vegas, Nev.	250	15.8	216	13.0	3,807	27	3,834
Little Rock, Ark.	54	9.2	81	13.7	1,125	14	1,139
Los Angeles, Calif.	1,644	17.2	1,391	14.4	43,252	236	43,488
Louisville, Ky.	91	8.9	149	14.5	1,779	17	1,796
McAllen, Tex.	40	7.0	51	8.6	420	10	430
Memphis, Tenn.	322	28.3	259	22.6	3,417	18	3,435
Miami, Fla.	1,303	57.5	1,232	53.8	24,868	489	25,357
Middlesex, N.J.	132	11.2	147	12.4	3,286	71	3,357
Milwaukee, Wis.	133	8.9	115	7.7	2,072	18	2,090
Minneapolis-Saint Paul, Minn.	169	5.7	135	4.5	3,465	17	3,482
Mobile, Ala.	99	18.3	86	15.8	1,275	16	1,291
Monmouth-Ocean, N.J.	129	11.4	126	11.0	2,942	62	3,004
Nashville, Tenn.	326	26.4	186	14.9	2,908	17	2,925
Nassau/Suffolk, N.Y.	246	8.9	350	12.6	6,889	113	7,002
New Haven, Conn.	312	18.3	348	20.3	6,789	124	6,913

AIDS cases and annual rates per 100,000 population, by metropolitan area and age group, reported through December 2001, United States

Metropolitan area of residence (with 500,000 or more population)	2000		2001		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
New Orleans, La.	322	24.1	312	23.4	7,185	67	7,252
New York, N.Y.	5,412	58.1	6,152	65.9	124,201	2,036	126,237
Newark, N.J.	773	38.0	711	34.8	17,469	327	17,796
Norfolk, Va.	271	17.2	334	21.1	4,061	63	4,124
Oakland, Calif.	272	11.3	320	13.1	8,304	43	8,347
Oklahoma City, Okla.	204	18.8	120	11.0	1,894	7	1,901
Omaha, Nebr.	53	7.4	54	7.5	808	3	811
Orange County, Calif.	286	10.0	299	10.3	5,889	36	5,925
Orlando, Fla.	356	21.5	532	31.2	6,458	82	6,540
Philadelphia, Pa.	1,357	26.6	1,355	26.5	20,091	278	20,369
Phoenix, Ariz.	294	9.0	376	11.1	5,635	27	5,662
Pittsburgh, Pa.	106	4.5	146	6.2	2,496	18	2,514
Portland, Oreg.	174	9.0	220	11.2	4,089	8	4,097
Providence, R.I.	93	9.6	97	10.0	2,000	21	2,021
Raleigh-Durham, N.C.	145	12.1	159	12.9	2,151	22	2,173
Richmond, Va.	168	16.8	126	12.5	2,716	29	2,745
Riverside-San Bernardino, Calif.	399	12.2	392	11.5	7,260	59	7,319
Rochester, N.Y.	75	6.8	127	11.6	2,448	13	2,461
Sacramento, Calif.	171	10.4	130	7.6	3,331	24	3,355
Saint Louis, Mo.	246	9.4	282	10.8	4,966	41	5,007
Salt Lake City, Utah	131	9.8	111	8.2	1,805	14	1,819
San Antonio, Tex.	167	10.4	200	12.3	4,129	28	4,157
San Diego, Calif.	439	15.5	478	16.7	11,015	55	11,070
San Francisco, Calif.	762	44.0	596	34.6	28,391	47	28,438
San Jose, Calif.	110	6.5	120	7.2	3,241	14	3,255
San Juan, P.R.	872	44.3	701	35.3	16,130	242	16,372
Sarasota, Fla.	129	21.8	139	22.8	1,579	24	1,603
Scranton, Pa.	19	3.0	13	2.1	442	4	446
Seattle, Wash.	285	11.8	348	14.3	6,987	19	7,006
Springfield, Mass.	147	24.2	94	15.4	1,822	24	1,846
Stockton, Calif.	37	6.5	26	4.4	781	13	794
Syracuse, N.Y.	90	12.3	116	15.9	1,407	10	1,417
Tacoma, Wash.	58	8.2	67	9.3	897	9	906
Tampa-Saint Petersburg, Fla.	454	18.9	607	24.8	8,901	105	9,006
Toledo, Ohio	31	5.0	43	7.0	610	12	622
Tucson, Ariz.	74	8.7	122	14.1	1,633	10	1,643
Tulsa, Okla.	71	8.8	71	8.8	1,198	9	1,207
Vallejo, Calif.	64	12.3	90	16.9	1,465	11	1,476
Ventura, Calif.	42	5.5	33	4.3	846	3	849
Washington, D.C.	1,542	31.2	1,657	32.8	24,549	295	24,844
West Palm Beach, Fla.	538	47.4	459	39.4	7,912	206	8,118
Wichita, Kans.	45	8.2	17	3.1	746	2	748
Wilmington, Del.	173	29.4	197	33.1	2,235	17	2,252
Youngstown, Ohio	18	3.0	28	4.7	395	0	395
Metropolitan areas with 500,000 or more population	**33,916**	**18.7**	**34,732**	**19.0**	**676,768**	**7,700**	**684,468**
Central counties	***33,132***	***20.1***	***33,904***	***20.4***	***663,026***	***7,560***	***670,586***
Outlying counties	***784***	***4.7***	***828***	***4.9***	***13,742***	***140***	***13,882***
Metropolitan areas with 50,000 to 499,999 population	**4,493**	**9.2**	**4,690**	**9.5**	**77,206**	**834**	**78,040**
Central counties	***4,205***	***9.7***	***4,371***	***10.0***	***72,084***	***760***	***72,844***
Outlying counties	***288***	***5.2***	***319***	***5.7***	***5,122***	***74***	***5,196***
Nonmetropolitan areas	**3,083**	**5.4**	**3,278**	**5.8**	**48,865**	**510**	**49,375**
Total[1]	**41,795**	**14.6**	**43,158**	**14.9**	**807,075**	**9,074**	**816,149**

[1]Totals include 4,266 persons whose area of residence is unknown.

Source: CDC. HIV/AIDS Surveillance Supplemental Report, 2001; 13(No. 2):10-11.

Annual Review of HIV and AIDS In Washington State Residents Living Outside King County

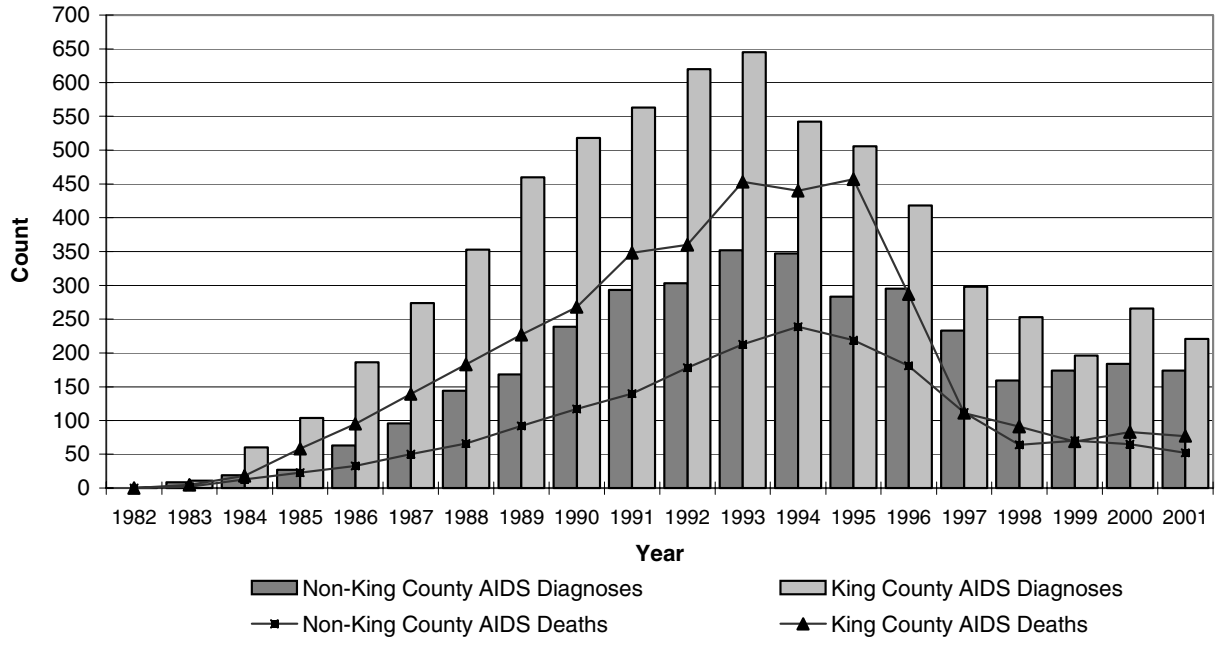
Historically, men who have sex with men (MSM) in Seattle-King County have been disproportionately affected by the HIV/AIDS epidemic. Since the first AIDS case in Washington State was reported in 1982, 66% of all HIV and AIDS cases reported to the Department of Health have been diagnosed among King County residents and 76% have been attributed to male-male sex, with or without injection drug use. Although the rate of HIV/AIDS has declined since 1993 both inside and outside King County, the decline is greatest for cases among white, non-Hispanic MSM and is more prominent in King County. As a result, the proportion of cases diagnosed among women and among racial/ethnic minorities, the proportion of cases attributable to injection drug use (IDU) and/or heterosexual contact, and the proportion of cases diagnosed outside King County continues to grow. This report examines HIV and AIDS outside of King County.

Methods

This report is based on HIV and AIDS cases diagnosed among Washington State residents and reported to the Department of Health through June 30, 2002. The AIDS cases include those HIV infected individuals reported with an opportunistic infection since 1982, as well as those with severe immunodeficiency reported since 1993. All-inclusive reporting of HIV infection in Washington State was implemented in September 1999; therefore, diagnoses reported since then include patients with all stages of HIV disease. Due to reporting delays, some patients diagnosed in more recent periods may not have been reported by June 30, 2002; therefore, absolute numbers of cases diagnosed in 2001 and the first half of 2002 are provisional and should be interpreted with caution.

For these analyses, cases were categorized as King or non-King County and by AIDS Service Network (AIDSNet) Region, according to the county of residence at HIV or AIDS diagnosis. The lead (most populous) county for the Regions are Spokane (Region 1), Yakima (Region 2), Snohomish (Region 3), Pierce (Region 5), and Clark (Region 6); King County by itself is Region 4. Data for Eastern Washington and Western Washington excluding King County are also presented. These regions were delineated by county using the Cascade mountain range to define the state's east-west boundary; Regions 1 and 2 comprise Eastern Washington cases, and Regions 3, 5 and 6 comprise Western Washington cases.

Figure 1. King County and Non-King County AIDS cases and deaths by year, 1982 - 2001



HIV/AIDS Incidence and Death

Of the 10,178 AIDS cases diagnosed and reported in Washington State, 3,263 (32%) resided outside King County at the time of their diagnosis. The number of cases among non-King County residents increased every year until 1993 (Figure 1). In 1993, the AIDS case definition was expanded by the Centers for Disease Control and Prevention (CDC) to include asymptomatic HIV-infection with laboratory evidence of severe immunodeficiency. As a result, persons were reported earlier in the course of their disease, a phenomenon contributing to the apparent peak in AIDS incidence. The number of AIDS cases subsequently declined in and outside King County, with a smaller decline in cases outside King County. From 1993 to 1998, cases outside King County declined by 55% (352 to 159). The trend then stabilized and increased slightly to 184 cases by 2000.

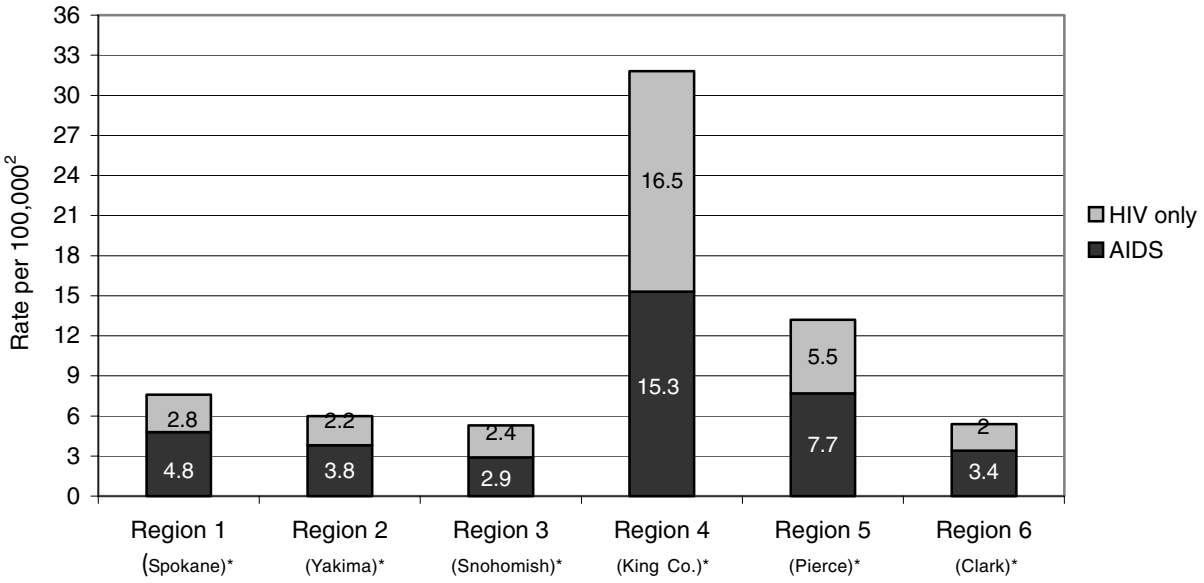
Like the number of new AIDS cases, deaths among reported AIDS cases in Washington State have also declined significantly in recent years. Deaths among AIDS patients diagnosed outside King County peaked at 239 in 1994, and decreased a dramatic 73% to 65 deaths in 2000. Deaths among AIDS patients diagnosed in King County decreased even more (from 457 in 1995 to 83 in 2000). Since 1997, there have been only slightly more AIDS deaths each year among patients diagnosed in King County than patients diagnosed outside King County.

Figure 2 displays HIV and AIDS incidence rates per 100,000 population by AIDSNet region for the year 2000. This is the only year considered complete after full HIV reporting was instigated. In 2000, Region 5 had the highest rate of new HIV diagnoses outside King County (5.5 per 100,000 population), followed by Region 1 (2.8 per 100,000). Regions 2, 3, and 6 had approximately 2 new HIV patients per 100,000 population. Region 5 also had the highest rate of new AIDS diagnoses outside King County at 7.7 per 100,000, followed by Region 1 (4.8 per 100,000).

HIV Diagnoses Over Time

Washington State surveillance data indicate a proportional shift in those diagnosed with HIV/AIDS over time. [1] Specifically, there have been increases in the proportion of HIV and AIDS cases diagnosed in women, racial/ethnic minorities, and those acquiring HIV via injection drug use and heterosexual contact. Table 1 displays these trends for all HIV cases diagnosed outside King County. Data in Table 1 are based on 4,690 HIV cases diagnosed outside King County by their earliest reported HIV diagnosis. Due to small numbers, the data are broken out between Eastern Washington and Western Washington excluding King County (as described earlier), instead of by AIDSNet region. The associations indicated as significant are significant at $p<0.01$, and are based on Chi-square for linear trend in proportions observed in 1982-1989, 1990-1997, and 1998-2002.

Figure 2. HIV/AIDS Disease Incidence[1] Rates[2] by AIDSNet Region for cases diagnosed in 2000



[1] HIV disease incidence includes new HIV diagnoses and new AIDS cases diagnosed within the period.
[2] Crude Rate, not adjusted for age.
* Lead (most populous) county for the AIDSNet region.

Eastern Washington:
HIV cases diagnosed in Eastern Washington from 1998-2002 were predominately male (83%). The proportion of males has significantly decreased from the percent diagnosed in 1982-1989 (92%). The proportion of females has significantly increased from 8% in 1982-1989 to 17% in 1998-2002. In 1982-1989, 88% of Eastern Washington diagnoses were White (non-Hispanic). This significantly dropped to 77% in 1990-1997 and to 65% in 1999-2002. This drop corresponds with a significant increase in the proportion of Hispanic cases, from 7% 1982-1989 to 14% 1990-1997 and to 28% 1998-2002. The majority of HIV cases in Eastern Washington were diagnosed when they were ages 30-39 (38% 1998-2002). Although this has not changed significantly since 1982, there was a significant decrease in the proportion of cases diagnosed at ages 25-29 (25% 1982-1989 to 13% 1998-2002), and a corresponding significant increase in the proportion diagnosed when ages 50 and over (5% 1982-1989 to 15% 1998-2002).

Exposure through men having sex with men made up the highest proportion of HIV cases diagnosed in Eastern Washington. However, the percentage dropped significantly from 59% in 1982-1989 to 47% in 1998-2002. The proportion of cases with dual exposure (MSM/IDU) also significantly decreased from 14% in 1982-1989 to 6% in 1998-2002. The percentage of Eastern Washington HIV cases exposed through heterosexual contact increased significantly from 3% in 1982-1989 to 14% in 1998-2002. The trends in exposure categories are associated with the trends in gender, given the decrease in proportion of male cases with most common exposure being MSM, and increase in female case proportions with most common exposure being heterosexual contact.

Western Washington:
HIV cases diagnosed in Western Washington from 1998-2002 were also predominately male (79%). The proportion of males has significantly decreased from the percent diagnosed in 1982-1989 (92%). The proportion of females has significantly increased from 8% in 1982-1989 to 21% in 1998-2002. In 1982-1989, 87% of Western Washington cases were White (non-Hispanic). This significantly dropped to 78% in 1990-1997 and to 69% in 1999-2002. This drop corresponds with a significant increase in the proportion of Black (non-Hispanic), from 7% 1982-1989 to 12% 1990-1997 and 16% 1998-2002.

The majority of HIV cases in Western Washington were diagnosed when they were ages 30-39 (41% 1998-2002). This has not changed significantly since 1982; however, there was a significant decrease in the proportion of cases diagnosed at ages 14-24 (19% 1982-1989 to 8% 1998-2002) and ages 25-29 (20% 1982-1989 to 12% 1998-2002), and a corresponding significant increase in the proportion diagnosed when ages 40-49 (14% 1982-1989 to 27% 1998-2002).

Exposure through men having sex with men also made up the highest proportion of HIV cases diagnosed in Western Washington. The percentage dropped significantly from 63% in 1982-1989 to 42% in 1998-2002. The proportion of cases with dual exposure (MSM/IDU) also significantly decreased from 13% in 1982-1989 to 5% in 1998-2002. The percentage of Western Washington HIV cases exposed through injection drug use significantly increased from 11% in 1982-1989 to 19% in 1998-2002. The proportion exposed through heterosexual contact also increased (14% 1982-1989 to 27% 1998-2002).

Persons Living With HIV

The most recent estimate of the number of Washington residents living with HIV or AIDS is 12,000 as of January, 2001. Given that approximately 35% of all HIV and AIDS cases are diagnosed outside King County, it is estimated that about 4,200 persons are living with HIV or AIDS outside of King County. As of June 30, 2002, 2,742 persons diagnosed with HIV/AIDS outside King County and reported to the Department of Health were presumed living. This leaves an estimated 1,458 persons outside King County either tested anonymously, diagnosed and not yet reported, or not yet diagnosed. Furthermore, the CDC estimates that one-quarter of all HIV-infected persons in the United States are undiagnosed and unaware of their status. [2] Based on this approximation, an estimated 1,050 of the unreported persons living outside King County have not yet learned of their HIV positive status.

Table 2 describes the demographic characteristics of HIV and AIDS cases reported to the Department of Health and presumed living in each AIDSNet region, as well as King County vs. non-King County. These data are based on the location of their first diagnosis (HIV or AIDS), and may not necessarily represent where they acquired HIV or where they are currently living.

The prevalence rate of reported individuals living with HIV outside King County is 65 per 100,000 population. Region 5 has the highest prevalence rate (88.7 per 100,000) followed by Region 6 (67.7 per 100,000). Of all the HIV cases presumed living and initially diagnosed outside King County, 63% have progressed to AIDS.

The majority of HIV/AIDS cases presumed living outside King County are male (82%); 18% are female. Region 1 has the lowest proportion of females living with HIV (11%), and Region 5 has the highest proportion of females (24%).

Persons living with HIV outside King County are mostly white (non-Hispanic) (76%); 11% are Black (non-Hispanic), 9% are Hispanic, 2% are Asian/Pacific Islander, and 2% are Native American or Alaskan Native. Region 2 has the highest proportion of Hispanic persons living with HIV at 35%. Region 5 has

Table 1. Demographic Trends of Residents Diagnosed with HIV/AIDS[1] Outside of King County by Time Period, 1982 - 2002

Region[2]	Eastern Washington			Western Washington Excluding King County		
Year of Diagnosis	1982-1989	1990-1997	1998-2002[3]	1982-1989	1990-1997	1998-2002[3]
Sex						
Male	271 (92%)	519 (88%)	199 (83%)	894 (92%)	1,590 (82%)	517 (79%)
Female	25 (8%)	71 (12%)	40 (17%)	78 (8%)	348 (18%)	138 (21%)
Race						
White (non-Hispanic)	260 (88%)	454 (77%)	148 (65%)	840 (87%)	1,500 (78%)	452 (69%)
Black (non-Hispanic)	10 (3%)	30 (5%)	16 (7%)	68 (7%)	223 (12%)	104 (16%)
Hispanic	20 (7%)	83 (14%)	63 (28%)	32 (3%)	132 (7%)	46 (7%)
Asian/Pacific Islander	-0-	5 (1%)	2 (1%)	11 (1%)	33 (2%)	26 (4%)
Native American/Alaskan native	5 (2%)	16 (3%)	-0-	18 (2%)	42 (2%)	22 (3%)
Age at Diagnosis						
13 and under	3 (1%)	8 (1%)	-0-	11 (1%)	19 (1%)	2 (<1%)
14-24	56 (19%)	67 (11%)	31 (13%)	187 (19%)	214 (11%)	52 (8%)
25-29	73 (25%)	101 (17%)	30 (13%)	194 (20%)	350 (18%)	78 (12%)
30-39	105 (36%)	244 (41%)	95 (38%)	378 (39%)	789 (41%)	268 (41%)
40-49	44 (15%)	108 (18%)	48 (20%)	135 (14%)	406 (21%)	177 (27%)
50 and over	15 (5%)	62 (11%)	35 (15%)	67 (7%)	160 (8%)	78 (12%)
Exposure Category						
MSM	175 (59%)	310 (52%)	113 (47%)	617 (63%)	980 (51%)	278 (42%)
IDU	43 (14%)	86 (15%)	33 (14%)	105 (11%)	342 (18%)	125 (19%)
MSM/IDU	43 (14%)	62 (10%)	14 (6%)	122 (13%)	162 (8%)	36 (5%)
Heterosexual Contact	9 (3%)	60 (10%)	34 (14%)	40 (4%)	246 (13%)	101 (15%)
Hemophilia	9 (3%)	3 (<1%)	-0-	27 (3%)	18 (1%)	1 (<1%)
Transfusion/transplant	9 (3%)	11 (2%)	1 (<1%)	25 (3%)	25 (1%)	3 (<1%)
Perinatal	1 (<1%)	8 (1%)	-0-	5 (<1%)	17 (1%)	2 (<1%)
Undetermined/other	6 (2%)	50 (8%)	44 (18%)	26 (3%)	147 (8%)	109 (17%)
Totals	**296 (100%)**	**590 (100%)**	**239 (100%)**	**972 (100%)**	**1,938 (100%)**	**655 (100%)**

Note: Shaded areas reflect a trend in proportions significant at $p < 0.01$, chi square test for trend.

[1] Includes persons whose first reported diagnosis was AIDS, and those who later developed AIDS.

[2] Regions were delineated by county, using the Cascade mountain range to define the state's east-west boundary.

[3] Case counts for more recent time periods are considered incomplete due to reporting delays; 2002 cases are those reported through 6/30/02.

the highest proportion of Black (non-Hispanic) individuals living with HIV at 20%.

Most persons living with HIV outside King County were first diagnosed when they were ages 30-39 (39%). This holds true for each AIDSNet Region. Overall, outside King County, 35% of those living with HIV were diagnosed under the age of 30 and 26% were diagnosed when ages 40 and older. Persons living with HIV that were initially diagnosed in Region 2 tend to have been diagnosed younger (46% diagnosed under age 30, 18% diagnosed at ages 50 or older).

Men having sex with men was the most common mode of exposure for those living with HIV outside of King County. Forty eight percent had MSM as their only exposure; another 9% had dual exposure (MSM and IDU). Nineteen percent had IDU as their only form of exposure. Region 5 had the highest proportion of persons living with HIV exposed by injection drug use (21%); Region 2 had the smallest percentage (10%). Of all persons living with HIV outside King County, 13% were exposed through heterosexual contact. Region 2 had the highest proportion with 18% exposed through heterosexual contact, and Region 1 had the lowest (8%).

Comments

The most noteworthy trends over the last decade were the decrease in the number of AIDS cases diagnosed each year and the decrease in number of AIDS deaths in Washington State. Even though the decline was most apparent in King County, the area outside of King County experienced a 55% reduction in AIDS incidence from 1993 to 1998, and a 70% decrease in AIDS deaths. Contributing to the decline in AIDS cases and deaths was the introduction in 1995-1996 of antiretroviral drugs that, for many persons, effectively prevent the progression of HIV infection to AIDS and from AIDS to death. Other factors likely to be contributing to the decline included more effective prophylaxis to prevent opportunistic infections, better monitoring of HIV progression, and the effect of education and prevention messages.

From 1998 to 2000 the trend in AIDS incidence and deaths leveled off and increased slightly both inside and outside of King County. Possible reasons for this include persons not receiving or adhering to treatment regimens. Some patients may be experiencing treatment failures due to the development of more resistant strains of HIV. In addition, as persons age with HIV infection they are more likely to die of conditions unrelated to their HIV infection.

The epidemic also appears to be shifting and affecting a larger proportion of females and ethnic minorities. Eastern Washington is seeing increases in female and Hispanic cases. In Region 2, 22% of those currently living with HIV/AIDS are female, and 35% are Hispanic. Western Washington excluding King County is seeing increases in female and Black (non-Hispanic) cases. In Region 5, 24% of those currently living with HIV/AIDS are female, and 20% are Black (non-Hispanic). These trends are important to consider when designing future HIV prevention and education strategies.

Traditionally, long-term collection and analysis of AIDS data offered the opportunity to identify new patterns of disease morbidity and mortality. These patterns were assumed to show, albeit in a delayed fashion, gross trends in HIV transmission. However, the introduction of treatment regimens has altered the natural history of HIV infection by delaying progression to AIDS. This delay has led to a decrease in the numbers of reported AIDS cases and deaths. As a result, when AIDS reporting is used to describe the epidemic, it appears to be on the decline when in fact there is no evidence that HIV incidence has declined.

In the past, the State of Washington had only required reporting of AIDS and symptomatic HIV cases. On September 1, 1999 Washington Administrative Code was changed, adding asymptomatic HIV infection as a reportable condition in Washington State. In the year 2000 there were 123 new HIV infections diagnosed outside King County, and 287 in King County. Future profiles will be better able to describe trends in HIV incidence.

- *Contributed by Todd E. Rime MA and Maria Courogen MPH*

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[1] Washington State DOH. HIV/AIDS Surveillance Report, cases reported through 6/30/2002.

[2] CDC. Guidelines for National HIV Case Surveillance, including monitoring for HIV infection and AIDS. *Morbidity and Mortality Weekly Report* (RR 13), 12/10/99.

Table 2. Characteristics of Washington State HIV/AIDS cases presumed living (N=7,705) and reported to the Department of Health by June 30, 2002[1]

AIDSNET Region	1	2	3	5	6	Non-King	King
Prevalence Rate (per 100,000 residents)	57.4	39.1	62.0	88.7	67.7	65.0	282.3
Sex							
Male	344 (89%)	199 (78%)	507 (83%)	642 (76%)	551 (84%)	2,242 (82%)	4,510 (91%)
Female	41 (11%)	55 (22%)	101 (17%)	198 (24%)	106 (16%)	500 (18%)	453 (9%)
Race							
White (non-Hispanic)	306 (82%)	148 (59%)	494 (81%)	566 (67%)	541 (83%)	2,055 (76%)	3,626 (73%)
Black (non-Hispanic)	24 (6%)	11 (4%)	42 (7%)	164 (20%)	50 (8%)	290 (11%)	734 (15%)
Hispanic	29 (8%)	89 (35%)	36 (6%)	66 (8%)	38 (6%)	257 (9%)	406 (8%)
Asian/Pacific Islander	4 (1%)	2 (<1%)	16 (3%)	22 (3%)	11 (2%)	55 (2%)	105 (2%)
Native American/AK Native	12 (3%)	2 (<1%)	18 (3%)	20 (2%)	8 (1%)	60 (2%)	83 (2%)
Age at Diagnosis							
13 and under	4 (1%)	4 (2%)	6 (1%)	9 (1%)	6 (1%)	29 (1%)	27 (<1%)
14-24	51 (13%)	56 (22%)	88 (14%)	156 (19%)	88 (13%)	439 (16%)	593 (12%)
25-29	68 (18%)	58 (23%)	107 (18%)	144 (17%)	116 (18%)	491 (18%)	994 (20%)
30-39	157 (41%)	91 (36%)	249 (41%)	319 (38%)	263 (40%)	1,079 (39%)	2,170 (44%)
40-49	73 (19%)	30 (12%)	121 (20%)	157 (19%)	135 (21%)	516 (19%)	920 (19%)
50 and over	32 (8%)	15 (6%)	37 (6%)	55 (6%)	49 (7%)	188 (7%)	259 (5%)
Exposure Category							
MSM	192 (50%)	118 (46%)	323 (53%)	365 (43%)	320 (49%)	1,318 (48%)	3,487 (70%)
IDU	69 (18%)	30 (12%)	59 (10%)	178 (21%)	127 (19%)	463 (17%)	340 (7%)
MSM/IDU	37 (10%)	25 (10%)	54 (9%)	74 (9%)	47 (7%)	237 (9%)	442 (9%)
Heterosexual Contact	30 (8%)	45 (18%)	85 (14%)	131 (16%)	76 (12%)	366 (13%)	310 (6%)
Hemophilia	2 (<1%)	1 (<1%)	5 (<1%)	8 (1%)	10 (1%)	26 (1%)	20 (<1%)
Transfusion/transplant	3 (<1%)	2 (<1%)	5 (<1%)	7 (<1%)	4 (<1%)	21 (<1%)	18 (<1%)
Perinatal	4 (1%)	3 (1%)	3 (<1%)	9 (1%)	5 (1%)	24 (1%)	21 (<1%)
Undetermined/other	48 (12%)	29 (11%)	73 (12%)	68 (8%)	68 (10%)	283 (10%)	322 (6%)
Current Status							
HIV only (not AIDS)	127 (33%)	96 (38%)	249 (41%)	326 (39%)	222 (34%)	1,020 (37%)	2,098 (33%)
AIDS	258 (67%)	158 (62%)	359 (59%)	514 (61%)	435 (66%)	1,722 (63%)	2,865 (67%)
Total (7,705)	**385 (5%)**	**254 (3%)**	**608 (8%)**	**840 (11%)**	**657 (8%)**	**2,742 (36%)**	**4,963 (64%)**

[1] Based on location of earliest reported diagnosis of HIV or AIDS; presumed living includes all persons reported with HIV or AIDS who are not known to have died based on death record search.

Sexually Transmitted Diseases Subsequent to HIV Infection, Washington State, 1992-2001

Significant sustained reductions in HIV-related mortality, realized as a result of the widespread use of highly active antiretroviral therapy (HAART), may present dramatically new HIV prevention challenges. Behavioral surveillance among HIV-positive persons in multiple settings suggests that a significant proportion of those living with HIV disease are initiating - or resuming - sexual risk-taking behaviors.

Integrated analysis of statewide confidential HIV/AIDS and sexually transmitted disease (STD) surveillance case registries can provide biologic evidence in support of these observations by documenting the incidence of sexually transmitted diseases in patients subsequent to their HIV infection. Mounting evidence for a measurably increased risk of HIV transmission or infection in the presence of ulcerative and inflammatory bacterial STDs highlights the public health importance of integrating HIV/AIDS and STD surveillance data and using these data to more precisely target increasingly scarce prevention resources.

Methods

The Washington State STD and HIV/AIDS registries for 1992 - 2001 were matched using a probabilistic matching algorithm. The matching algorithm used elements of first and last name, date of birth and gender to match records across both registries, including coded HIV records as provided for under Washington State Administrative Code (WAC) authorizing asymptomatic HIV reporting. Data from matched records were stripped of identifying information and analyzed for significant trends in rates of HIV/STD co-morbidity. In addition to calculating rates of co-infection by specific STD, demographic and geographic factors significantly associated with HIV/STD co-infection were explored.

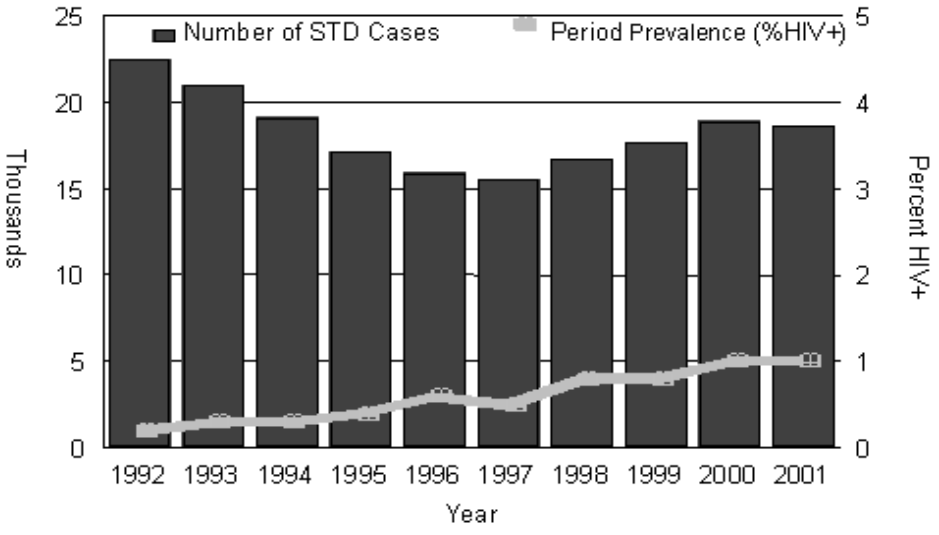
Results

Washington State's STD management information system (STD-MIS), containing 228,495 unique person-records, including the central syphilis reactor register, was matched against the statewide HIV/AIDS reporting system (HARS) which contained 14,782 unique person-records, including those persons diagnosed with HIV/AIDS in other states who received care at some time in Washington State. Probabilistic match on first name, last name, date of birth and gender yielded 1,902 unique person-matches.

Of the persons with records in HARS, 1,702 were identified with at least one episode of STD morbidity (either before or subsequent to earliest documented date of HIV infection) between 1992 and 2001. Of these, 713 persons were reported with 1,108 episodes of STD morbidity subsequent to their earliest documented date of HIV infection.

The prevalence of HIV infection among all reported STD cases increased during the study period from less than 0.2% in 1992 to almost 1.0% in 2001 (graphed line on Figure 1). Gonorrhea

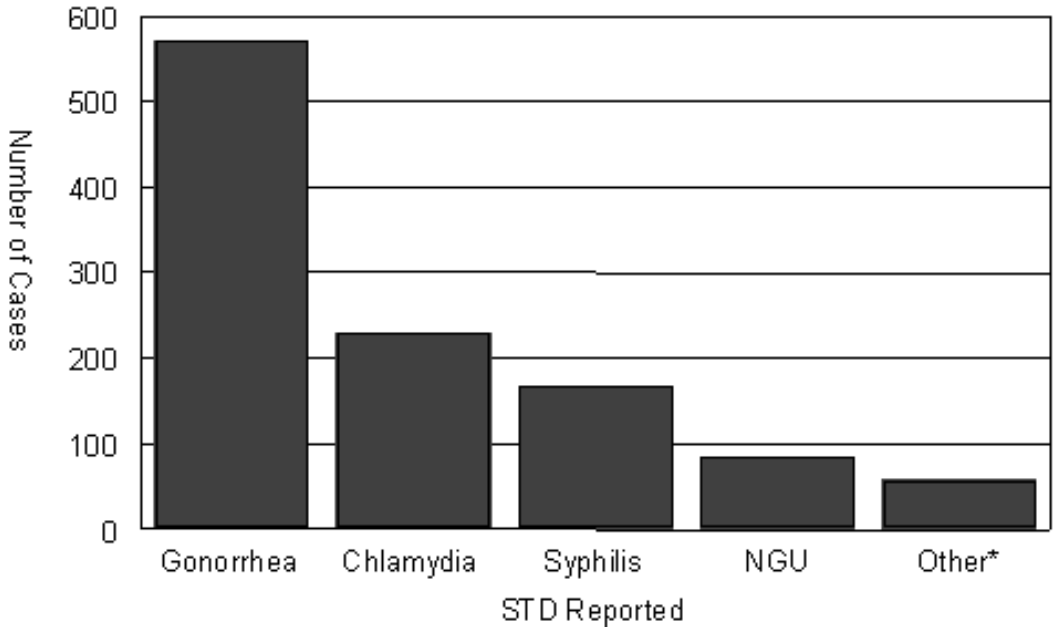
Figure 1. Prevalence of HIV Infection Among Reported STD* Cases, Washington State, 1992 - 2001



*N = 190,874; includes all reportable STDs

was the most commonly reported STD among HIV-infected individuals, followed by chlamydia and all stages of syphilis infection (Figure 2).

After adjusting for race, age, sex and geographic region, infectious syphilis (primary, secondary and early latent infection) and gonorrhea were found to be most strongly associated with HIV co-infection (Table 1), especially for more recently reported STDs.



* PID & initial HSV2 infection

Table 1. STDs Significantly Associated with Current HIV Infection, Washington State, STDs Reported 1996 – 2001

STD Reported (N=103,461)	Odds Ratio (HIV+ vs. HIV-)	(95% CI)
Infectious Syphilis	57.86	(45.5 – 73.6)
Gonorrhea	6.82	(5.93 – 7.84)
Other STDs*	0.08	(0.07 – 0.10)

* Chlamydia, NGU, PID, and late syphilis

Table 2. Characteristics of STD Cases Associated with HIV Infection (N=122,596) Washington State, 1992 – 2001

Characteristic		Adjusted† OR	95% CI
Region	Non-King County	1.00	Reference
	King County	4.22	3.45 – 5.17
Sex	Male	15.02	10.85 – 20.78
	Female	1.00	Reference
Race	White	1.00	Reference
	Black	0.28	0.22 – 0.35
	Hispanic	0.73*	0.55 – 0.95
	Am. Indian/AK Native	1.55*	0.93 – 2.47
	Asian	0.19	0.09 – 0.41
Age Group	<20	1.00	Reference
	20 – 29	1.47**	1.10 – 1.95
	30 – 39	5.95	4.56 – 7.76
	40 – 49	6.32	4.63 – 8.62
	50+	5.28	3.39 – 8.23
Number of STDs	1	1.00	Reference
	2	2.49	2.02 – 3.07
	3	2.93	2.07 – 4.13
	4	4.24	2.69 – 6.70
	5+	8.11	5.56 – 11.84

† model R^2 =0.24, all values significant at $p < 0.001$ except *$P < 0.01$ & **$P = 0.08$

The characteristics of STD cases associated with HIV-positive status at time of STD diagnosis were identified through logistic regression adjusting for age at STD, race, sex, King County vs. non-King County and specific STD diagnosis. Males, urban residents, American Indians, Whites or Hispanics, those over 29 years of age at STD diagnosis and those with a history of multiple episodes of STDs were most likely to be co-infected with HIV (Table 2)

Among persons with HIV/AIDS, Cox hazard ratios were calculated for race, sex, mode of HIV exposure, King/non-King County residence and age at HIV infection to determine characteristics associated with increased risk of STD episodes subsequent to HIV infection. Those at increased risk of STD diagnosis subsequent to HIV infection included MSM and MSM/IDU, non-Whites and those infected with HIV younger than 40 (Table 3).

Table 3. Characteristics of HIV/AIDS Cases Associated with STDs Subsequent to HIV Infection (N=13,501), Washington State, 1992 - 2001

Characteristic		Adjusted† HR	95% CI
Sex	Male	1.00	Reference
	Female	0.98	0.55 – 1.51
Race	White	1.00	Reference
	Non - White	1.96	1.57 – 2.46
Age at HIV+	30 - 39	1.00	Reference
	< 20	2.50	1.71 – 3.65
	20 - 29	1.47	1.25 – 1.74
	40 – 49	0.71	0.54 – 0.91
	50+	0.49	0.28 – 0.84
Mode of Exposure	MSM	1.00	Reference
	MSM/IDU	0.90	0.71 – 1.14
	IDU	0.44	0.31 – 0.63
	Hetero	0.53	0.32 – 0.88
	Other	0.09	0.28 – 0.29

† Adjusted Cox Hazard Ratio, psuedo R^2 =0.05, all values significant at P < 0.01

Discussion

These findings may not be particularly surprising or novel, especially to those providing direct HIV care or STD services to high-risk populations. However, they do provide a clear biologic marker for increasing sexual risk-taking among HIV-positive individuals. Incidence of gonorrhea and syphilis among HIV+ persons in recent years (1997-2001) is observed to be significantly higher when compared to earlier time periods (1992 – 1996), which could be indicative of a trend toward increasing risk behavior associated with wider availability of HAART.

One finding of particular note is that the prevalence of HIV among STD cases is highest among those persons 30 – 39 years of age, in contrast to all STDs reported which peak among persons 15 - 24 years of age. Persons in this 30-39 age group, especially MSM, are likely to have had multiple exposures to HIV prevention messages and have some knowledge of the pre-HAART consequences of HIV infection. This suggests that increases in sexual risk-taking among HIV-positive persons may be the result of treatment optimism and prevention fatigue. Additional analyses of integrated disease surveillance data, in conjunction with ongoing behavioral research among infected populations, may provide a valuable tool for prioritizing STD and HIV prevention resources.

- *Contributed by Mark R. Stenger MA and Gaston Djomand MD, MPH*

1. Fleming, DT; Wasserheit, JN, From Epidemiological Synergy to Public Health Policy and Practice: the Contribution of Other Sexually Transmitted Diseases to Sexual Transmission of HIV Infection, *Sexually Transmitted Infections,* Volume(75)1, pp 3-17, February 1999.

2. Reportable STDs include chlamydia, gonorrhea, all stages of syphilis infection, initial infection with HSV2, acute PID, chancroid, lymphogranuloma venereum and granuloma inguinale.

3. Washington State Administrative Code 246-101.

4. Earliest date of HIV infection documented in surveillance records is based on provider reports and may not reflect actual date of HIV infection. The earliest date of infection for AIDS cases is the same as date of AIDS diagnoses if no earlier date of infection is documented.

HIV Prevalence, Incidence and Risk Behaviors Among Seattle-King County STD Clinic Patients, 1988-2001

The US Centers for Disease Control and Prevention (CDC) sponsored unlinked anonymous HIV seroprevalence surveys in different sentinel populations in selected metropolitan areas between 1988 and 1999 as part of a national HIV serosurveillance system.[1,2,•] The findings described in this report are based on data collected during cross-sectional surveys conducted in the second half of each year between 1988 and 2001 at the Public Health - Seattle & King County (PHSKC) Sexually Transmitted Diseases (STD) Clinic.

Leftover blood specimens collected for clinical purposes were tested for HIV antibodies and linked via an anonymous code to data collected from patient records. The less sensitive HIV-1 EIA (Serological Testing Algorithm for Recent HIV Seroconversion, STARHS) methodology described by Janssen et al. was used to estimate HIV incidence.[3] The unlinked nature of the survey avoids participation bias and helps assure a representative sample of the survey population while preserving the anonymity of STD Clinic clients.

Our findings among eligible surveyed STD patients are summarized below. Only data from the first visit in each annual survey period are included. Results are combined for women and men who have sex with women only (MSW) because of the similar HIV seroprevalence and presented separately for men who have sex with men (MSM). The terms MSW and MSM are used because men are classified, for the purpose of this analysis, according to the gender of their sex partners.

Results

Women and MSW - HIV prevalence and trends

Data from 7,527 women and 12,232 MSW visits were included in the survey between 1988 and 2001 (Table 1). A little over one-third were women. Over half (57%) were White, 27% African American, 5% Hispanic, 4% Asian/Pacific Islander, 2% American Indian/Alaska Native, and 5% of another race or ethnicity. About 60% were younger than 30. The gender distribution remained stable over the years of the survey, while the proportion of African American clients dropped from 32% in 1988-89 to 23% in 2000-01. Seven percent had injected drugs at some time in their life and 4% had injected in the 12 months prior to their visit.

A total of 66 (0.5%) of the men and 25 (0.3%) of the women tested positive for HIV. HIV prevalence declined significantly from 0.9% in 1988-90 to 0.1 in 1997 and increased to 0.3% in 1998, 0.3% in 1999, 0.2% in 2000, and 0.7% in 2001. This recent increase was statistically significant among MSW. HIV prevalence increased among White and Hispanic MSW and among African American females and MSW, but these increases were not statistically significant because of the small number of HIV seropositives in each subgroup. In spite of the recent increasing trend, the decline between 1988-89 and 2000-01 was statistically significant among several subgroups. No Asian/Pacific Islander or American Indian/Alaska Native clients tested positive after 1989 and 1991, respectively. African American and Hispanic clients had higher HIV prevalence than White clients during all the survey years.

There were no HIV infections detected among clients younger than 20. HIV prevalence declined significantly among 20-29 year olds and remained unchanged among clients 30 and older. Although HIV prevalence was higher among clients who reported ever having injected drugs in the earlier years of the survey, this difference was less marked in recent years. None of the female/MSW STD clients who reported injection in the past year have been HIV positive since 1993 (the year this information was first collected). In spite of the decline in the proportion of patients who were diagnosed with gonorrhea, patients with gonorrhea continued to have higher HIV prevalence.

Men who have sex with men - HIV prevalence and trends

A total of 2,615 male STD patients reported sex with other men (Table 2). They comprised 18% of the male STD Clinic clients, increasing from 9% in 1988-89 to 30% in 2000-01. The demographic and HIV exposure characteristics were very different from those of the female and MSW STD Clinic population. Almost 80% were White, 8% African American, 7% Hispanic, 3% Asian/Pacific Islander, 2% American Indian/Alaska Native, and 4% of another race/ethnicity. About 60% were 30 years or older. A history of drug injection was reported by 10%, and 4% had injected in the year prior to their visit.

A total of 337 (12.9%) MSM were HIV positive including 15.6% of the men who reported sex with men only and 4.9% of the men who reported sex both with men and women (data not shown). During the 14 annual survey periods, only 2 (3.2%) of the 62 MSM younger than 20 tested HIV positive. HIV prevalence among African American MSM was more than 2-fold higher than the prevalence among White MSM.

HIV prevalence declined significantly from 35.6% in 1988-89 to 5.2% in 1996-97 reaching a low of 3.6% in 1997 when the trend reversed and increased to 6.0% in 1998, 10.7% in 1999,

•CDC funded this survey in King County 1988-1997; alternate funding supported the survey between 1998-2001.

7.3% in 2000, and 11.5% in 2001 (totaling 108 cases 1998-01). HIV prevalence more than doubled in White MSM and tripled in Black MSM between 1996-97 and 2000-01.The increase was statistically significant in MSM overall and White MSM and among those 30-39 years old. In spite of the recent increases, the overall reduction in prevalence from 1988-89 to 2000-01 was statistically significant in the total group and in several sub-categories. Throughout the survey years MSM who were HIV seropositive were more likely to have a diagnosis of gonorrhea compared to those who were seronegative. Since 1997, none of the HIV seropositive MSM reported injection drug use in the last year. HIV-seropositive MSM were more likely to report a higher number of partners compared to HIV-seronegative MSM, although these differences were not statistically significant. Between 1997 and 2001, 46% of the HIV-seropositive MSM reported two or more new sex partners in the last 2 months compared to 38% of the HIV-seronegative MSM (data not shown).

Recent sexual behaviors

In 1997 information on sexual risk behaviors in the past year was added to the survey (Table 3). The prevalence of these behaviors did not change noticeably between 1997 and 2001. About 14% of females and MSW reported five or more sex partners in the last year compared to well over half of the MSM. Twelve percent of female/MSW clients reported two or more new sex partners in the last two months compared to 39% of MSM. Condom use at last sex increased with increasing number of partners, although almost 60% of both females/MSW and MSM with five or more partners in the past year reported no condom use at their last sexual encounter. Thirty-eight percent of women/MSW and 36% of MSM who reported sex with an IDU in the past year had also injected drugs in the past year. None of the females/MSW who reported sex with an HIV-positive person were HIV-positive, whereas 16% of the MSM who reported this behavior were positive (data not shown). Three percent of women reported sex with a bisexual man and 17% of MSM reported sex with a woman in the past year—2.1% of these men were HIV-seropositive (data not shown).

HIV testing

In addition to information on recent sexual risk behaviors, information on HIV testing was also added to the survey in 1997. Among female/MSW STD clients surveyed between 1997 and 2001, 94% had HIV counseling and testing as part of their current visit, and 74% had a history of previous HIV testing (not necessarily at the STD Clinic). Among the 22 females/MSW who tested HIV positive on the survey during these years, 7 (32%) already knew their status, and an additional 9 (41%) learned their HIV-positive status at that visit (if they received the results), leaving 6 (27%) who might have been unaware of their positive status (Table 4).

Among MSM client surveyed between 1997 and 2001, 84% had HIV counseling and testing at the current visit, and 90% reported prior testing. Among the 115 MSM who tested HIV-seropositive during these survey years, 64 (56%) already knew they were HIV positive at the time of the visit, increasing from 41% in 1999 to 72% in 2002. An additional 24 (21%) tested positive at the visit. Twenty-seven (23%) of the HIV-positive MSM may not have been aware of their HIV-positive status after the clinic visit. This percent decreased from 41% in 1999 to 14% in 2001. Eighty-six percent of the HIV-negative MSM correctly knew their status when they came to the STD Clinic.

HIV incidence

The less sensitive HIV EIA or STARHS was performed on 327 HIV-seropositive specimens from 1990-2001, including samples from 63 females/MSW and 264 MSM. Only 5 seropositive specimens were not available for STARHS. Six of the 63 HIV-seropostive specimens from females/MSW tested non-reactive and had no history of a prior positive test more than 6 month ago, indicating that they were likely recent infections in relation to the survey period. All of these were from before 1996. In addition, there were two non-reactive tests from 2000 and 2001 with unknown prior testing history. There were too few recent seroconverters in this group to allow for valid calculation of HIV seroincidence.

Among MSM, 33 of the 264 HIV-seropositive specimens tested non-reactive by STAHRS. Sixteen of these had a history of a previous HIV-seropositve test more than 6 months before the current blood draw and two had previous positive tests at unknown dates. Specimens from these persons may have tested non-reactive because of antiretroviral treatment or because of an extremely compromised immune system. After exclusion of data from these 18 persons, the estimated HIV seroincidence was 2.0 per year (95% CI=1.0-3.7) for the period 1990-2001 (Table 5) and fluctuated in the individual time periods from 0.9% per year in 1994-95 to 4.4% per year in 1990-91. These differences were not statistically significant.

Throughout the survey period, MSM who presented at the STD Clinic with gonorrhea were more likely to be HIV positive than MSM who did not have gonorrhea (Table 2). The estimated annual HIV seroincidence was also greater among MSM with a gonorrhea diagnosis (6.7%) than among MSM without a gonorrhea diagnosis (1.8%). This difference, however, was not statistically significant because of the low numbers.

Comments

Over the 14 years of the survey HIV prevalence remained low among women and MSW and decreased among MSM through 1997. HIV prevalence rose among MSM after 1997, especially between 2000 and 2001. Increases were seen among White, African American and Hispanic MSW and also among African American females. The increases in the individual subgroups were not statistical significant because of the small number of HIV seropositives, but these emerging trends should be monitored closely. Based on STARHS it did not appear that this

increase was due to recently acquired HIV infections. HIV prevalence was higher among African American and Hispanic clients compared to White clients during all survey years.

HIV prevalence among MSM STD clients declined sharply between 1988-89 and 1996-97 and rose again between 1998 and 2001. HIV prevalence was about 20-fold higher among MSM compared to MSW and women. The HIV prevalence among African American MSM was about twice as high as among White MSM and has increased at a higher rate in recent years. No HIV cases were seen in women and MSW under the age of 20 and the prevalence among MSM in this age group was low. None of the MSW and women who reported injecting illicit drugs in the last year have been HIV-seropositive since 1993 and none of the MSM who injected in the last year have been HIV- seropositive since 1997.

HIV seroincidence among MSM did not vary significantly between 1990 and 2001 in spite of the differences in HIV prevalence. This is consistent with findings among San Francisco STD clinic clients, which showed that while HIV prevalence declined from 55% in 1989 to 20% in 1998 HIV incidence (as measured by STARHS) did not change significantly.[4] Continuing high rates of syphilis and bacterial STDs among MSM in King County in recent years cause ongoing concern that HIV infection may also increase in our area similar to the increase that have been reported among MSM in San Francisco.[5, 6, 7]

A very high proportion of STD Clinic patients received HIV testing. The proportion of MSM clients who were aware of their positive HIV status increased between 1999 and 2001 because an increasing proportion knew their positive status at the time of the visit or were diagnosed at that visit. While it is encouraging that a high percent know their positive status, it is concerning that such a high percent of MSM diagnosed with HIV are in need of STD Clinic services. It is fortunate, however, that these HIV-positive MSM access the STD Clinic, which can provide comprehensive diagnostic, treatment, prevention, and referral services for this population.

There are some limitations to this survey. First, not all STD clinic patients have blood drawn, which may bias the observed HIV prevalence rates if blood draw is related to HIV status. For that reason we collect information on HIV status among STD Clinic clients with no blood draws who would otherwise be eligible for inclusion in the survey. If this information is taken into account then the "true" HIV prevalence among MSM STD Clinic clients would have been closer to 10% in 1998, 12% in 1999, and 10% in 2000 compared to 6%, 11%, and 7%, respectively. HIV prevalence among MSM with and without blood draws in 2001 did not differ and HIV prevalence between women and MSW clients with and without blood draws did not differ in any of the survey years. Second, because the annual surveys are cross-sectional, client characteristics may differ between different survey years making comparisons across years less valid. Finally, the accuracy of the information depends on the accuracy of the STD Clinic records and the accuracy of the data abstractors. The clinic records are structured in a way that allows for easy data abstraction and data needed for the survey are rarely missing. Data abstraction is monitored closely to avoid mistakes.

Because STD clinics serve large numbers of persons at increased risk for HIV due to unprotected sex and multiple sex partners, these clinics continue to be important sites for monitoring emerging patterns and trends in local HIV epidemiology. The continuing increase in HIV prevalence among MSM STD Clinic clients is of concern and warrants close monitoring of HIV and other STDs and risk behaviors among local MSM as well as heightened emphasis on effective prevention. The recently observed increase among females/MSW also warrants close monitoring.

For additional information on the King County STD Clinic HIV Serosurvey, please contact Hanne Thiede at (206) 296-8663 or hanne.thiede@metrokc.gov.

- *Contributed by Hanne Thiede DVM, MPH; Ted White MPH; and Elizabeth Tesh MPH*

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We appreciate the collaboration of the Public Health - Seattle King County STD Clinic and the HIV/AIDS Program, which makes this survey possible.

Table 1. HIV Prevalence and Trends Among Female and (MSW) STD Clinic Patients, King County, 1988-2001

Characteristics	Women and men who have sex with women only							
	Total N (%)	1988-89 N (HIV%)	1990-91 N (HIV%)	1992-93 N (HIV%)	1994-95 N (HIV%)	1996-97 N (HIV%)	1998-99 N (HIV%)	2000-01 N (HIV%)
Total	19,759 (100.0)	3,037 (0.9)	3,020 (0.5)	3,133 (0.4)	2,596 (0.4)	2,925 (0.2)	2,532 (0.3)	2,516 (0.5)*^
Sex								
Male	12,232 (61.9)	1,943 (1.1)	1,832 (0.6)	1,986 (0.5)	1,596 (0.4)	1,739 (0.1)	1,531 (0.3)	1,604 (0.6)*^
Female	7,527 (38.1)	1,094 (0.5)	1,188 (0.3)	1,147 (0.3)	1,000 (0.3)	1,186 (0.3)	1,001 (0.4)	911 (0.2)
Race/ethnicity[1]								
White	11,259 (57.1)	1,678 (0.5)	1,606 (0.2)	1,784 (0.4)	1,500 (0.2)	1,706 (0.1)	1,504 (0.2)	1,480 (0.2)*
Black	5,237 (26.6)	969 (1.4)	956 (0.5)	873 (0.7)	663 (0.8)	642 (0.3)	562 (0.7)	572 (1.0)
Hispanic	1,041 (5.3)	123 (0.8)	172 (1.2)	171 (0.6)	128 (1.6)	155 (0.6)	146 (0.7)	146 (2.1)
Asian/PI	841 (4.3)	95 (1.1)	92 (0)	110 (0)	104 (0)	139 (0)	142 (0)	159 (0)
AI/AK Native*	389 (2.0)	59 (1.7)	65 (6.2)	58 (0)	49 (0)	64 (0)	46 (0)	48 (0)*
Other	893 (4.5)	87 (1.1)	119 (0)	131 (0)	141 (0)	209 (0)	123 (0)	83 (0)
Age (years)								
<20	2,207 (11.2)	446 (0)	441 (0)	378 (0)	301 (0)	277 (0)	206 (0)	158 (0)
20-29	9,206 (46.8)	1,461 (0.8)	1,521 (0.7)	1,504 (0.3)	1,208 (0.2)	1,351 (0)	1,089 (0.1)	1,072 (0.3)*
30-39	5,173 (26.3)	790 (1.8)	738 (0.4)	802 (1.0)	674 (0.7)	747 (0.3)	716 (0.4)	706 (1.0)
40+	3,068 (15.6)	330 (0.3)	313 (0.6)	413 (0.2)	391 (0.5)	534 (0.6)	514 (0.8)	572 (0.3)
IDU ever								
No	18,384 (93.0)	2,839 (0.7)	2,809 (0.2)	2,911 (0.3)	2,411 (0.4)	2,720 (0.2)	2,362 (0.3)	2,331 (0.5)
Yes	1,375 (7.0)	198 (3.0)	211 (3.8)	222 (2.3)	185 (0.5)	205 (0)	170 (0.6)	184 (0)*
IDU past year[2]								
No	11,718 (96.0)	NA	NA	1,565 (0.4)	2,499 (0.4)	2,793 (0.2)	2,440 (0.3)	2,412 (0.5)
Yes	491 (4.0)	NA	NA	67 (0)	97 (0)	132 (0)	92 (0)	103 (0)
Sex w/IDU ever								
No	18,089 (91.5)	2,924 (0.9)	2,746 (0.3)	2,822 (0.4)	2,375 (0.4)	2,627 (0.2)	2,300 (0.3)	2,294 (0.5)*
Yes	1,670 (8.5)	113 (0.9)	274 (2.2)	311 (1.0)	221 (0)	298 (0.3)	232 (0.9)	221 (0.5)
Gonorrhea[3]								
No	17,523 (96.1)	1,387 (0.5)	2,756 (0.5)	3,018 (0.4)	2,527 (0.4)	2,883 (0.2)	2,499 (0.3)	2,452 (0.4)
Yes	716 (3.9)	130 (0.8)	264 (0.8)	115 (1.7)	69 (1.4)	42 (0)	33 (3.0)	63 (3.2)

*Indicates statistically significant decreasing trend over time at $p < 0.05$.
^ Indicates statistically significant increasing trend between 1997 and 2001.

[1] Race/ethnicity was missing for 99 persons
[2] Data on use of injection drugs was collected only since 1993 1993-2001
[3] Gonorrhea at this visit was collected only since 1989

Individual categories may not add up to total because of missing data.

Table 2. HIV Prevalence and Trends Among MSM STD Clinic Patients, King County, 1988-2001

Characteristics	Men who have sex with men							
	Total N (%)	1988-89 N (HIV%)	1990-91 N (HIV%)	1992-93 N (HIV%)	1994-95 N (HIV%)	1996-97 N (HIV%)	1998-99 N (HIV%)	2000-01 N (HIV%)
Total	2,615 (100.0)	194 (35.6)	240 (26.7)	342 (14.0)	305 (9.5)	365 (5.2)	488 (8.6)	681 (9.7)^
Race/ethnicity[1]								
White	2,008 (76.9)	157 (37.6)	201 (25.4)	276 (15.2)	226 (9.3)	265 (3.8)	365 (7.4)	518 (9.7)*^
Black	200 (7.7)	—	—	29 (13.8)	—	33 (6.1)	36 (25.0)	50 (22.0)
Hispanic	170 (6.5)	—	—	23 (0)	21 (4.8)	24 (12.5)	33 (9.1)	50 (2.0)*
Asian/PI	77 (2.9)	—	—	—	—	—	—	28 (10.7)
AI/AK Native*	47 (1.8)	—	—	—	—	—	—	—
Other	97 (3.7)	—	—	—	—	25 (8.0)	—	—
Age (years)								
<20	62 (2.4)	—	—	—	—	—	—	—
20-29	1,055 (40.6)	82 (28.0)	107 (22.4)	150 (12.7)	124 (10.5)	163 (4.9)	180 (3.3)	249 (5.2)*
30-39	940 (36.2)	84 (40.5)	87 (27.6)	113 (14.2)	97 (9.3)	126 (7.1)	179 (12.3)	254 (14.2)*^
40+	539 (20.8)	20 (45.0)	43 (37.2)	61 (19.7)	71 (8.5)	65 (1.5)	117 (12.0)	162 (9.9)*
IDU ever								
No	2,388 (91.3)	180 (35.0)	217 (25.3)	297 (13.8)	273 (9.2)	331 (4.8)	461 (8.9)	629 (10.0)*
Yes	227 (8.7)	—	23 (39.1)	45 (15.6)	32 (12.5)	34 (8.8)	27 (3.7)	52 (5.8)*
IDU past year[2]								
No	1,921 (95.8)	NA	NA	158 (14.6)	289 (9.3)	342 (5.3)	476 (8.8)	656 (10.1)^
Yes	85 (4.2)	NA	NA	—	—	23 (4.3)	—	25 (0)
Sex w/IDU ever								
No	2,363 (90.4)	178 (35.6)	216 (25.9)	297 (13.8)	272 (9.6)	327 (4.9)	451 (8.4)	622 (9.8)*
Yes	252 (9.6)	—	24 (33.3)	45 (15.6)	33 (9.1)	38 (7.9)	37 (10.8)	59 (8.7)*
Gonorrhea[3]								
No	2,354 (92.8)	102 (27.5)	204 (24.5)	320 (10.9)	291 (8.6)	350 (4.9)	450 (7.8)	637 (8.3)*^
Yes	183 (7.2)	—	36 (38.9)	22 (59.1)	—	—	38 (18.4)	44 (29.5)*^

*Indicates statistically significant trend over time at $p<0.05$;
^ Indicates statistically significant increasing trend between 1997 and 2001.

[1] Race/ethnicity was missing for 16 persons
[2] IDU last year collected 1993-2001
[3] Gonorrhea at this visit collected 1989-2001
— Data not shown because of small denominator (N < 20) which makes percentages less reliable

Individual categories may not add up to total because of missing data.

Table 3. Recent Sexual Behaviors Among STD Clinic Patients, King County, 1997-2001

Sexual behaviors	Women and men who have sex with women only N=6,492 Percent	Men who have sex with men N=1,364 Percent
Numbers of partners in past yr.		
0 partners	3.6	1.8
1 partner	29.1	12.6
2 - 4 partners	52.9	34.9
5 or more partners	14.4	50.7
Number of partners in past 2 mo.		
0 partners	16.9	9.0
1 partner	55.9	34.2
2 or more partners	27.2	56.8
Number of new partners in past 2 mo.		
0 new partners	56.1	33.6
1 new partner	32.2	27.4
2 or more new partners	11.7	39.0
Condom used at last sex by no. of partners		
1 partner last year	30.3 (N=1,546)	29.5 (N=122)
2 - 4 partners last year	37.2 (N=2,991)	42.8 (N=362)
5 or more partners last year	38.1 (N=819)	45.5 (N=552)
Sex with IDU in past yr.		
Yes	4.2	4.3
Sex with HIV+ in past yr.		
Yes	0.5	13.6
Exchanged $/drugs for sex in past yr.		
Yes	5.4	3.3
Sex with bisexual man (women) in past yr.		
Yes	3.1	NA
Sex with women (MSM) in past yr.		
Yes	NA	17.1

Individual categories may not add up to total because of missing data.

Table 4. Correct Knowledge of HIV Status in Relation to the STD Clinic Visit, King County, 1997-2001

Correct knowledge of HIV serostatus	Females/MSW		MSM	
	HIV+ N=22 N (%)	HIV- N=6469 N (%)	HIV+ N=115 N (%)	HIV- N=1249 N (%)
Knew at time of visit	7 (31.8)	4681 (72.4)	64 (55.7)	1075 (86.1)
Knew after visit*	9 (40.9)	1662 (25.7)	24 (20.9)	153 (12.2)
May not have known after visit	6 (27.3)	172 (2.7)	27 (23.5)	21 (1.7)

* If results were given

Table 5. HIV Prevalence and Estimated Annual Incidence Among MSM STD Clinic Patients, King County, 1990-2001

	Men who have sex with men	
Year of survey	Prevalence %HIV+ (95% CI*)	Estimated Incidence % new HIV+ (95% CI*)
Total	**11.1 (9.8-12.4)**	**2.0 (1.0-3.7)**
1990-91	26.7 (21.4-32.5)	4.4 (0.6-15.3)
1992-93	14.0 (10.5-18.2)	1.8 (0.1-7.8)
1994-95	9.5 (6.5-13.4)	0.9 (0.0-6.6)
1996-97	5.2 (3.2-8.0)	1.5 (0.1-6.7)
1998-99	8.6 (6.3-11.5)	2.3 (0.5-7.2)
2000-01	9.7 (7.6-12.2)	2.1 (0.6-5.4)

*The 95% confidence interval (CI) is the interval within which the point estimate (prevalence or incidence) is expected to fall 95% of the time; if the 95% CIs overlap then the difference in prevalence or incidence between different time periods is not statistically significant

Pharmacy Sale and Safe Disposal of Syringes in Seattle-King County

Injection drug use currently accounts for one-third of all new U.S. AIDS cases and approximately 60% of hepatitis C virus (HCV) infections.[1, 2] HCV is the major cause of end-stage liver disease and need for transplantation and is a major cause of hepatocellular carcinoma. Nationally, fifty percent of new HIV infections occur among IDU and their sex partners.[3,4,5]

In King County, where most studies involving IDU are conducted in Washington State, only 3% of IDU are HIV infected thanks to needle exchange and other prevention efforts.[6] Given that 86% of King County IDU are infected with HCV, however, HIV's potential for rapid spread continues to be great.[6,7]

Statewide HIV and HCV data for IDU are not available. However, it is estimated that over 60% of IDU across Washington State have HCV.[8] These diseases, and other medical complications (e.g., abscesses and endocarditis) mostly result from the shared use of drug injection equipment, including syringes, drug cookers, water and filtration cotton.[7,9]

Lower frequency of unsafe injection practices and reduced risk of infections are associated with access to sterile injection equipment.[10,11,12,13] Access to sterile syringes does not appear to increase drug use, either by more frequent injection by IDU or by increasing the number of injectors.[14,15,16] IDU have three ways to acquire sterile syringes: 1) needle exchange, 2) physician prescription, and 3) pharmacy sales.

Pharmacists are needed to help prevent the transmission of HIV, hepatitis, and other blood-borne infections among injection drug users (IDU) by selling new, sterile syringes.

Syringe Access

Public Health – Seattle & King County (Public Health) began operating needle exchange programs in 1989 to prevent new blood-borne infections, reduce the negative consequences of injection drug use, facilitate entry into drug treatment, and remove used syringes from circulation and ensure their safe disposal. There are currently seven needle exchange sites within King County. All provide one-for-one exchange with no volume limit. King County programs exchanged over 2 million syringes in 2001.

Even with extensive needle exchange operations, King County IDU continue to share syringes. Approximately 62% of recently arrested IDU revealed that they injected with a needle used by someone else in the last 6 months.[17] This is understandable. Needle exchange sites have limited locations, limited hours and are sometimes under police watch, factors which can present barriers for IDU attempting to access new, sterile injection equipment. Although needle exchange sites in King County exchange over 2 million syringes yearly, they meet only a small portion of the need. Based on an estimated population of 15,000 IDU injecting 3 times per day, approximately 17 million syringes are needed per year countywide for individuals to consistently use a sterile syringe for each injection.

Physician prescribing has only recently been recommended and clarified to be legal in Washington State.[18,19] However, many IDU are not comfortable revealing their drug use to medical care providers for fear of stigmatization and rejection.[20] And many pharmacists are not yet sure of the legality of selling to users without prescriptions. [21,22,23] These factors can present barriers for IDU who attempt to access sterile syringes.

Legality of Syringe Sales

Current Washington State law (RCW 70.115.050) stipulates that on the sale at retail of any syringe or other device used to inject drugs, "*the retailer shall satisfy himself or herself that the device will be used for the legal use intended.*"

In the fall of 1999, after reviewing information from the Centers for Disease Control and Prevention and an interpretation of drug paraphernalia laws by the Washington State Supreme Court, the Washington State Board of Pharmacy determined that *legal use* includes the distribution of sterile hypodermic syringes and needles for the purpose of reducing the transmission of blood-borne diseases.

On March 28, 2002, Governor Locke signed into law House Bill 1759 which allows for the sale of hypodermic needles and syringes to reduce the transmission of blood-borne diseases. This revised drug paraphernalia legislation (RCW 69.50.4121 and 1998 c 317 s 1 and RCW 69.50.412 and 1981 c 48 s 2) specifically exempts pharmacies from any penalties associated with syringe distribution. It also allows individuals over the age of 18 to possess sterile hypodermic syringes and needles for the purpose of reducing blood-borne diseases.

To facilitate access to education and screening for HIV and hepatitis as well as public health services such as drug and alcohol treatment, the Washington State Board of Pharmacy recommends that pharmacies partner with public health agencies for syringe sales.

Program Description

Based on this information, Public Health began collaborating in March 2001 with King County retail pharmacists to increase syringe access. The purpose of the collaborations is to prevent the transmission of blood-borne infections and other medical complications of using non-sterile injection equipment.

As of July 2002, 26 pharmacies had agreed to voluntarily participate in selling sterile syringes by signing a memorandum of understanding (MOU) with Public Health. This understanding recognizes the pharmacy as Public Health's "community partner" in providing access to sterile syringes and protecting both individual and public health.

With this understanding, Public Health agrees to provide to pharmacies:

- Written materials to each pharmacy for free distribution to customers.
- Free anonymous/confidential HIV and hepatitis counseling and testing at nearby sites.
- Free training for pharmacy staff on the prevention of HIV, hepatitis and other blood-borne infections.

Participating pharmacies agree to:

- Offer retail sales of sterile injection equipment to persons who use drugs by injection.
- Provide verbal and written information to customers concerning:
  - The safe, legal, and free disposal of used needles and syringes.
  - The prevention of disease, including HIV, hepatitis, and other blood-borne infections.
  - The value and availability of drug/alcohol treatment.
  - The value and availability of HIV counseling and testing.
- Request training, as necessary, from Public Health on the prevention of HIV, hepatitis and other blood-borne infections.

Referrals to partnered pharmacies are provided to clients at King County needle exchange sites as well as to individuals who call the Public Health HIV/STD Hotline. Participating pharmacies and their locations are listed on the Public Health HIV/AIDS Program harm reduction and drug use web pages at www.metrokc.gov/health/apu.

In addition to retail pharmacy collaborations, Public Health pharmacies began in 2001 to sell syringes to anyone on request. No prescription is required, and individuals do not need to be registered Public Health patients.

Syringe Disposal

Public Health is also committed to reducing the number of used needles and syringes placed in the trash and entering the public waste stream. Individuals may dispose of used syringes at any of ten Public Health clinics or the seven needle exchange sites. Three Public Health clinics have installed secure, exterior syringe drop boxes. These steel boxes enable individuals to discretely and safely dispose of injecting equipment 24 hours a day. Should these prove successful, Public Health will place a drop box at each of its health clinics. Public Health has also partnered with Community Health Centers to site additional drop boxes.

Evaluation & Preliminary Findings

In October, 2001, the Association of Schools of Public Health and the Centers for Disease Control and Prevention awarded Public Health funding to evaluate participation in and the results of pharmacy sales in King County. Study objectives include 1) describing the pharmacy participation process and its impact on needle exchange operations, and 2) evaluating the effect of pharmacy sales on discarded syringes in neighborhoods where pharmacy sales occur and whether public syringe disposal boxes mitigate the problem.

As of July 2002, Public Health had contacted 46 retail pharmacies within King County about collaborating in selling syringes to IDU. Twenty-six (57%) enrolled as Public Health partners. One had closed, and the remainder reported that the collaboration has been positive and successful. In fact, pharmacists are reporting that customers have been respectful and polite. IDU have expressed gratitude for the ability to purchase syringes without questions and without feeling judged.

Staff of pharmacies that declined participation expressed concerns that having their pharmacy listed or advertised would attract IDU clientele who might pose safety and security threats. Other pharmacies were not comfortable signing MOU without support from their corporate offices and sent materials to corporate personnel for consideration. One pharmacist adamantly opposed syringe access, stating that providing access condoned drug use. But some pharmacies who were not comfortable signing MOU indicated their willingness to sell syringes to IDU nonetheless.

Pharmacy recruitment efforts have been enhanced through collaborations with the Washington State Board of Pharmacy and the Washington State Pharmacy Association. Also, an individual pharmacy manager who partnered with Public Health became a peer leader. He personally recruited fellow pharmacy managers and drafted a letter of recommendation targeted to pharmacists. Public Health proposes to recruit an additional 50 pharmacies over the next year.

Early indicators suggest that syringe disposal at Public Health clinics and drop box usage are proving successful. Clinic staff have embraced syringe disposal and used syringes were retrieved from one drop box two days after its installation. There have been no adverse impacts as a result of increased disposal efforts and drop box installation at any of the Public Health clinic sites.

Resources and Information

Pharmacists can take a leadership role in implementing the new regulations across Washington State. Contact your local health department to inquire about syringe sales guidance and to request assistance.

For more information, you may also contact the staff members of the following organizations:

- WA State Board of Pharmacy, Don Williams
  360-236-4825 don.williams@doh.wa.gov
- WA State Pharmacy Association, Rod Shafer
  425-228-7171 *rshafer@wsparx.org*
- Public Health – Seattle & King County, Robert Marks
  206-205-5510 *robert.marks@metrokc.gov*

This is an excellent opportunity for community pharmacies to continue to demonstrate their commitment to improving health care. With your help, we can prevent new blood-borne infections, reduce the negative consequences of injection drug use and facilitate entry into drug treatment. Together we can protect the health of all Washington State residents and communities.

- *Contributed by Robert W. Marks MEd; Michael Hanrahan; Robert W. Wood MD; Gary Goldbaum MD, MPH; Hanne Thiede DVM, MPH; and Ryan Deibert*

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HIV Testing Patterns and Reasons for Delaying Testing by Persons at Risk for HIV: Results of the Seattle-area HIV Testing Survey, 2000

Since 1995, the US Centers for Disease Control and Prevention (CDC) have sponsored time-limited cross-sectional surveys of individuals at risk for HIV infection. The initial HIV Testing Survey (HITS) projects were conducted in eight states and designed to assess whether persons at risk of HIV infection knew about their state's HIV reporting policies and whether the type of reporting (name-based or non-name based) influenced person's willingness to be tested for HIV.[1] In Seattle, a general HITS survey was conducted in the year 2000 (HITS-2000), and in 2002 Public Health—Seattle & King County (PHSKC) conducted a specialized HITS survey among Asian/Pacific Islanders.

One of the primary objectives of HITS-2000 was to evaluate the impact of changes in Washington State policy[2] in September 1999 to include confidential reporting of persons with asymptomatic HIV infection to public health departments around the state. Due to community concerns, Washington State had adopted a hybrid model of HIV case reporting. Instead of standard confidential reporting by name as is done for AIDS and other reportable diseases (e.g., gonorrhea, measles, tuberculosis), for asymptomatic cases of HIV infection, patient name is initially reported to Public Health but converted to a non-name coded identifier within 3 months of the completed case report.

As in other states, community advocates and public health officials wanted to assess whether HIV case reporting deterred HIV testing among persons at high risk for HIV. An adverse effect on HIV testing rates would have a detrimental impact on HIV prevention efforts. This report presents some of the survey's findings, focusing on HIV testing patterns and the reasons persons reported delaying testing.

Methods

HITS is an anonymous, venue-based interview survey designed by CDC which has been repeated in many areas of the United States since late 1995.[1] In HITS-2000, PHSKC study staff surveyed participants from three different populations at risk for recent exposure to HIV: 1) men who have sex with men (MSM); 2) high-risk heterosexuals (HRH) who suspected they had a sexually-transmitted disease (STD); and 3) active injection drug users (IDU). The interviews took place between June and November 2000, and the aim was to recruit at least 100 persons from each of the at-risk populations. To be interviewed participants had to be at least 18 years of age, be residents of Washington State for at least 12 months, and provide informed consent. Participants were recruited at 14 different venues in the Seattle area (MSM at 8 gay bars and clubs, IDU at 5 street sites, HRH at 1 high-volume STD clinic). Those who consented were administered an anonymous interview conducted by trained study staff in a private space whenever possible and received $25 for their participation. The interview asked about the participant's demographic background, HIV risk behaviors, HIV testing history, knowledge and attitudes about HIV reporting policy, and reasons for not testing regularly for HIV.

Results

Of the 314 individuals who were recruited and responded to the survey, 270 (86%) met the eligibility criteria. Of the eligible respondents, 83 were MSM, 90 were HRH and 97 were IDU. Table 1 shows the demographic characteristics of the survey respondents and their HIV testing history.

HIV Testing Experiences

The data from HITS suggest high rates testing among at-risk populations in the Seattle area — 90% of the survey respondents had been tested for HIV. Among those who had been tested and gotten their results, 3% (6 MSM, 2 IDU) had tested HIV positive. Overall, 116 (49%) of the 235 individuals who had tested negative reported that they were getting tested on a regular basis, defined as testing every 6 months or at the same time every year. The CDC and local public health officials recommend testing at regular intervals for the at-risk populations represented by the participants in HITS. Among those interviewed, MSM (52%) and IDU (57%) were more likely than HRH (36%) to report getting tested regularly ($p = 0.03$).

In comparisons between gender and age groups, the percentage of individuals who reported receiving regular testing were similar (50% of females, 49% males; 44% of 18-24 year olds, 56% of 25-34 year olds, 43% of 35-44 year olds, 47% of persons 45 or older). By race, percentages varied somewhat with 42% of non-Hispanic whites, 36% of non-Hispanic blacks, 82% of Hispanics, and 55% of other/mixed ethnic groups reporting regular testing (these data should be interpreted with caution since the survey included a relatively small number of blacks (n=33) and Hispanics (n=11)). Among survey respondents, the median time between the date of the interview and the reported date of the most recent HIV test was 8 months (range = 0 to 132 months) (Table 2). There were statistically significant differences in the length of this time frame between these risk groups ($p=0.01$ by analysis of variance). Individuals recruited at the STD clinic had the longest time between their most recent test and interview while IDU had the shortest time span.

Table 1. Characteristics of Seattle-area HITS-2000 Respondents

	Overall		MSM		HRH		IDU	
Variable	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Total	**270**	**100%**	**83**	**100%**	**90**	**100%**	**97**	**100%**
Gender								
Male	204	76%	83	100%	53	59%	68	70%
Female	66	24%	0	0%	37	41%	29	30%
Race								
Non-Hispanic White	173	64%	65	78%	54	60%	54	56%
Non-Hispanic Black	33	12%	3	4%	15	17%	15	15%
Hispanic	11	4%	5	6%	3	3%	3	3%
Other/Mixed[1]	53	20%	10	12%	18	20%	25	26%
Age[2]								
18 – 24 years	50	19%	11	13%	27	30%	12	12%
25 – 34 years	99	37%	40	48%	35	39%	24	25%
35 – 44 years	73	27%	24	29%	18	20%	31	32%
> 44 years	47	17%	8	10%	10	11%	29	30%
Education								
8th grade or less	9	3%	0	0%	2	2%	7	7%
Some high school	29	11%	0	0%	15	17%	14	14%
High school grad/GED	75	28%	18	22%	11	12%	46	47%
Some college	86	32%	23	28%	41	46%	22	23%
College grad/postgrad	71	26%	42	51%	21	23%	8	8%
Housing Situation								
Rent home/apt	140	52%	52	63%	58	64%	30	31%
Own home	29	11%	18	22%	8	9%	3	3%
Live w/friends (no rent pd)	44	16%	11	13%	14	16%	19	20%
Live in hotel	6	2%	1	1%	1	1%	4	4%
Homeless	39	14%	0	0%	4	4%	35	36%
Other[3]	12	4%	1	1%	5	6%	6	6%
Currently Employed								
Yes	158	59%	74	89%	54	60%	30	31%
Ever Tested for HIV								
Yes	243	90%	76	92%	74	82%	93	96%
Tested for HIV in past 12 months								
Yes	139	51%	43	52%	27	30%	69	71%
Tested Positive for HIV[4]								
Yes	8	0.4%	6	8%	0	0%	2	2%

[1] Among those in the other/mixed race group: 33 described themselves as Native Americans or mixed Native Americans with white or black, 13 as Asian/Pacific Islander or Asian/Pacific Islander mixed with white or black, 1 black/white, and 4 as a mixture of the above races, and 2 as other/unspecified

[2] One individual did not report his/her age

[3] Other housing included 1 live with partner, 2 share with friends, 1 streets, 2 shelter, 3 treatment center, 2 fraternity/dormitory, 1 camping

[4] Percent calculated as proportion positive among those who had ever been tested for HIV

Table 2. Time since Last HIV Test by Risk Group

	Overall		MSM		HRH		IDU	
	N = 227		N = 69		N = 69		N = 89	
Median	8 months		7 months		14 months		6 months	
Average	18.3 months		22.4 months		22.4 months		11.9 months	
Time Since Last Test	N	%	N	%	N	%	N	%
0 – 6 months	92	40%	33	48%	13	19%	46	52%
7 – 12 months	47	21%	10	14%	14	20%	23	26%
13 – 24 months	39	17%	6	9%	22	32%	11	12%
> 24 months ago	49	22%	20	29%	20	29%	9	10%

Reasons for Testing and for Delaying Testing

A primary objective of the HITS survey was to assess the factors that influence persons to seek or not seek HIV testing. Of special interest was whether the recent implementation of reporting of persons with HIV infection to Washington State public health departments was proving a deterrent to HIV testing.

Survey respondents who had tested negative for HIV were asked for reasons for delaying (i.e., not testing regularly) from an extensive list of possible reasons. They were also asked to specify their main reason for delaying testing. Forty-five (18%) of the 244 tested survey respondents (20 IDU, 17 MSM, 8 HRH) reported that they last tested without any delays.

Among those who offered reasons for delaying, the most commonly offered reasons were thinking it was unlikely that they had been exposed to HIV, thinking that they were HIV negative, or not wanting to think about being HIV positive (Table 3). On average, participants offered two to three reasons for delaying testing. The most commonly offered "main" reason for delaying testing was thinking that it was unlikely that they had been exposed to HIV (37% of those with delays). In answering this question, a smaller proportion of IDU (27%) thought themselves unlikely to have been exposed to HIV compared to MSM (43%) or HRH (43%) (Table 4).

Concern about government reporting, a reason for 8% of respondents, was the ninth most frequently offered reason for delaying testing and the eighth most frequently offered "main" reason for delaying (main reason for 2% of respondents). However, reporting concerns may be somewhat of a deterrent as 6% of the 243 tested participants compared to 19% of the 27 non-tested participants who mentioned concerns about government reporting among their reasons for not testing ($p = 0.04$). Among the 20 individuals who mentioned concern about government reporting 4 (20%) were MSM and 11 (55%) were HRH; 12 (60%) were males and 8 (40%) were females.

Female respondents were significantly more likely than males to delay testing because they were worried about who would find out (15% females vs. 6% males, chi-square p-value =0.01). They were also significantly more likely to delay due to concerns about being reported to their insurance company or their employer (32% females vs. 19% males, $p = 0.03$). And, although not statistically significant, a greater percentage of females said they delayed HIV testing because they were worried about their name being reported to the government (12% females vs. 6% males).

Table 3. Reasons for Delaying HIV Testing

	Overall		MSM		HRH		IDU	
Reason For Delaying*	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Thought were negative	134	51%	39	51%	59	66%	36	38%
Unlikely exposed to HIV	127	48%	37	48%	55	61%	35	37%
Didn't want to think about being positive	73	28%	15	19%	30	33%	28	29%
Afraid of finding out positive	62	24%	14	18%	23	26%	25	26%
Didn't have time	59	23%	14	18%	19	21%	26	27%
Little could be done if positive	23	9%	4	5%	9	10%	10	11%
Worried about who would find out	21	8%	1	1%	10	11%	10	11%
Worried about name reporting to government	20	8%	3	4%	11	12%	6	6%
Concerned about reporting to insurance/employer	16	6%	4	5%	9	10%	3	3%
Unsure where to get tested	12	5%	6	8%	3	3%	3	3%
Other	38	15%	11	15%	13	15%	14	15%

*All 262 untested and negative tested individuals responded either yes or no to each of the above questions with the exception of 1 non-respondent about government reporting and 7 non-respondents about other reasons for delaying.

Table 4. Main Reason for Delaying HIV Testing

	Overall		MSM		HRH		IDU	
Reason For Delaying*	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Unlikely exposed to HIV	66	37%	22	43%	26	43%	18	27%
Thought were negative	25	14%	7	14%	9	15%	9	13%
Didn't have time	25	14%	5	10%	8	13%	12	18%
Afraid of finding out positive	21	12%	7	14%	3	5%	11	16%
Didn't want to think about being positive	12	7%	3	6%	3	5%	6	9%
Little could be done if positive	3	2%	1	2%	1	2%	1	1%
Worried about name reporting to government	3	2%	1	2%	1	2%	1	1%
Unsure where to get tested	2	1%	1	2%	0	0%	1	1%
Concerned about reporting to insurance/employer	2	1%	0	0%	1	2%	1	1%
Other*	19	11%	4	8%	8	13%	7	10%

* Among the "other" reasons offered, the most common reason was laziness.

Knowledge of Reporting Policies

HIV case reporting in Washington State is based on a name-to-code model in which providers and laboratories diagnosing persons with HIV infection report names and other data (e.g., age, race, risk category, and diagnosis date) to public health officials, as required by Washington State Administrative Code (WAC).[2] Persons testing anonymously for HIV are not reported until such time as they enter medical care. The WAC stipulates that providers offering HIV testing must, during pre-test counseling, advise individuals that both confidential and anonymous HIV testing are available throughout the state, and that if testing is done confidentially with positive results, a confidential case report will be made to the public health department.

For persons with diagnosed with asymptomatic HIV infection, patient name is kept by public health departments only until all needed case report data are obtained from the patient's care provider, and at that point the name must be converted within 3 months to a unique non-name coded identifier. Washington State was the first state to use this model of HIV reporting although several other states, including Oregon, have since adopted similar systems. *[For more information about HIV and AIDS reporting in Washington State, see the HIV/AIDS Epidemiology Report for 4th Quarter 1999 and 2nd Half 2000 or access the HIV/AIDS Epidemiology web site at www.metrokc.gov/health/apu/epi].*

The HITS-2000 questionnaire contained a series of questions about whether various HIV reporting models were in use in Washington State. In response to questions about the use of unique identifier reporting, name-to-code systems, and background information on HIV reporting, more than half of the respondents said that they "didn't know" Washington State's policy on HIV reporting. However, 184 (68%) individuals answered "yes" to the existence of reporting in response to at least one of the questions, suggesting that these individuals believed that there was some type of reporting of HIV to government officials in Washington State. Only 11% of the respondents reported having heard anything about changes in HIV reporting policies. (HIV reporting had been initiated less than 12 months before the survey and had been widely debated in the press and gay media and covered by local TV and radio stations for at least 18 months prior to implementation.[3]

Perceptions about the use of testing were relatively consistent across various patient characteristics, although a higher percentage of individuals who had been tested for HIV thought that there was HIV reporting (chi-square p-value = 0.005). Significantly higher percentages of the small number (n=27) of individuals who had not been tested ($p < 0.001$) or who were female ($p=0.02$) said they didn't know whether or not there was an HIV case reporting requirement in the state.

Discussion

The results from HITS-2000 in Washington State suggest that a very high percentage of the at-risk population in King County have been tested at least once for HIV, and that the proportion of persons tested may have increased somewhat in recent years. In HITS-2000, 90% of respondents had ever been tested for HIV. This is a higher percentage than that reported by CDC based on the initial HITS surveys conducted in 8 other states in 1995-96 in which 80% of the respondents had ever been tested. [1] Also, the testing rate among MSM in HITS-2000 (92%) was somewhat higher than that observed in a random-digit dialed telephone survey, conducted by PHSKC in 1992 in selected Seattle neighborhoods, which revealed that 82% of MSM reported having ever tested for HIV.[4] Although the majority of participants in HITS-2000 had been tested at least once, it is important to note that only 49% of the survey respondents reported getting tested regularly. Regular HIV testing by persons at-risk is recommended in CDC guidelines[5], and local HIV/STD prevention guidelines[6] advise MSM with continuing risk behaviors be tested every 6 months.

The reasons for delaying testing seemed to be consistent across the groups surveyed (Tables 3 and 4). The most common reasons for individuals delaying testing, regardless of risk, was a lack of perceived exposure to HIV or believing themselves to be HIV negative; and as such it would be of interest to further investigate the basis for these perceptions. Not wanting to find out or not wanting to think about their HIV status were other prominent reasons for not testing. Our study results also suggest that the relatively small number of persons who had not been tested for HIV (10% of the 270 respondents) were more concerned about reporting than those who had been tested for HIV.

Accurate knowledge of HIV reporting policies was low. Only 18% of respondents knew that name-to-code reporting was the manner in which HIV cases were reported in Washington. This is similar to findings from the initial HITS where only 15% of individuals had correctly identified the reporting policy in their state.[1] Although most HITS-2000 participants did not know the specific reporting method, the majority did perceive that there was some type reporting to government officials in Washington State.

The findings reported from this survey are limited in that the study was not population-based but instead based on recruitment specific to certain venues. Additionally, the size of the sample, particularly the size of the female and untested sample populations, may be too small to infer true population differences. It could also be the case that the some of the respondents' statements do not actually represent their actions. The testing behaviors reflected by the IDU population may be misleading since recruitment was based in areas around needle exchanges and so may not provide a representative sample of the entire injection drug using population in the Seattle area.

Similarly, MSM were recruited at gay bars and clubs and the results may not reflect Seattle-area gay men overall.

The high testing rates in IDU may relate to enrollment of many drug injectors in studies conducted by PHSKC in IDU populations in recent years. These studies included a cohort study evaluating the efficacy of needle exchange and which provided incentives for HIV testing at 6 month intervals and a study in King County correctional facilities which provided a small monetary incentive for testing and participation in an interview. Conversely, a strength of the HITS-2000 design was that it recruited individuals likely to be engaging in risky behavior: MSM were recruited from 8 gay bars and clubs, IDU were recruited from areas near needle exchange sites, and heterosexuals were attending a sexually-transmitted disease clinic.

Overall, the study results suggest that the at-risk population in Seattle is seeking testing for HIV, although not as frequently or regularly as recommended. The findings showed that women were more fearful about who may learn of their HIV results and therefore may need further education and reassurance as to the privacy protections for HIV testing and reporting data. That heterosexual survey participants, all of whom suspected they had a sexually-transmitted disease, had much greater intervals between HIV tests compared to MSM and IDU suggests the need for increased attention to HIV testing targeting high risk heterosexuals.

The study revealed that the majority of at-risk persons knew little about HIV reporting policy in the state, despite the timing of the survey not long after a protracted and contentious public debate and the ultimate adoption of a unique form of HIV case reporting.[3] Finally, the survey indicated that HIV reporting does not appear to be a major deterrent to testing for the great majority of at-risk persons. Instead, the main reasons for delaying testing centered around persons thinking they were unlikely to have been exposed to HIV, being afraid of discovering they are HIV positive, thinking there was little that could be done if they were HIV positive, and not having the time to get HIV testing.

- *Contributed by Sarah Gelfand MPH, Sharon G. Hopkins DVM, MPH and Jim Kent MS*

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HAP Report: CARE PROJECT 2002 — Cultural issues from the 2002 HIV/AIDS Care Services Consumer Needs Assessment

"Care Project 2002" was a collaborative HIV/AIDS needs assessment project conducted from February through May 2002 by Public Health – Seattle & King County and the Seattle HIV/AIDS Planning Council. The project had two primary goals:

- To gather data from across the spectrum of persons living with HIV (PLWH) in King County about their experiences and satisfaction with key HIV-related services such as primary care, case management, housing, mental health therapy/counseling and substance use treatment/counseling; and

- To examine ways in which consumer access to and/or satisfaction with services has been affected by cultural issues including sex, race/ethnicity and immigration status.

In this article, we focus primarily on describing the results of the latter goal of determing the effects on cultural issues on access to and satisfaction with services. A copy of the full needs assessment report can be obtained by contacting Jeff Natter, HIV Care Services Coordinator at Public Health—Seattle & King County at (206) 205-5506 or by e-mail at jeff.natter@metrokc.gov.

Methods

The project consisted of focused interviews of 191 persons living with HIV/AIDS in King County. The interviews were conducted by a team of five trained Public Health interviewers at times and places that were mutually agreed-upon between the subjects and the interviewers. Each interview was approximately 30-45 minutes in length, and included both open-ended and multiple-choice questions. Interview subjects received $20 grocery vouchers for participating.

Because one of the main goals of Care Project 2002 was to explore the effects of sex, race, and immigration status on service access and delivery, project staff engaged in focused efforts to over-sample women, persons of color, and PLWH who were foreign born. Project staff identified consumer participants through medical clinics, AIDS service organizations, outreach workers, private medical providers, jails, homeless agencies, counseling/testing sites, and other social service venues.

As shown below in Table 1, over-sampling efforts were very successful in attracting a diverse group of interview participants. Interview participants were more than twice as likely to be female than King County PLWH, and almost twice as likely to be persons of color. Twenty-nine percent of the interview sample population was foreign-born.

Other demographic indicators also suggest that the project was successful in recruiting traditionally under-served PLWH who demonstrate the greatest service needs. Of the 191 PLWH interviewed:

- 55 (29%) had been in jail or prison in the past five years;
- 6 (3%) were currently in jail;
- 31 (16%) were primarily Spanish speakers;
- 14 (7%) spoke languages other than English or Spanish, including African and Asian languages, and
- 167 (87%) had annual household incomes under $18,000 (200% of FPL).

Due to Care Project's focus on comparing service access and satisfaction across gender, racial and immigration status, it is likely that data from the project cannot be fully generalized to the entire population of PLWH in King County. Rather, these data are most useful in gaining an understanding of the experiences and opinions of a certain stratum of PLWH who are most likely to face financial and lifestyle barriers in accessing care services and who, therefore, are most likely to be consumers of Ryan White Title I funded services.

Results

HIV/AIDS Status

The majority of persons interviewed had been aware of their HIV serostatus for several years. Twenty-nine percent of respondents had known they were HIV+ for more than five years, and a third of all respondents had been living with HIV for longer than 10 years. Only 13 respondents (7% of sample) were relatively recently diagnosed, having been living with HIV for one year or less.

Fifty-two percent of interview participants had received an AIDS diagnosis, with 41% reporting that they were HIV+, non-AIDS. Eleven participants (6% of sample) were not sure whether or not they had been diagnosed with AIDS.

A large portion of the sample had moved into King County after learning of their HIV+ status. Only 58% of the sample had received their HIV+ diagnosis in King County. Six percent had been diagnosed with HIV in another county in Washington, and 30% were diagnosed with HIV in other states. Twelve of the particpants (6%) had been diagnosed with HIV in another

Table 1. Demographic Comparison of Care Project Interview Sample Population with Persons Living with HIV/AIDS (PLWH) in King County

		CARE PROJECT SAMPLE	
POPULATION	**KING CO. PLWH**	**PERCENT**	**NUMBER**
SEX			
Male	91%	75%	143
Female	9%	22%	42
Transgendered (M-F)	N/A	3%	5
Transgendered (F-M)	N/A	<1%	1
RACE/ETHNICITY			
White/Caucasian	74%	38%	72
Black/African American	14%	22%	41
Latino/a	8%	20%	38
Asian/Pacific Islander	2%	4%	7
American Indian	2%	5%	9
African	N/A	2%	4
Mixed race	N/A	10%	19
Other/no answer	N/A	<1%	1
COUNTRY OF ORIGIN			
United States	N/A	71%	136
Central/South America	N/A	18%	35
Africa	N/A	4%	7
Asia/Pacific Islands	N/A	4%	7
Other	N/A	3%	6

N/A = Not available from HIV/AIDS case report data

country, and had moved to the United States after diagnosis.

Exploring Cultural Issues

As previously noted, one of the primary goals of "Care Project 2002" was to examine ways in which consumer access to and/or satisfaction with services has been affected by sex, race/ethnicity and immigration status. In order to minimize response bias, questions about cultural issues were framed in such a way as to allow for both positive and negative feedback regarding the ways in which these factors might have influenced consumers' experiences *("Do you think that your [sex/race/country of origin] has influenced your ability to get services or the quality of services you've gotten, either positively or negatively?").*

Responses to these questions suggest that each of the cultural issues explored (sex, race/ethnicity and immigration status) has had an impact on consumer access to and satisfaction with services. Members of PLWH populations that are less represented in HIV/AIDS case statistics were more likely than those in the majority to report perceived negative influences (Table 2). This includes women and all non-White racial/ethnic sub-populations.

The interview did not ask United States-born PLWH about how being born in this county affected their access to and quality of services, so comparisons between United States-born and foreign-born PLWH are not possible. However, data from foreign-born PLWH suggest levels of perceived negative influences based on immigration status that are similar to those presented by persons of color.

Cultural Issues: Sex

Over two-thirds (69%) of the male PLWH interviewed stated that sex had had no influence in the their access to services

or the quality of services they received versus slightly less than half of female PLWH (48%) (Table 2). However, female PLWH were almost three times more likely than males to report that sex had had a negative impact on service access and quality (29% versus 10%). Similar percentages of males and females (20% and 19%, respectively) reported that sex had had a positive influence on their experience with HIV care services.

Males identified general male privilege in society as the main perceived positive influence that sex had had on services (mentioned 16 times). Other reasons given for the positive effects of being male on service experience were that the HIV Continuum of Care was originally designed to meet the needs of gay men (mentioned 12 times) and that more services are available for men in general (6 times)

Only 10% of male participants suggested that being male had had a negative influence on their experience with HIV services. Reasons offered for this included perceptions that service access and availability was easier for women (mentioned 6 times) and that more housing options were available for women, especially women with children (4 times).

Only eight of the 42 women interviewed expressed beliefs that being female had positively influenced service access and quality. The only suggestions offered by more than two women for this opinion were that better services existed in general for women in King County (mentioned 4 times) and that female PLWH had access to women-specific services, such as those provided by the Northwest Family Center (3 times).

As noted, women were far more likely than men to identify the negative influences of sex on their service access and quality. The main perceived negative influence identified by female PLWH was cultural barriers for women of color, who felt that this double identity limited potential service options (mentioned 5 times). Other negative influences mentioned included feelings that men get more services than women in general (4 times) and that services in King County are predominantly for gay men (3 times). Three women expressed the opinion that service options are greater for women with families, and that not enough attention is paid to the needs of single women without children.

Cultural Issues: Race/Ethnicity

Almost three-fourths of White interview participants (73%) felt that race had had no impact in their access to services or the quality of services they received (Table 2). In comparison, only 44% of African-Americans, 64% of Latino/as and 43% of Asian/ Pacific Islanders expressed similar sentiments. Surprisingly, 89% (8 out of 9) American Indians interviewed felt that race had had no impact on service access or quality.

White PLWH were twice as likely as Blacks and Latino/as to identify positive effects of race on service quality. Twenty-two percent of Caucasian PLWH stated that being White had led to more positive service outcomes, versus only 10% of Blacks and 11% of Latino/as. All 15 of the White PLWH who identified positive service outcomes based on their race expressed opinions that Whites benefit from cultural and social privilege in general in society, and four of the 15 also felt that Whites having higher per capita incomes was influential in access to services.

Only four of the 69 White respondents expressed perceptions that being White had had negative influences on their abilities to access quality services. The most common reason given for this was the perception that the Continuum of Care has begun to focus more services on persons of color, and, as a result, fewer options are available to White PLWH than in previous years.

Very few persons of color expressed the opinion that race had had a positive impact on their service access and quality. No trends in positive responses were observed among Latino/as, Asian/ Pacific Islanders and American Indians. Among the few African-Americans who felt that race had had a positive influence on their service experience (four out of 38; 10%), the main reason given was that some organizations in the Continuum of Care have been specifically designed to help African-Americans, such as POCAAN (People of Color Against AIDS Network).

Almost half of all African-American participants (44%) believed that being Black had had a negative impact on their ability to access services and on the quality of services they received. The main reasons given by Black respondents for this opinion was a general perception of discrimination and bias in the HIV care system (mentioned 13 times). There were no trends in specific examples of the nature of this discrimination. Rather, African-American consumers expressed a more general sentiment that information about available services was not made accessible to them to the same degree as their White counterparts and that agencies in general were more welcoming of White clients. Several Black participants (n=9) mentioned general cultural and social biases against African-Americans as another reason why race had had a negative impact on service access and quality.

Latino/a interview participants were significantly less likely than Blacks to report that race had had a negative influence on service access and quality. Nevertheless, 24% of the 36 Latinoa/s interviewed expressed this opinion. The main reason given for this sentiment, mentioned 9 times, was general cultural and social disadvantages related to being Latino, particularly discrimination against those with foreign accents or limited English proficiency. No trends emerged among the relatively few Latino/as who felt that race had had a positive influence on their service access or quality.

Table 2. Cultural Influence on Service Access and Quality

	Positive influence		Negative influence		Both positive and negative influence		No influence	
	N	%.	N	%	N	%	N	%
SEX								
Male (n=137)	27	20%	14	10%	1	1%	95	69%
Female (n=42)	8	19%	12	29%	2	5%	20	48%
RACE/ETHNICITY								
White (n=69)	15	22%	4	6%	0	0%	50	73%
Black (n=38)	4	10%	17	44%	1	3%	17	44%
Latino/a (n=36)	4	11%	9	24%	0	0%	23	64%
A/PI (n=7)	0	0%	3	43%	1	14%	3	43%
Amer. Indian (n=7)	0	0%	1	11%	0	0%	8	89%
IMMIGRATION STATUS								
Foreign-born (n=49)	3	6%	15	31%	1	2%	30	61%

No trends emerged either for positive or negative influences of race among Asian/Pacific Islanders or American Indian participants.

Cultural Issues: Immigration Status

Almost one-third (31%) of all foreign-born PLWH who participated in "Care Project 2002" expressed perceived negative influences of immigration status on their access to and quality of services (Table 2). The main reason for these sentiments was problems (both perceived and actual) due to lack of legal status, mentioned 9 times. This includes fear of being deported if one's HIV status is disclosed and lack of documentation when applying for services. Several others noted that they were told they were not eligible for certain services based on their lack of legal standing.

Foreign-born PLWH, particularly women from African and Southeast Asian countries, spoke of stigma regarding HIV within their own communities. They expressed fears that they and their families would be shunned should their community find out about their HIV status. As a result, they could not receive support from their own communities, and they were wary of seeking HIV-specific care for fear that others in their tightly-knit communities would learn about their illness.

Lack of English language proficiency also emerged as a key barrier to service access for foreign-born PLWH. This was especially true of those whose primary language was neither English nor Spanish, such as the growing number of immigrant PLWH from East Africa, for whom many agencies find it difficult to offer language assistance services in their native languages.

Summary

In summary, the main findings of "Care Project 2002" include:

- Issues of sex, race/ethnicity and immigration status have all had an impact on consumers' ability to get services and/or the quality of services they have received.
- Almost one-third of female respondents reported that sex had negatively impacted their access to and/or quality of services, as opposed to 10% of males.
- Forty-four percent of Black participants and 24% of Latino/as reported negative impacts of race on service access and quality, as opposed to 6% of Whites.
- Almost one-third of foreign-born PLWH reported that immigration status had had a negative impact on their service access and quality.

For further information about "Care Project 2002," please contact Jeff Natter, HIV Care Services Coordinator, at (206) 205-5506 or by e-mail at jeff.natter@metrokc.gov.

- *Contributed by Jeff Natter MPH*

UW Adult AIDS Clinical Trials Unit Report: Much-Needed New Antiretrovirals In Development

After a relative lull in development of new antiretrovirals, there has been some encouraging news of late. Here is a snapshot of some of the promising new developments by drug class.

Reverse Transcriptase Inhibitors

In 2002, the FDA licensed tenofovir (Viread™) , a nucleotide reverse transcriptase inhibitor. This drug has been shown to be useful in combination with other drugs, both for people with HIV resistant to other nucleoside reverse transcriptase inhibitors (NRTIs) and for people starting antiretrovirals for the first time. Since tenofovir is taken as one pill, once a day, and appears to have fewer side effects than many other antiretrovirals, it is fairly easy to use. Additionally, tenofovir also appears to be a very good drug to suppress hepatitis B virus (HBV) replication.

The FDA has also recently approved a drug related to tenofovir, adefovir (Hepsera™), to treat chronic hepatitis B virus (HBV) infection. Adefovir was studied, but not approved for treatment of HIV because it had renal toxicity at the doses needed to treat HIV. The dose of adefovir used to treat HBV infection is much lower than the dose studied for treatment of HIV infection.

Two NRTIs which previously has been administered twice a day have been shown to be effective when given once a day. An extended release form of stavudine (d4T, Zerit-XR) has been shown to be effective. Lamivudine (3TC, Epivir™), which initially was given twice a day, has also been shown to be equally effective when administered once a day. Emtricitabine (FTC) is an experimental NRTI which is at least as effective and well tolerated as 3TC and is administered once daily.

Protease Inhibitors

In the protease inhibitor class, atazanavir, a new protease inhibitor (PI), is likely to gain FDA approval in the near future. Its major advantage is that it is also dosed only once a day. This new PI does not appear to cause elevations in cholesterol and triglycerides, a problem with several other currently used PIs.

The strategy of using low-dose ritonavir to increase the levels of other PIs continues to be explored. Tipranavir is an experimental PI that has excellent activity in the test-tube against HIV resistant to currently available PIs. However, it has poor absorption unless it is given with concurrent ritonavir. A new form of amprenavir, a prodrug called GW433908 or fos-amprenavir, is under study. It has been used with and without boosting of its levels by concurrent low-dose ritonavir. The advantage of fos-amprenavir is that it requires many fewer capsules per day than amprenavir,

The availability of two new drugs in two different classes which can be given once daily and once-a-day dosing of older antiretrovirals is finally allowing for use of potent once-a-day regimens. It is anticipated that this will help some people improve their adherence to antiretrovirals and have a better outcome.

Non-nucleoside Reverse Transcriptase Inhibitors (NNRTIs)

Because of cross-resistance among the three currently available NNRTIs, and a low barrier to resistance requiring only one mutation, this class of drugs is often quickly exhausted. An NNRTI that is effective against HIV resistant to the current NNTRIs is greatly needed. At least three such drugs are under study. The first of these drugs is called capravirine. It has activity against some HIV strains resistant to the currently available NNRTIs. Another new NNRTI is TMC 125, In the laboratory, it suppressed HIV resistant to the currently available NNRTIs and it showed excellent activity in a small number of volunteers in a very short study. Bristol-Myers Squibb is developing DPC-083, another second generation NNRTI. Hopefully, these drugs will be shown to be safe and effective, but it is too soon to know this. In the meantime, it is important to think carefully about when to use NNRTIs, since they can't be used sequentially.

Entry Inhibitors

Two new classes of drugs may provide much needed help to people with multi-class drug-resistant HIV. One of these classes are the group of drugs called entry inhibitors. Fusion between HIV and a cell is one of the steps required for entry of HIV into a cell. Fusion inhibitors prevent HIV from entering the CD4 lymphocyte, whereas PIs and NRTIs prevent viral replication in cells that have already been infected with HIV.

There are two fusion inhibitors well along in development, Enfuvirtide (T-20, Fuzion™) and T-1249. T-20 is a small protein that is administered by injection under the skin, like insulin, twice a day. It has been shown to decrease viral replication when given in combination with other drugs, even in people with HIV resistant to PIs and NRTIs. T-1249 is similar to T-20, but needs only to be administered once a day, and appears to be effective even if resistance develops to T-20, at least in the test tube. It is anticipated that T-20 will be approved by the FDA soon, and become more widely available.

Integrase Inhibitors

After years of research, integrase inhibitors are finally in clinical trials. Integrase is the HIV enzyme that enables the DNA copy of the HIV genes to be inserted into the host cell's DNA. As the human cell does not have, nor need, integrase, inhibition of this enzyme has been a target of drug development for over 10 years. Unfortunately, all of the previous integrase inhibitors have been too toxic in animal testing to move into human trials. Now there are a couple of compounds that look very promising. Merck is developing an integrase inhibitor called L-870,812. A joint venture between Shionogi and GlaxoSmithKline is also developing an integrase inhibitor called S-1360. These compounds, while still very early in development, provide some hope that a new class of antiretrovirals may eventually be on the way.

For More Information

Several of these compounds have been, are, or will be under study at the ACTU. Physicians, their staff, or potential volunteers can call Lori Cray, Alyssa Spingola or Jeanne Conley at 206-731-3184 for additional information or appointments.

Screening tests, study drugs, and laboratory and clinical monitoring that are performed as part of our studies are free of charge for potential participants and study enrollees. The unit does not assume the role of primary care provider for study participants, and ccordinates care with each patient's primary care provider.

Please call Lori Cray, Alyssa Spingola or Jeanne Conley at 206-731-3184 for more information, or visit the UW ACTU web site at: http://depts.washington.edu/actu.

- *Contributed by Jeffrey T. Schouten MD*

UW AIDS Clinical Trials Unit
Complications of HIV & Other Conditions Studies

Study # 5082
Lowering blood insulin and body fat

Length: 32 weeks (about 8 months)

- **Treatment:** Metformin & Rosiglitazone **or** Metformin placebo & Rosiglitazone **or** Metformin & Rosiglitazone placebo **or** Metformin placebo & Rosiglitazone placebo
- **Eligibility:** ▶HIV+ ▶Age 18-65 ▶Increased waist size ▶HIV RNA (viral load) less than 10,000 ▶ On stable ARV and not planning to change ▶ No prior use of anti-diabetic medications.
- **Compensation:** $25 paid for each CT or DEXA scan and $20 for each study visit.

Study # 5090
HIV-associated dementia

Length: 24 weeks with optional 24 wk extension

- **Treatment:** Selegiline Transdermal System (STS patch) vs OR STS patch placebo
- **Eligibility:** ▶HIV+▶ Age =18+ ▶Males and non-pregnant females ▶ Documented HIV dementia ▶On stable ARV drugs for at least 8 weeks ▶No current mental illness.
- **Compensation:** All subjects offered STS at 24th week. $20-100 paid for some tests.

Study # 5084
Evaluation of metabolic complications associated with antiretroviral medications in HIV-1-infected pregnant women

Length: 38 weeks

- **Treatment:** Anti-HIV medications will not be not be provided on this study
- **Eligibility:** ▶HIV+ ▶ Taking PIs 8 weeks prior to study entry or not taking a PI 8 weeks prior to study entry and between 20-34 weeks pregnant ▶No history of diabetes (except prior history of diabetes during pregnancy) ▶ 13 years of age or older ▶No major fetal anomaly as diagnosed by ultrasound ▶No major complications during current pregnancy.
- **Compensation:** $20 for visits/exams and lab tests given at no cost.

Study # 5092
Drug-drug interactions in HCV

Length: Approximately 8 weeks

- **Treatment:** Ribavirin prescribed by other health care provider
- **Eligibility:** ▶HIV+ ▶ HCV+ ▶ 13 years of age or older ▶CD4 >100 ▶On AZT or d4T at least 4 weeks prior to entry ▶Planning to start Ribavirin ▶No Ribavirin for at least 6 months prior to entry
- **Compensation:** $150 paid for each of 2 10-hour clinic visits (one at entry, another at week 8)

Study # 736
HIV in cerebrospinal fluid

Length: 48 weeks

- **Treatment:** None
- **Eligibility:** ▶CD4 cell count 200 cells/mm3 or less ▶HIV RNA at least 2000 copies/ml or HIV RNA greater than or equal to 50,000 with any CD4 count ▶Starting or changing antiretroviral therapy
- **Compensation:** $100-125 per lumbar puncture (3)

Study # 079
HIV in the lungs

Length: 1-2 visits

- **Treatment:** None
- **Eligibility:** ▶HIV positive ▶HIV RNA >50 copies/ mL
- **Compensation:** $25 for sputum sample

Study # 5073
Comparing twice daily and once daily and comparing self-administered therapy and direct observation therapy (DOT)

Length: 1 year

- **Treatment: Group # 1** LPV/r + FTC + d4t twice a day (almost all doses taken outside the clinic) **Group # 2** LPV/r + FTC + d4t once a day (almost all doses taken outside the clinic) **Group # 3** LPV/r + FTC + d4t once a day (almost all doses observed by a health care worker)
- **Eligibility:** ▶HIV+ ▶13 years of age or older ▶Viral load greater than or equal to 2000 ▶No prior antiretrovirals ▶ No severe medical conditions ▶Men & non-pregnant women
- **Compensation:** $20 per study visit plus $5 for each DOT meeting at ACTU

Study # 5029
Human Papillomavirus (HPV) and HIV in ARV-inexperienced women

Length: 3-5 years

- **Treatment: None.** ARV (Antiretroviral therapy) prescribed by another physician or primary health care provider
- **Eligibility:** ▶HIV infection ▶13 years of age or older ▶Have taken no anti-HIV meds in the past but now starting ▶ Must not have had cervical cancer in the past
- **Compensation:** $20 for study visit. Study includes brief pelvic exams, pap smears, and blood draws. Subjects with abnormal pap smears will have a colposcopy.

Study # 5043
Drug Levels in HIV-Negative persons

Length: 6 wks/ 3 wks on drugs

- **Treatment:** Efavirenz for 10 days; Add APV for 3 days; Add a third drug (IDV, NFV, RTV, or SQV) for 1 week in 80% of enrollees
- **Eligibility:** ▶HIV- ▶ age 18-65 years ▶Males; females not able to become pregnant ▶No chronic illnesses ▶No chronic medications
- **Compensation:** 3 inpatient visits plus follow-up visit reimbursed at $150 each

Study # 5143
LPV/r & GW433908 alone or together in addition to TDF + 1 or 2 NRTIs

Length: 1 year

- **Treatment:** ▶LPV/r + TDF +1 or 2 NRTIs **OR** GW433908 + RTV+ TDF+ 1or 2 NRTIs **OR** LPV/r + GW433908 + TDF + 1 or 2 NRTIs
- **Eligibility:** ▶HIV+ ▶18 years of age or older ▶use of at least 1 PI-containing regimen for 12 weeks min. that has changed or will due to virological failure or detectable plasma HIV-1RNA ▶ min 1 year anti-HIV drug experience ▶HIV RNA >5000 copies/mL ▶ Non-pregnant or breast feeding females ▶ No prior use of lopinavir or amprenavir
- **Compensation:** $10 per study visit; $100 for sub-study visit.

Study # 5093
Effects of ARVs on Depo Provera

Length: 12 weeks

- **Treatment:** Will receive one injection of Depo-Provera ▶ No ARVs provided by study.
- **Eligibility:** ▶HIV+ women ▶ 13 years of age or older ▶On **no** ARVs and CD4 >200 ▶On EFV, NVP, NFV, or IDV/RTV and CD4 >350 ▶HIV RNA <10,000
- **Compensation:** 2 inpatient visits for most subjects- provides reimbursement

Key to terms:

3TC: lamivudine (Epivir)
d4t: stavudine (Zerit)
NRTI: Nucleoside Reverse Transcriptase Inhibitor
ABC: abacavir (Ziagen)
ddC: zalcitabine (Hivid)
PI: Protease Inhibitor
APV: amprenavir (Agenerase)
EFV: efavirenz (Sustiva)
HAART: Highly Active Antiretroviral Therapy
AZT: zidovudine (Retrovir)
RBV: Ribavirin
ARV: Antiretroviral