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

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www.metrokc.gov/health/apu/epi

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Credits

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HIV/AIDS Reporting Requirements

Washington 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.

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

Laboratories are required to report evidence of HIV infection (i.e., western blot assays, p24 antigen detection, viral culture, nucleic acid detection [viral load]), and low CD4 counts (<200/ul or <14% of total lymphocytes). 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

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

		Adult/Adolescent		Pediatric[2]		
		HIV	AIDS	HIV	AIDS	**Total**
King County	New cases reported in 1st half 2004	144	127	0	0	271
	Cumulative Cases	2,463	7,121	17	14	9,615
	Cumulative Deaths	80	3,945	0	9	4,034
	Persons Living (prevalent cases)	2,383	3,176	17	5	**5,581**
Other Counties	New cases reported in 1st half 2004	83	87	0	0	170
	Cumulative Cases	1,263	3,951	20	18	5,252
	Cumulative Deaths	71	2,076	1	11	2,159
	Persons Living (prevalent cases)	1,192	1,875	19	7	**3,093**
Washington State	New cases reported in 1st half 2004	227	214	0	0	441
	Cumulative Cases	3,726	11,072	37	32	14,867
	Cumulative Deaths	151	6,021	1	20	6,193
	Persons Living (prevalent cases)	3,575	5,051	36	12	**8,674**
United States[3]	Cases reported as of 12/31/2002					
	Cumulative Cases	199,759	877,275	NA	9,300	1,086,334
	Cumulative Deaths	5,112	496,262	NA	5,407	506,781
	Persons Living (prevalent cases)	194,647	381,013	NA	3,893	**579,553**

1. There are an estimated 11,000 to 13,000 persons living in Washington with HIV infection including AIDS. These include the 8,674 prevalent cases reported above. In King County, there are an estimated 7,200 to 8,400 persons living with HIV infection including AIDS. These include the 5,581 prevalent cases reported above. The difference between the estimated cases and the reported prevalent cases include three groups:
   a. A small number of persons diagnosed with AIDS but not yet reported (probably fewer than 5% of the total AIDS reports).
   b. An unknown number of persons diagnosed with HIV infection but not yet reported (possibly 8-13% of total persons infected with HIV).
   c. An unknown number of persons (possibly 20-25% of the total HIV estimate) infected with HIV but not yet diagnosed or reported.
2. Pediatric cases are persons under age 13 years at the time of diagnosis with HIV or AIDS.
3. Cumulative U.S. data for persons with HIV infection not AIDS are based upon reports from states and areas with confidential, named-based HIV infection reporting. Washington is not included in those counts at this time. Numbers of cumulative deaths and persons living are not available (NA) at this time.

Table 2. Cumulative HIV/AIDS case counts and deaths by resident County and AIDSNet region at diagnosis - reported as of 06/30/04 - WA State

		Cumulative	Deaths		Presumed Living			
		Cases	Number	(%)[1]	HIV	AIDS	Total	(Total %)[2]
Region 1	Adams	6	1	(17)	1	4	5	(0.1)
	Asotin	17	7	(41)	2	8	10	(0.1)
	Columbia	5	3	(60)	1	1	2	(<0.1)
	Ferry	7	6	(86)	0	1	1	(<0.1)
	Garfield	1	0	(0)	1	0	1	(0.0)
	Lincoln	4	2	(50)	0	2	2	(<0.1)
	Okanogan	30	8	(27)	6	16	22	(0.3)
	Pend Orielle	9	5	(56)	1	3	4	(<0.1)
	Spokane	593	264	(45)	125	204	329	(3.8)
	Stevens	27	9	(33)	4	14	18	(0.2)
	Walla Walla	66	31	(47)	5	30	35	(0.4)
	Whitman	12	4	(33)	2	6	8	(0.1)
	Subtotal R1	**777**	**340**	(44)	**148**	**289**	**437**	(5.0)
Region 2	Benton	100	38	(38)	20	42	62	(0.7)
	Chelan	47	22	(47)	12	13	25	(0.3)
	Douglas	4	2	(50)	2	0	2	(<0.1)
	Franklin	60	14	(23)	16	30	46	(0.5)
	Grant	37	22	(59)	7	8	15	(0.2)
	Kittitas	19	9	(47)	3	7	10	(0.1)
	Klickitat	16	8	(50)	5	3	8	(0.1)
	Yakima	207	79	(38)	48	80	128	(1.5)
	Subtotal R2	**490**	**194**	(40)	**113**	**183**	**296**	(3.4)
Region 3	Island	76	36	(47)	16	24	40	(0.5)
	San Juan	24	10	(42)	6	8	14	(0.2)
	Skagit	75	32	(43)	19	24	43	(0.5)
	Snohomish	795	308	(39)	199	288	487	(5.6)
	Whatcom	192	81	(42)	38	73	111	(1.3)
	Subtotal R3	**1,162**	**467**	(40)	**278**	**417**	**695**	(8.0)
Region 4	King	9,615	4,034	(42)	2,400	3,181	5,581	(64.3)
Region 5	Kitsap	266	111	(42)	65	90	155	(1.8)
	Pierce	1,332	566	(42)	324	442	766	(8.8)
	Subtotal R5	**1,598**	**677**	(42)	**389**	**532**	**921**	**(10.6)**
Region 6	Clallam	67	30	(45)	14	23	37	(0.4)
	Clark	541	210	(39)	129	202	331	(3.8)
	Cowlitz	120	51	(43)	28	41	69	(0.8)
	Grays Harbor	60	30	(50)	11	19	30	(0.3)
	Jefferson	31	18	(58)	4	9	13	(0.1)
	Lewis	49	27	(55)	8	14	22	(0.3)
	Mason	91	20	(22)	19	52	71	(0.8)
	Pacific	24	11	(46)	7	6	13	(0.1)
	Skamania	7	5	(71)	0	2	2	(<0.1)
	Thurston	232	79	(34)	62	91	153	(1.8)
	Wahkiakum	3	0	(0)	1	2	3	(0.0)
	Subtotal R6	**1,225**	**481**	(39)	**283**	**461**	**744**	**(8.6)**
Total		**14,867**	**6,193**	**(42)**	**3,611**	**5,063**	**8,674**	**(100.0)**

1. Percent of county cases who have died (row %).
2. Percent of total presumed living cases in Washington State (column %).

Table 3. Demographic characteristics of persons presumed living with HIV/AIDS - King County, other WA Counties, all WA State, and U.S. - reported as of 6/30/04

	King County		Other Counties		All Washington		Estimated U.S.[1]	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Sex								
Male	5,061	(91)	2,495	(81)	7,556	(87)	208,244	(74)
Female	520	(9)	598	(19)	1,118	(13)	73,683	(26)
Unknown	0	(0)	0	(0)	0	(0)	4	(0)
Age Group at HIV Diagnosis								
Under 13 years	24	(0)	29	(1)	53	(1)	2,363	(1)
13-19 years	111	(2)	91	(3)	202	(2)	N/A[a]	
20-29 years	1,645	(29)	946	(31)	2,591	(30)	N/A[a]	
30-39 years	2,450	(44)	1,205	(39)	3,655	(42)	N/A[a]	
40-49 years	1,067	(19)	614	(20)	1,681	(19)	N/A[a]	
50-59 years	246	(4)	166	(5)	412	(5)	N/A[a]	
60 years and over	38	(1)	42	(1)	80	(1)	N/A[a]	
Race/Ethnicity								
White[2]	4,011	(72)	2,283	(74)	6,294	(73)	107,992	(38)
Black[2]	844	(15)	341	(11)	1,185	(14)	141,184	(50)
Hispanic	475	(9)	296	(10)	771	(9)	28,364	(10)
Asian & Pacific Islander[2]	126	(2)	75	(2)	201	(2)	3,574	(1)
Asian[2,3]	*120*	*(2)*	*64*	*(2)*	*184*	*(2)*	*N/A*	
Native Hawaiian & Other PI[2,3]	*6*	*(0)*	*11*	*(0)*	*17*	*(0)*	*N/A*	
Native American/Alaska Native[2]	91	(2)	74	(2)	165	(2)	1,565	(1)
Multi Race[2,3]	20	(0)	1	(0)	21	(0)	N/A	
Unknown	14	(0)	23	(1)	37		1,645	(1)
HIV Exposure Category								
Male-male sex	3,926	(70)	1,503	(49)	5,429		125,268	(44)
Injection drug use (IDU)	362	(6)	493	(16)	855		54,211	(19)
IDU & male-male sex	493	(9)	261	(8)	754	(9)	16,143	(6)
Heterosexual contact	400	(7)	464	(15)	864	(10)	78,381	(28)
Blood product exposure	39	(1)	40	(1)	79	(1)	N/A	
Perinatal exposure	20	(0)	25	(1)	45	(1)	3,114	(1)
Undetermined/other[4]	341	(6)	307	(10)	648	(7)	1887[b]	(1)
Total Cases	**5,581**	(100)	**3,093**	(100)	**8,674**	(100)	**281,931**	(100)

1. U.S. data were reported as of 12/31/2002 and are the most recent statistics available. Estimates were imputed from CDC data for the states and areas with confidential named-based HIV infection reporting.
   a. Age related data for persons ages 13+ were grouped differently by CDC, and could not adequately be redistributed to agree with Washington State intervals.
   b. Includes hemophilia, blood transfusion, and risk not reported or not identified
2. And not Hispanic. All categories are mutually exclusive.
3. Revised federal Office of Management and Budget classifications for race split the old category of Asian & Pacific Islander into two (Asian versus Native Hawaiian & other Pacific Islander), and added Multiple Race. Some previously collected data could not be reassigned and are shown only in the old category.
4. 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(s) was (were) undetermined, persons exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined.

Table 4. Persons presumed living with HIV/AIDS cases by gender, race or ethnicity, and HIV exposure category - reported as of 6/30/04, King County

HIV Exposure Category	White[1] Number	(%)	Black[1] Number	(%)	Hispanic Number	(%)	Asian & PI[1,2] Number	(%)	Native Am/AN[1,3] Number	(%)	Total[4] Number	(%)
Male												
Male-male sex	3,153	(79)	324	(38)	318	(67)	82	(65)	33	(36)	3,926	(70)
Injection drug use (IDU)	116	(3)	80	(9)	32	(7)	4	(3)	8	(9)	244	(4)
IDU & male-male sex	391	(10)	40	(5)	36	(8)	4	(3)	20	(22)	493	(9)
Heterosexual contact	39	(1)	91	(11)	12	(3)	5	(4)	2	(2)	151	(3)
Blood product exposure	19	(0)	2	(0)	2	(0)	1	(1)	0	(0)	24	(0)
Perinatal exposure	1	(0)	3	(0)	0	(0)	1	(1)	0	(0)	5	(0)
Undetermined/other	81	(2)	85	(10)	34	(7)	12	(10)	3	(3)	218	(4)
Male Subtotal	**3,800**	(95)	**625**	(74)	**434**	(91)	**109**	(87)	**66**	(73)	**5,061**	(91)
Female												
Injection drug use (IDU)	61	(2)	39	(5)	3	(1)	0	(0)	15	(16)	118	(2)
Heterosexual contact	107	(3)	96	(11)	23	(5)	8	(6)	8	(9)	249	(4)
Blood product exposure	4	(0)	9	(1)	1	(0)	1	(1)	0	(0)	15	(0)
Perinatal exposure	4	(0)	8	(1)	2	(0)	1	(1)	0	(0)	15	(0)
Undetermined/other	35	(1)	67	(8)	12	(3)	7	(6)	2	(2)	123	(2)
Female Subtotal	**211**	(5)	**219**	(26)	**41**	(9)	**17**	(13)	**25**	(27)	**520**	(9)
TOTAL	**4,011**	**(72)**	**844**	**(15)**	**475**	**(9)**	**126**	**(2)**	**91**	**(2)**	**5,581**	**(100)**

Table 5. Persons presumed living with HIV/AIDS cases by gender, race or ethnicity, and HIV exposure category - reported as of 6/30/04, Washington State

HIV Exposure Category	White[1] Number	(%)	Black[1] Number	(%)	Hispanic Number	(%)	Asian & PI[1,2] Number	(%)	Native Am/AN[1,3] Number	(%)	Total[4] Number	(%)
Male												
Male-Male sex	4,377	(70)	417	(35)	438	(57)	114	(57)	55	(33)	5,429	(63)
Injection drug use (IDU)	355	(6)	126	(11)	62	(8)	7	(3)	16	(10)	571	(7)
IDU & male-male sex	601	(10)	57	(5)	55	(7)	7	(3)	31	(19)	754	(9)
Heterosexual contact	108	(2)	132	(11)	34	(4)	10	(5)	6	(4)	293	(3)
Blood product exposure	47	(1)	2	(0)	6	(1)	1	(0)	0	(0)	57	(1)
Perinatal exposure	7	(0)	7	(1)	2	(0)	2	(1)	1	(1)	19	(0)
Undetermined/other	221	(4)	112	(9)	71	(9)	18	(9)	4	(2)	433	(5)
Male Subtotal	**5,716**	(91)	**853**	(72)	**668**	(87)	**159**	(79)	**113**	(68)	**7,556**	(87)
Female												
Injection drug use (IDU)	170	(3)	69	(6)	13	(2)	2	(1)	29	(18)	284	(3)
Heterosexual contact	304	(5)	154	(13)	66	(9)	20	(10)	19	(12)	571	(7)
Blood product exposure	8	(0)	10	(1)	1	(0)	3	(1)	0	(0)	22	(0)
Perinatal exposure	9	(0)	11	(1)	4	(1)	2	(1)	0	(0)	26	(0)
Undetermined/other	87	(1)	88	(7)	19	(2)	15	(7)	4	(2)	215	(2)
Female Subtotal	**578**	(9)	**332**	(28)	**103**	(13)	**42**	(21)	**52**	(32)	**1,118**	(13)
TOTAL	**6,294**	**(73)**	**1,185**	**(14)**	**771**	**(9)**	**201**	**(2)**	**165**	**(2)**	**8,674**	**(100)**

1. And not Hispanic. All categories are mutually exclusive.
2. Due to small cell sizes, data have been combined for Asians, Native Hawaiians, & other Pacific Islanders.
3. Native American or Alaska Native.
4. Totals include 12 King County and 13 Washington Sate persons classified as multiracial, and 13 King County and 36 Washington State residents for whom race was unknown.

Table 6. Persons presumed living with HIV/AIDS by gender and age at HIV diagnosis reported as of 6/30/04 - King County and Washington State

	King County				Washington State			
Age at HIV Diagnosis	Male		Female		Male		Female	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Under 13 years	8	(0)	16	(3)	24	(0)	29	(3)
13-19 years	79	(2)	32	(6)	137	(2)	65	(6)
20-29 years	1,462	(29)	183	(35)	2,211	(29)	380	(34)
30-39 years	2,266	(45)	184	(35)	3,270	(43)	385	(34)
40-49 years	997	(20)	70	(13)	1,491	(20)	190	(17)
50-59 years	216	(4)	30	(6)	356	(5)	56	(5)
60 years and over	33	(1)	5	(1)	67	(1)	13	(1)
Total	**5,061**	**(100)**	**520**	**(100)**	**7,556**	**(1)**	**1,118**	**(100)**

Figure 1. Number of new HIV/AIDS diagnoses, deaths, and persons living with HIV/AIDS at the end of three year intervals - diagnosed as of 12/31/03 & reported as of 6/30/04 - King County

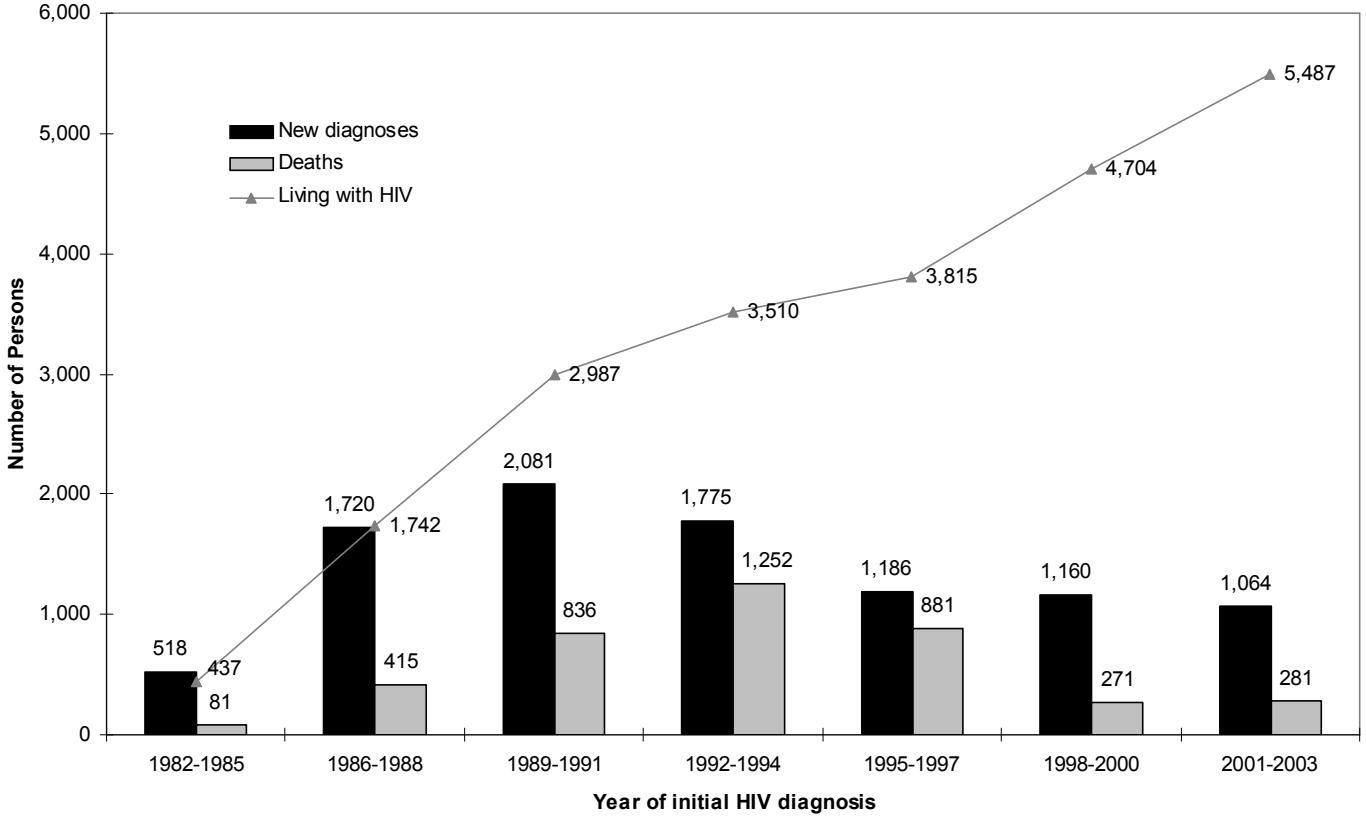


Figure 2. Number of new HIV/AIDS diagnoses, deaths, and persons living with HIV/AIDS at the end of three year intervals - diagnosed as of 12/31/03 & reported as of 6/30/04 - Washington State

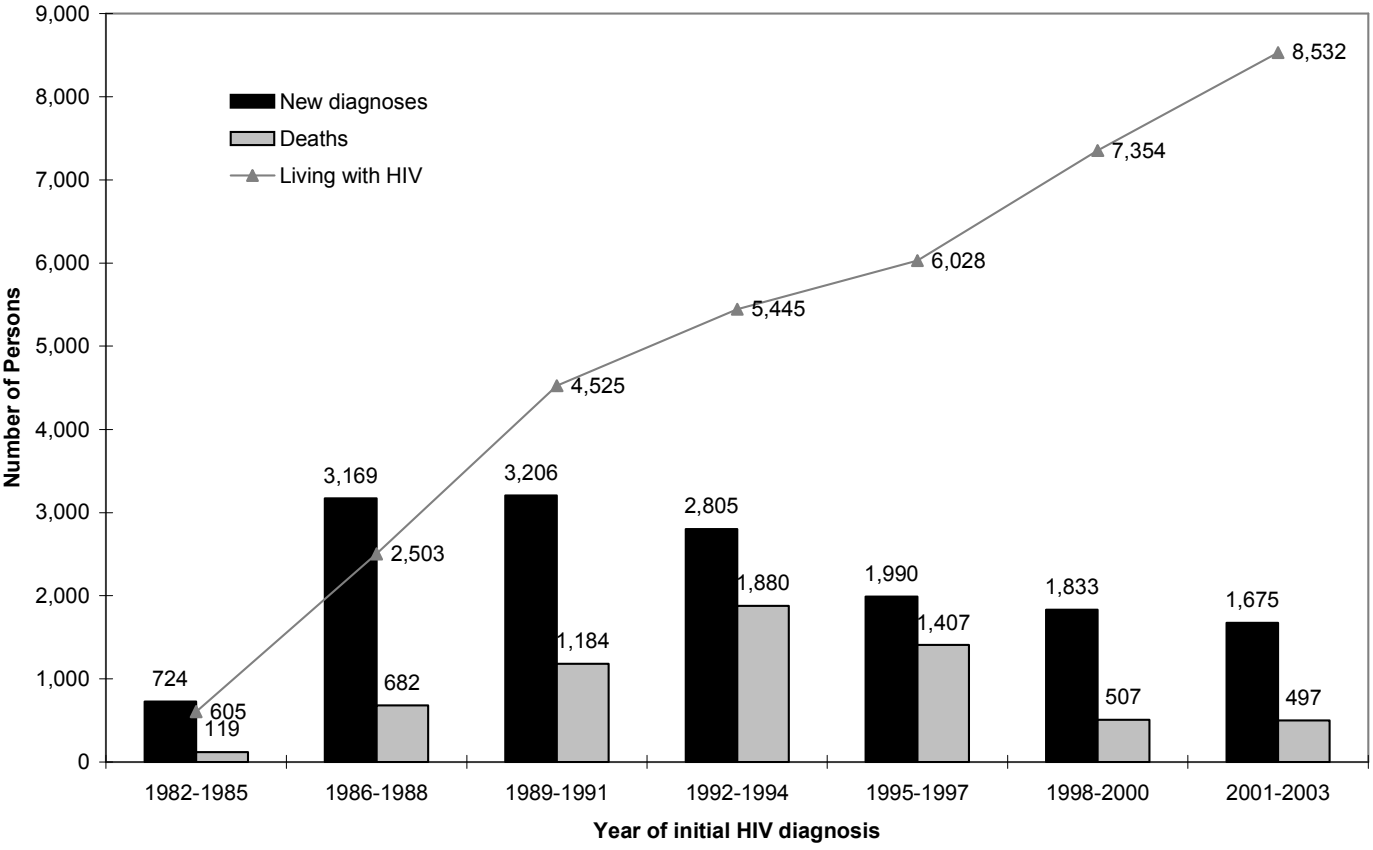


Table 7. Demographic characteristics and year of HIV diagnosis for 9,504 Seattle-King County residents - diagnosed as of 12/31/03 & reported through 6/30/2004

	1982-1988		1989-1991		1992-1994		1995-1997		1998-2000		2001-2003[1]		Trend[2]
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	1995-2003
TOTAL	**2,238**	**(100)**	**2,081**	**(100)**	**1,775**	**(100)**	**1,186**	**(100)**	**1,160**	**(100)**	**1,064**	**(100)**	
HIV Exposure Category													
Men who have sex with men (MSM)	1,754	(78)	1,592	(77)	1,334	(75)	799	(67)	773	(67)	690	(65)	
Injection drug user (IDU)	109	(5)	108	(5)	114	(6)	85	(7)	80	(7)	69	(6)	
MSM-IDU	265	(12)	246	(12)	156	(9)	108	(9)	85	(7)	74	(7)	
Heterosexual contact	31	(1)	60	(3)	88	(5)	76	(6)	107	(9)	126	(12)	up
Blood product exposure	47	(2)	31	(1)	11	(1)	5	(0)	6	(1)	5	(0)	
Perinatal exposure	6	(0)	4	(0)	8	(0)	6	(1)	4	(0)	0	(0)	
SUBTOTAL- known risk	*2,212*		*2,041*		*1,711*		*1,079*		*1,055*		*964*		
Undetermined/other[3]	26	(1)	40	(2)	64	(4)	107	(9)	105	(9)	100	(9)	
Sex & Race/Ethnicity													
Male	2,162	(97)	1,979	(95)	1,660	(94)	1,075	(91)	1,019	(88)	942	(89)	
White Male[4]	1,898	(85)	1,650	(79)	1,309	(74)	796	(67)	698	(60)	622	(58)	down
Black Male[4]	134	(6)	180	(9)	179	(10)	134	(11)	160	(14)	156	(15)	up
Hispanic Male	80	(4)	92	(4)	120	(7)	100	(8)	107	(9)	109	(10)	
Other Male[4]	50	(2)	57	(3)	52	(3)	45	(4)	54	(5)	55	(5)	
Female	76	(3)	102	(5)	115	(6)	111	(9)	141	(12)	122	(11)	
White Female[4]	48	(2)	65	(3)	53	(3)	49	(4)	57	(5)	31	(3)	
Black Female[4]	21	(1)	25	(1)	41	(2)	44	(4)	62	(5)	66	(6)	up
Hispanic Female	2	(0)	3	(0)	11	(1)	8	(1)	13	(1)	10	(1)	
Other Female[4]	5	(0)	9	(0)	10	(1)	10	(1)	9	(1)	15	(1)	
Race/Ethnicity													
White[4]	1,946	(87)	1,715	(82)	1,362	(77)	845	(71)	755	(65)	653	(61)	down
Black[4]	155	(7)	205	(10)	220	(12)	178	(15)	222	(19)	222	(21)	up
Hispanic	82	(4)	95	(5)	131	(7)	108	(9)	120	(10)	119	(11)	
Asian & Pacific Islander[4]	25	(1)	34	(2)	31	(2)	24	(2)	35	(3)	35	(3)	
Native American or Alaska Native[4]	27	(1)	25	(1)	24	(1)	28	(2)	17	(1)	21	(2)	
Multi Race[4]	3	(0)	6	(0)	7	(0)	2	(0)	3	(0)	10	(1)	
Unknown	0	(0)	1	(0)	0	(0)	1	(0)	8	(1)	4	(0)	
Age at diagnosis of HIV													
0-19 years	55	(2)	27	(1)	26	(1)	20	(2)	22	(2)	12	(1)	
20-24 years	260	(12)	134	(6)	127	(7)	57	(5)	82	(7)	83	(8)	up
25-29 years	494	(22)	400	(19)	337	(19)	219	(18)	176	(15)	140	(13)	down
30-34 years	533	(24)	493	(24)	406	(23)	293	(25)	264	(23)	243	(23)	
35-39 years	423	(19)	469	(23)	360	(20)	245	(21)	262	(23)	263	(25)	up
40-44 years	238	(11)	267	(13)	231	(13)	161	(14)	180	(16)	162	(15)	
45-49 years	119	(5)	154	(7)	152	(9)	97	(8)	99	(9)	79	(7)	
50-54 years	58	(3)	61	(3)	77	(4)	55	(5)	49	(4)	47	(4)	
55-59 years	40	(2)	37	(2)	41	(2)	23	(2)	14	(1)	19	(2)	
60-64 years	13	(1)	22	(1)	13	(1)	4	(0)	5	(0)	10	(1)	
65 + years	5	(0)	17	(1)	5	(0)	12	(1)	7	(1)	6	(1)	
Residence													
Seattle residence	1,970	(88)	1,832	(88)	1,509	(85)	987	(83)	980	(84)	849	(80)	down
King Co. residence outside Seattle	268	(12)	249	(12)	266	(15)	199	(17)	180	(16)	215	(20)	up

1. Due to delays in reporting, data from recent years are incomplete.
2. Statistical trends were identified from the chi-square test for trend, calculated for the periods 1995-97, 1998-2000, and 2001-03.
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.
4. And not Hispanic. The groups Asian, Native Hawaiian, & other Pacific Islander were grouped due to small cell sizes. All categories are mutually exclusive.

Table 8. Demographic characteristics and year of HIV diagnosis for 14,694 Washington State residents - diagnosed as of 12/31/03 & reported through 6/30/2004

	1982-1988		1989-1991		1992-1994		1995-1997		1998-2000		2001-2003[1]		Trend[2]
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	1995-2003
TOTAL	**3,185**	**(100)**	**3,206**	**(100)**	**2,805**	**(100)**	**1,990**	**(100)**	**1,833**	**(100)**	**1,675**	**(100)**	
HIV Exposure Category													
Men who have sex with men (MSM)	2,351	(74)	2,269	(71)	1,846	(66)	1,151	(58)	1,080	(59)	964	(58)	
Injection drug user (IDU)	214	(7)	257	(8)	313	(11)	223	(11)	208	(11)	158	(9)	
MSM-IDU	384	(12)	382	(12)	239	(9)	172	(9)	123	(7)	113	(7)	down
Heterosexual contact	70	(2)	142	(4)	217	(8)	209	(11)	211	(12)	244	(15)	up
Blood product exposure	110	(3)	65	(2)	32	(1)	17	(1)	10	(1)	6	(0)	
Perinatal exposure	7	(0)	14	(0)	15	(1)	19	(1)	6	(0)	1	(0)	down
SUBTOTAL- known risk	*3,136*		*3,129*		*2,662*		*1,791*		*1,638*		*1,486*		
Undetermined/other[3]	49	(2)	77	(2)	143	(5)	199	(10)	195	(11)	189	(11)	
Sex & Race/Ethnicity													
Male	3,041	(95)	2,973	(93)	2,498	(89)	1,723	(87)	1,558	(85)	1,424	(85)	
White Male[4]	2,670	(84)	2,478	(77)	1,975	(70)	1,306	(66)	1,087	(59)	954	(57)	down
Black Male[4]	183	(6)	247	(8)	254	(9)	186	(9)	216	(12)	218	(13)	up
Hispanic Male	113	(4)	163	(5)	188	(7)	151	(8)	168	(9)	166	(10)	up
Other Male[4]	75	(2)	85	(3)	81	(3)	80	(4)	87	(5)	86	(5)	
Female	144	(5)	233	(7)	307	(11)	267	(13)	275	(15)	251	(15)	
White Female[4]	105	(3)	166	(5)	161	(6)	148	(7)	130	(7)	100	(6)	
Black Female[4]	27	(1)	43	(1)	81	(3)	73	(4)	90	(5)	96	(6)	up
Hispanic Female	5	(0)	11	(0)	37	(1)	23	(1)	30	(2)	24	(1)	
Other Female[4]	7	(0)	13	(0)	28	(1)	23	(1)	25	(1)	31	(2)	up
Race/Ethnicity													
White[4]	2,775	(87)	2,644	(82)	2,136	(76)	1,454	(73)	1,217	(66)	1,054	(63)	down
Black[4]	210	(7)	290	(9)	335	(12)	259	(13)	306	(17)	314	(19)	up
Hispanic	118	(4)	174	(5)	225	(8)	174	(9)	198	(11)	190	(11)	up
Asian & Pacific Islander[4]	26	(1)	37	(1)	35	(1)	32	(2)	49	(3)	52	(3)	up
Native American or Alaska Native[4]	45	(1)	42	(1)	47	(2)	55	(3)	33	(2)	38	(2)	
Multi Race[4]	3	(0)	8	(0)	7	(0)	3	(0)	3	(0)	10	(1)	
Unknown	8	(0)	11	(0)	20	(1)	13	(1)	27	(1)	17	(1)	
Age at diagnosis of HIV													
0-19 years	97	(3)	67	(2)	49	(2)	49	(2)	36	(2)	22	(1)	down
20-24 years	421	(13)	260	(8)	224	(8)	123	(6)	135	(7)	129	(8)	
25-29 years	703	(22)	630	(20)	526	(19)	342	(17)	268	(15)	214	(13)	down
30-34 years	743	(23)	731	(23)	663	(24)	455	(23)	396	(22)	353	(21)	
35-39 years	561	(18)	657	(20)	551	(20)	415	(21)	393	(21)	391	(23)	
40-44 years	326	(10)	395	(12)	371	(13)	271	(14)	290	(16)	260	(16)	
45-49 years	158	(5)	237	(7)	219	(8)	154	(8)	158	(9)	147	(9)	
50-54 years	83	(3)	97	(3)	99	(4)	95	(5)	91	(5)	74	(4)	
55-59 years	53	(2)	69	(2)	65	(2)	46	(2)	39	(2)	41	(2)	
60-64 years	21	(1)	35	(1)	18	(1)	18	(1)	12	(1)	25	(1)	
65 + years	19	(1)	28	(1)	20	(1)	22	(1)	15	(1)	19	(1)	
Residence[5]													
Region 1 Spokane area	140	(4)	191	(6)	119	(4)	120	(6)	113	(6)	83	(5)	
Region 2 Yakima area	73	(2)	92	(3)	95	(3)	76	(4)	76	(4)	72	(4)	down
Region 3 Everett area	239	(8)	222	(7)	231	(8)	200	(10)	129	(7)	127	(8)	
Region 4 Seattle area	2,238	(70)	2,081	(65)	1,775	(63)	1,186	(60)	1,160	(63)	1,064	(64)	up
Region 5 Tacoma area	286	(9)	348	(11)	319	(11)	239	(12)	218	(12)	175	(10)	
Region 6 Olympia area	209	(7)	272	(8)	266	(9)	169	(8)	137	(7)	154	(9)	

1. Due to delays in reporting, data from recent years are incomplete.
2. Statistical trends were identified from the chi-square test for trend, calculated for the periods 1995-97, 1998-2000, and 2001-03.
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.
4. And not Hispanic. The groups Asian, Native Hawaiian & other Pacific Islander were grouped due to small cell sizes. All categories are mutually exclusive.
5. The counties included in each region are: Region 1- Adams, Asotin, Columbia, Ferry, Garfield, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman; Region 2- Benton, Chelan, Douglas, Franklin, Grant, Kittitas, Klickitat, and Yakima; Region 3- Island, San Juan, Skagit, Snohomish, and Whatcom; Region 4- King; Region 5- Kitsap and Pierce; Region 6- Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Skamania, Thurston, and Wahkiakum.

Annual review of the epidemiology of HIV and AIDS in Seattle & King County

This article summarizes the status of the HIV and AIDS epidemics in King County (KC), Washington through June 30, 2004. This update is compiled from reports of persons with AIDS (collected since 1981) and HIV infection (collected since 1999).

Global and national perspective

According to the Joint United Nations Programme on HIV/AIDS[1], 38 million persons worldwide were living with HIV or AIDS at the end of 2003, including 2.5 million children under age 15. An estimated 4.8 million persons acquired HIV infection, and 2.9 million deaths occurred, in 2003. An additional 22 million persons have died from AIDS worldwide since 1981.

There are an estimated 850,000 to 950,000 HIV infected persons in the United States. An estimated 40,000 infections occur each year, with over 16,000 deaths in 2002.[2] The Centers for Disease Control and Prevention (CDC) estimates that one-quarter of all HIV infected persons in the US are undiagnosed and unaware of their status.[3]

In 2002, the Seattle metropolitan statistical area (MSA) ranked 23rd in the cumulative number and 47th in annual rate of reported AIDS cases nationally. This was among 104 metropolitan areas of one-half million population or higher. The Seattle MSA (which includes King, Snohomish and Island counties) AIDS rate during 2000 was 13.2 cases per 100,000 population. In comparison, the Tacoma MSA had a rate of 4.4, and the Portland (Oregon) MSA rate was 11.2 per 100,000. The five highest rates in the country were in New York City (60.4), Miami FL (49.5), Baton Rouge LA (49.5), Baltimore MD (48.7), and West Palm Beach FL (48.6).

The Seattle MSA cases make up a decreasing proportion of total U.S. cases as the epidemic becomes more rural. The Seattle MSA accounted for 1.01% of the cumulative U.S. total at the end of 1992, 0.95% at the end of 1996, and 0.85% at the end of 2002.

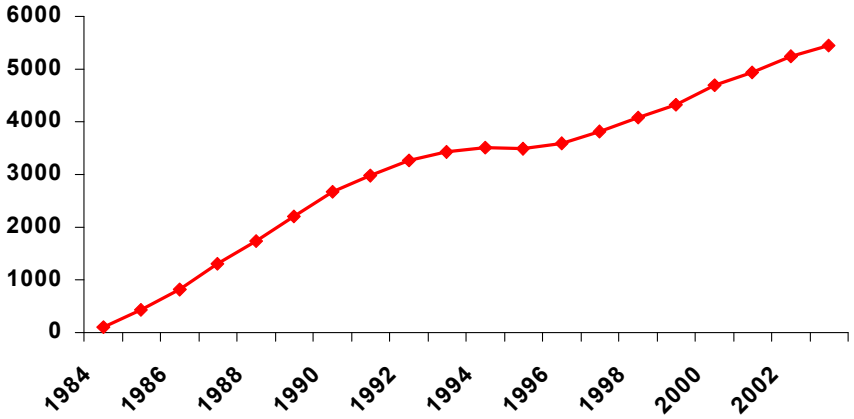
King County has the highest rate among all Washington counties. About one-third of the Washington population resides in King County, but almost two-thirds of all AIDS cases resided in King County at the time of AIDS diagnosis. Within King County the rate is highest in Seattle.

Number of persons infected with HIV in King County

As of December 2001, the Washington Department of Health estimated that as many as 13,000 Washington residents are infected with HIV, including persons with AIDS.[4] Since 64.4% of reported HIV and AIDS cases statewide are residents of King County, we estimate that up to 8,400 King County residents currently living with HIV infection or AIDS.

The number of new HIV diagnoses are generally level at 350-400 new diagnoses each year since 1998. Since there are only about 100 deaths annually, the number of King County residents reported living with HIV/AIDS is increasing, as shown in Figure 1.

Figure 1
Persons reported living with HIV infection or AIDS
King County, 1984 - 2003



The 8,400 HIV infected King County residents include about 3,200 living with AIDS and 5,200 with HIV but not AIDS. These include 5,581 cases reported to Public Health through 6/30/2004; about 1,000 HIV/AIDS diagnoses not yet reported; and about 2,000 persons who are unaware of their infection status.

Characteristics of persons living with HIV or AIDS (Table 1)

Ninety-one percent of persons living with HIV or AIDS in King County are male and 9% are female. Most, 72%, are White, 15% are Black, 9% Hispanic, 2% Asian or Pacific Islander (API), and 2% Native American or Alaskan Native (NA/AN). Eighty-four percent of the HIV-infected population were born in the U.S. or territories,

Table 1. King County residents living with HIV or AIDS and reported to Public Health -- Seattle & King County

Characteristics of King County Residents with HIV or AIDS 6/30/2004	Actual Reports		Estimated HIV Prevalence		
	Number Reported	Percent	Estimated Infected*	2000** Population	Estimated Rate per 100***
TOTAL	5,581	100%	8,400	1,737,034	0.5%
RACE/ETHNICITY					
White, not Hispanic	4,011	72%	6,040	1,309,120	0.5%
Black, not Hispanic	844	15%	1,270	105,205	1.2%
Foreign-born Blacks	*216*	*4%*	*330*	*10,794*	*3.1%*
Native-born Blacks	*604*	*11%*	*910*	*94,411*	*1.0%*
Hispanic	475	9%	710	95,242	0.7%
Asian & Pacific Islander	126	2%	190	210,156	0.1%
Native American or Alaskan Native	91	2%	140	17,311	0.8%
Multiple Race	20	<1	N.A.****	N.A.	N.A.
Unknown	14	<1	N.A.	N.A.	N.A.
SEX & RACE/ETHNICITY					
Male	5,061	91%	7,620	864,457	0.9%
White Male	3,800	68%	5,720	649,271	0.9%
Black Male	625	11%	940	53,895	1.7%
Hispanic Male	434	8%	650	51,662	1.3%
Asian or Pacific Islander Male	109	2%	160	101,045	0.2%
Native American or Alaskan Native	66	1%	100	8,584	1.2%
Multiple or Unknown Race	27	<1	<20	*N.A.*	N.A.
Female	520	9%	780	872,577	0.1%
White Female	211	4%	320	659,849	0.0%
Black Female	219	4%	330	51,310	0.6%
Hispanic Female	41	1%	60	43,580	0.1%
Asian or Pacific Islander Female	17	<1	<20	109,111	<0.1%
Native American or Alaskan Native	25	<1	<20	8,727	<0.2%
Multiple or Unknown Race	7	<1	<20	N.A.	N.A.
HIV EXPOSURE CATEGORY					
Men who have sex w/men (MSM)	3,926	70%	6,290	40,000	15.7%
Injection drug user (IDU)	362	6%	580	15,000	3.9%
MSM-IDU	493	9%	790	3,150	25.1%
Blood product exposure	39	1%	60	Unknown	Unknown
Heterosexual contact	400	7%	640	1,245,000	0.1%
Foreign-born heterosexuals	*159*	*3%*	*250*	*Unknown*	*Unknown*
Native-born heterosexuals	*233*	*4%*	*370*	*Unknown*	*Unknown*
Perinatal exposure	20	<1	30	Unknown	Unknown
SUBTOTAL- known exposure	5,240	94%	8,400	1,737,034	0.5%
Undetermined/ other	*341*	*6%*	*N.A.*	*N.A.*	*N.A.*
AGE AT HIV DIAGNOSIS					
0-14 years	24	0%	40	326,475	0.0%
15-19 years	111	2%	170	108,261	0.2%
20-24 years	551	10%	830	116,597	0.7%
25-29 years	1,094	20%	1,650	141,795	1.2%
30-39 years	2,449	44%	3,690	308,187	1.2%
40-49 years	1,068	19%	1,610	292,470	0.6%
50 years and over	284	5%	430	443,249	0.1%
PLACE OF BIRTH					
Native-born	4,710	84%	7,460	1,468,749	0.5%
Foreign-born	591	11%	940	268,285	0.4%
Unknown birthplace	280	5%	N.A	N.A.	N.A.

* The estimated number of King Co. residents for each category is the proportion of total cases, multiplied by the estimated total of 8,400.

** 2000 Census Population as of April 1, 2000, with single race bridged estimates.

*** The estimated rate per 100 is the estimated number infected, divided by the population. These are expressed as percent.

**** N.A. is not applicable

11% were foreign-born, and the birthplace was unknown for 5%.

Six percent of cases have no identified behavioral exposure to HIV (using the standard CDC-defined categories). Among cases with known exposure, 75% are men who have sex with men (MSM), 9% are MSM who also inject drugs (MSM-IDU), 7% are injection drug users (IDU), 8% report having a heterosexual partner with HIV or at risk of HIV infection, and fewer than 1% each were born to HIV-infected mothers, or received blood products (mostly prior to 1985 in the US, or more recently in other countries where effective blood screening has not been implemented).

The distribution of exposure categories differs by race and gender. MSM exposure is the most common among all males, accounting for 85% of known exposures among White men, 60% among Black men, 80% among Hispanic men, 85% among API men, and 52% among NA/AN men. MSM-IDU is the second most common exposure among White men (11%), Hispanic men (9%), and NA/AN men (32%). Heterosexual transmission is now second among Black men (17%) and API men (5%).

Heterosexual transmission is the most common exposure among almost all women, including Whites (61%), Blacks (63%), Hispanics (79%), and API (80%). Among NA/AN female cases, IDU is the most common risk behavior (65%), while 35% had heterosexual partners at risk.

While most diagnoses were among White males, the estimated percent infected show a higher burden of impact on several groups. The rate among males (0.9%) is about ten times higher than among females (0.1%). Compared with Whites (0.5%), the rates are two and one half times higher among Blacks (1.2%), and one and one half times higher among NA/AN (0.8%) or Hispanics (0.7%); but much lower among API (0.1%). Overall rates are highest among Black and Hispanic males, and lowest among API, White, and Hispanic females.

Infection rates are much higher and transmission profiles are very different among foreign-born Blacks. About 1% of native-born Blacks are infected with HIV, while about 3.1% of foreign-born Blacks are infected. The majority of cases among foreign-born Blacks appear to be heterosexual transmission (55%) or unknown (39%), while 49% of native-born Blacks are MSM and 25% are IDU or MSM-IDU (data not shown).

Based upon the age at initial diagnosis of HIV infection, the largest numbers of King County residents reported with HIV were age 25-29 (20%), age 30-34 (23%), or age 35-39 (21%). Only 2% of persons were under age 20. This distribution has remained largely unchanged throughout the epidemic.

The age distribution is different among males and females (data not shown). Females tend to be younger than males when first diagnosed with HIV. This is probably because most women are heterosexually infected and may tend to be younger than their male partners.

Trends in diagnosis of HIV infection (Table 2)

We analyzed trends based upon the year of initial diagnosis with HIV infection. Some individuals are diagnosed with HIV soon after infection, while others are not diagnosed until symptoms of AIDS develop. Based upon data reported through June 2004, we compared the characteristics of persons first diagnosed with HIV infection during 1995-1997, to those diagnosed 1998-2000, and in 2001-2003. A chi-square test for trend was used to determine if the change in proportions for each group was statistically significant over those three periods. The trends highlighted in Table 1 may demonstrate shifts in the epidemic, artifacts from implementing surveillance for HIV infection in 1999, or longer delays in getting tested among some groups,

Although the relative ranking of each group has not changed over time, there have been substantial shifts in the proportion of persons newly diagnosed with HIV infection among different groups. Between the three-year periods 1995-97 and 2001-03, the proportion of cases increased for heterosexual transmission (from 7% to 12%), Black females (from 4% to 6%), and Blacks (from 15% to 21%). The proportion of cases decreased among White males (from 67% to 58%), and Whites (from 71% to 61%). Foreign-born cases increased from 12% to 19% of the total. Specifically, foreign-born Blacks increased from 4% to 9% of the total, while native-born Blacks remain unchanged at 11-12%.

Diagnoses of AIDS and deaths (Figure 2)

Between 1982 and December 31, 2003, a total of 7,057 residents have been diagnosed with AIDS and 4,017 (57%) have died. After a steep drop from 1995 to 1999, the number of new AIDS diagnoses increased from 200 to 275 cases per year between 1999 and 2003 ($p=0.038$). However the number of AIDS deaths remained unchanged at 90-100 annually from 1998 through 2003 ($p=0.60$).

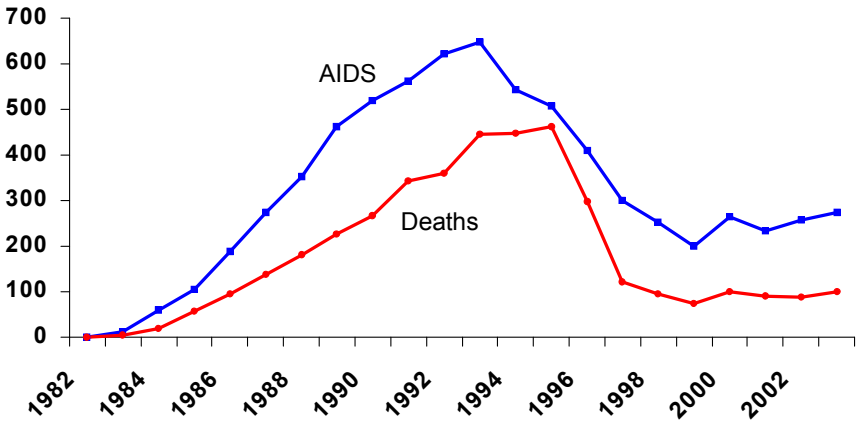
Table 2. Seattle-King County residents diagnosed with HIV 1995-2003: Selected trends over time among 3,410 cases - reported through 06/30/2004

	1995-1997		1998-2000		2001-2003		Trend*
	No	%	No	%	No	%	1995-2003
TOTAL	**1186**	**100%**	**1160**	**100%**	**1064**	**100%**	
HIV Exposure Category							
Men who have sex with men (MSM)	799	70%	773	67%	690	64%	
Injection drug user (IDU)	85	7%	80	7%	69	6%	
MSM-IDU	108	9%	85	7%	74	7%	
Heterosexual contact	76	7%	107	9%	126	12%	up
Heterosexual Foreign-born	*27*	*2%*	*57*	*5%*	*60*	*6%*	*up*
Heterosexual Native-born	*45*	*4%*	*47*	*4%*	*65*	*6%*	*up*
Subtotal with known exposure	1140		1149		1084		
Sex & Race/Ethnicity							
Male	1075	91%	1019	88%	942	89%	
White Male	796	67%	698	60%	622	58%	down
Black Male	134	11%	160	14%	156	15%	up
Hispanic Male	100	8%	107	9%	109	10%	
Female	111	9%	141	12%	122	11%	
White Female	49	4%	57	5%	31	3%	
Black Female	44	4%	62	5%	66	6%	up
Hispanic Female	8	1%	13	1%	10	1%	
Race/Ethnicity							
White, non Hispanic	845	71%	755	65%	653	61%	down
Black, non Hispanic	178	15%	222	19%	222	21%	up
Foreign-born Blacks	*42*	*4%*	*68*	*6%*	*91*	*9%*	up
Native-born Blacks	*133*	*11%*	*142*	*12%*	*127*	*12%*	
Hispanic	108	9%	120	10%	119	11%	
Asian or Pacific Islander	24	2%	35	3%	35	3%	
American Indian/ Alaska Native	28	2%	17	1%	21	2%	
Age at diagnosis of HIV							
0-19 years	20	2%	22	2%	12	1%	
20-29 years	276	23%	258	22%	223	21%	
30-39 years	538	45%	526	45%	506	48%	
40-49 years	258	22%	279	24%	241	23%	
50-59 years	78	7%	63	5%	66	6%	
60 + years	16	1%	12	1%	16	2%	
Residence							
Seattle	987	83%	980	85%	849	80%	down
King Co. outside Seattle	199	17%	180	16%	215	20%	up
Exposure and Race / Ethnicity							
Heterosexual Black	28	2%	58	5%	75	7%	up
Heterosexual Black Female	19	2%	27	2%	36	3%	up
Heterosexual Black Male	9	1%	31	3%	39	4%	up
Heterosexual male	20	2%	45	4%	61	6%	up
Heterosexual female	56	5%	62	5%	65	6%	
Place of birth, sex, race, and exposure							
Foreign-born	130	12%	174	16%	196	19%	up
Native-born	975	88%	902	84%	838	81%	down

*Statistically significant trends were identified through a chi-square test for trend comparing cases diagnosed 1995-97, versus 1998-2000, versus 2001-03.

The dramatically lower death numbers and delays in progression to AIDS beginning about 1995 are primarily due to wide-spread introduction of effective antiretroviral treatments. In addition, effective prophylaxis to prevent opportunistic illnesses (such as *Pneumocystis carinii* pneumonia), better monitoring of HIV progression (such as by assays of HIV viral load), and prevention efforts in reducing HIV transmission rates have contributed to decreased numbers of AIDS diagnoses and HIV-related deaths.

Figure 2
New AIDS cases and deaths – King County, 1982 – 2003 - reported as of 6/30/2004



AIDS numbers may have increased from 1999 to 2003 for several reasons. Some persons may not receive effective treatments – because they learn their HIV status too late in the course of their HIV disease for optimal treatment, have problems accessing treatment, or refuse treatment. Others may experience treatment failures due to problems with taking the medicines, adverse side effects, or the development of HIV strains resistant to currently available antiretroviral drugs.

HIV/AIDS was the leading cause of death among 25-44 year old males in King County during the years 1989 to 1996[5] but dropped to the 6th leading cause of death in 2002.

Conclusions

There are an estimated 8,400 HIV-infected King County residents. These include 3,200 persons with AIDS and 5,200 persons who have not developed AIDS; 4,000 additional persons have died since 1982. While the numbers of deaths was level from 1998 to 2003, the number of AIDS diagnoses increased from about 200 in 1999 to 275 in 2003.

About 350-400 new HIV infections have been diagnosed each year since 1998. However it is important to note that about one-quarter of persons are diagnosed simultaneously with HIV and AIDS, indicating they were not tested for HIV until late in the course of disease.

The total number of persons living with AIDS or with HIV infection in King County is increasing each year because there are more new diagnoses than deaths. Most HIV-infected King County residents are White men who have sex with men, are 30-45 years of age, and reside in Seattle.

Based upon the date of initial diagnosis with HIV infection, an increasing proportion of cases are Black males or Black females, and the proportion of cases due to heterosexual transmission is increasing. HIV infection among foreign-born persons accounts for all of the increase in cases among Blacks, and much of the increase among heterosexual-transmission cases.

• Contributed by Amy Bauer MPH, and Jim Kent MS

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Is HIV incidence rising among men who have sex with men in King County, 1997-2004?

Public health officials in Seattle and King County and in other urban areas in this country and in other developed countries on four continents have become greatly concerned by recent substantial upswings of sexually transmitted diseases (STD) among men who have sex with men (MSM), particularly by rises in gonorrhea, chlamydia, and syphilis. Concern is increased locally by the fact that nearly a third of our cases of gonorrhea and chlamydia, and about two-thirds of the cases of syphilis, are occurring in MSM who tell us that they already have acquired HIV. It is known that HIV is much more easily transmitted in the presence of other STD. The question thus arises about whether HIV, the worst STD, is increasing as well. This article summarizes a number of indicators we've been watching to address this question.

Although HIV has been reportable in Washington State since September 1999, HIV incidence and time trends have been difficult to measure directly for a number of reasons. Persons may not test for HIV until long after they became infected. Seventy percent of persons tested in public health settings and some persons tested in private settings have typically been tested anonymously, and such persons are not reportable until they seek care. Health care providers report newly found cases of HIV, not necessarily new infections, and are often slow to report cases. And, the number of MSM living in a community, necessary to calculate incidence and to monitor trends, is difficult to estimate. Longitudinal studies (i.e., following a particular group over time) can yield incidence, but only for the population of persons who test repeatedly. Such persons may not represent the community, and such studies are costly.

A new technology allows direct estimates of HIV incidence. Unlike longitudinal studies, the serologic testing algorithm for recent HIV seroconversion (STARHS) requires only one blood sample from each client, and can be applied to, and better represent, the entire group of people seeking testing. This method compares the standard enzyme-linked immunoassay (EIA) antibody test with a "less sensitive" EIA (LS-EIA) in which serum samples are diluted and incubation times shortened to reduce the sensitivity of the standard EIA. When antibody levels are relatively low (as during the first few months after infection), the LS-EIA will be negative, whereas the standard EIA will be positive.

CDC studies suggest that such discordant LS-EIA and standard EIA results mean that infection has likely occurred in the past 12 months, although concordant results (both tests positive) can not be interpreted as indicating either recent or prolonged infections. A simple formula can directly estimate incidence among a testing population:

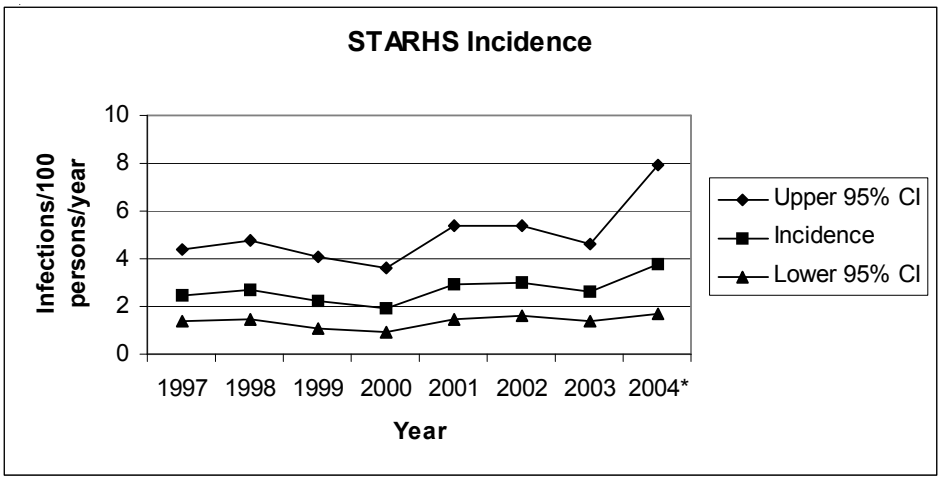
Incidence =

$$\frac{\textbf{(N recent seroconverters)(100)}}{\textbf{(N recent seroconverters + N HIV negatives)}} \times \frac{\textbf{365}}{\textbf{Time}}$$

where N recent seroconverters = the number of persons testing EIA-positive, LS-EIA-negative for a specific time period and testing population, N HIV negative = the number of persons testing EIA-negative, and Time = the mean time between production of sufficient antibodies to register as positive on the standard EIA and production of sufficient antibodies to register as positive on an LS-EIA (170 days for the Organon Teknika EIA used by the Public Health–Seattle & King County laboratory).

We applied LS-EIA to samples from persons testing positive for HIV at publicly-funded HIV test sites in King County. From January, 1997, through May, 2004, 809 MSM tested positive at these sites. The estimated incidence of HIV infection is high, ranging from 1.9 to 3.8, with widely overlapping confidence intervals. (Figure 1) Although there is no statistically significant trend, the incidence estimate is highest in 2004, based on the first half of 2004.

Figure 1: STARHS adjusted HIV incidence rates among MSM, King County



* 2004 data are through mid year only.

1997 - 2004

Although these STARHS data are inconclusive for any recent trend, we have also been looking at other indicators to further investigate the possibility of HIV incidence increases. Some of the indicators suggest that HIV incidence, HIV prevalence, HIV risk behaviors, and surrogates of HIV risk, such as STD rates among MSM in King County could be increasing. Other indicators show flat, or according to statistical testing, essentially flat lines. These indicators include an additional 5 trend measures in MSM:

1. The numbers of STD cases of gonorrhea, chlamydia, and syphilis, in MSM in King County have all increased since 1996. Assuming (reasonably) that the numbers of MSM have not similarly increased over this time period, the rates of these diseases have also steadily increased over these eight years (Figure 2).

2. Measures of risk behaviors among MSM seen for HIV testing (at the STD & HIV/AIDS Programs) and for care at the STD Clinic (including numbers of partners and proportions of MSM engaging in unprotected anal sex at both sites) have also been increasing steadily since 1996 (Figures 3 - 5).

Figure 2:
Numbers of cases of gonorrhea, chlamydia, and syphilis in MSM, King County, 1996 – 2003

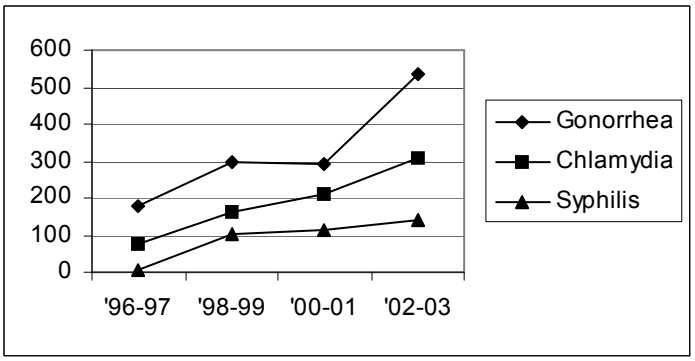


Figure 3: Increases in reported unprotected anal sex (UAS) and partner numbers among MSM being HIV tested, Public Health – Seattle & King County, 1988 - 2003

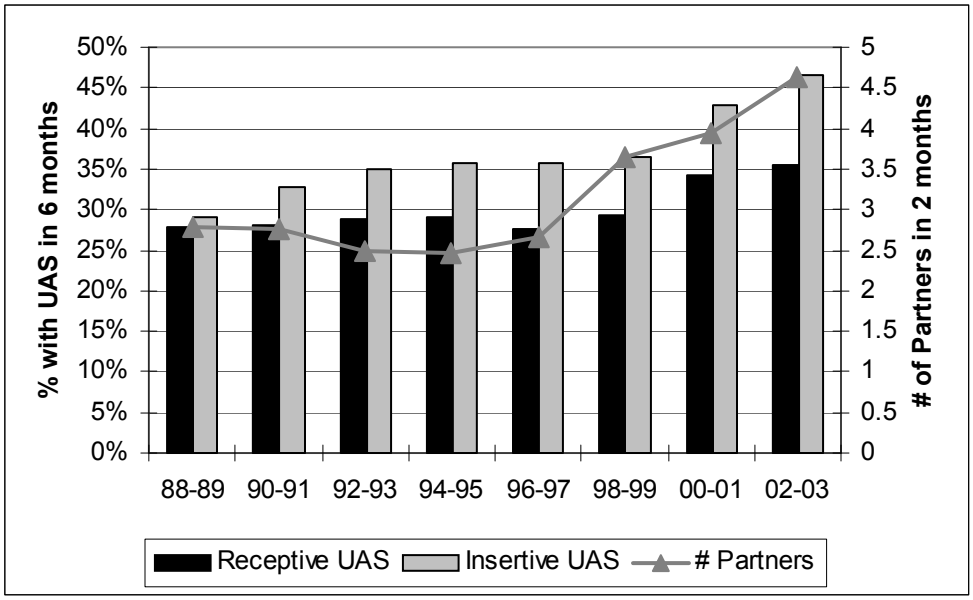


Figure 4: Increases in the percent of MSM reporting unprotected anal sex (UAS) in the prior year, seen at the PHSKC STD Clinic, 1995-2002.

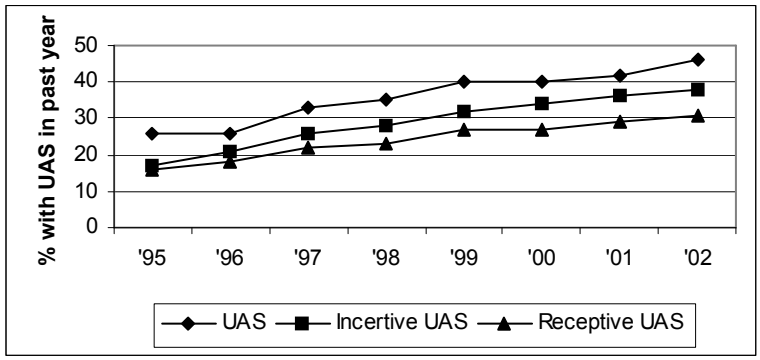
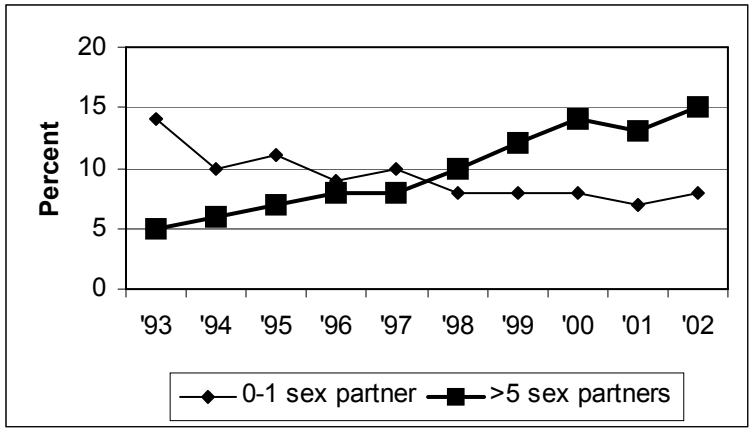


Figure 5: Increases in the percent of MSM reporting 5 or more sex partners in prior 2 months, PHSKC STD Clinic, 1993 – 2002.



3. The numbers of newly found cases of HIV in the primary public health HIV testing sites (the STD Clinic and the AIDS Program testing sites) increased 42% from 2001 to 2002, but not since then (Table 1). Note however, that the numbers of MSM testing have steadily increased, and that these Public Health sites have only found about a quarter of the new HIV infections estimated to be occurring in King County each year (~400) by the HIV/AIDS Epidemiology Program.

Table 1: Number of new HIV diagnoses, PHSKC STD & HIV/AIDS Programs, 2000 – 2003

Year Diagnosed:	Number of MSM Tested	Number HIV+ (%)
2000	8001	70 (0.88%)
2001	8075	67 (0.83%)
2002	8796	94 (1.07%)
2003	9150	96 (1.05%)

4. While the proportions of MSM testing HIV seropositive in a blinded HIV serosurvey conducted at the STD clinic since 1988 have increased significantly since 1997 (Figure 6), the proportions of those MSM whose LS-EIA result is discordant with their standard EIA test results shows no significant recent trend (see Figure 1 for incidence trends).

5. Cases of HIV reported by care providers (surveillance data, Figure 7) among MSM have increased slightly from 2001 through 2003 but show no significant trend over a longer period. The collection of HIV surveillance data began in September 1999, but includes earlier dates of HIV diagnoses, whenever available.

Figure 6: HIV seroprevalence among men who have sex with men (MSM), men who have sex with women (MSW), and women at PHSKC STD Clinic, by Blinded Seroprevalence Survey, 1988 – 2002 (data from H. Thiede, DVM, MPH)

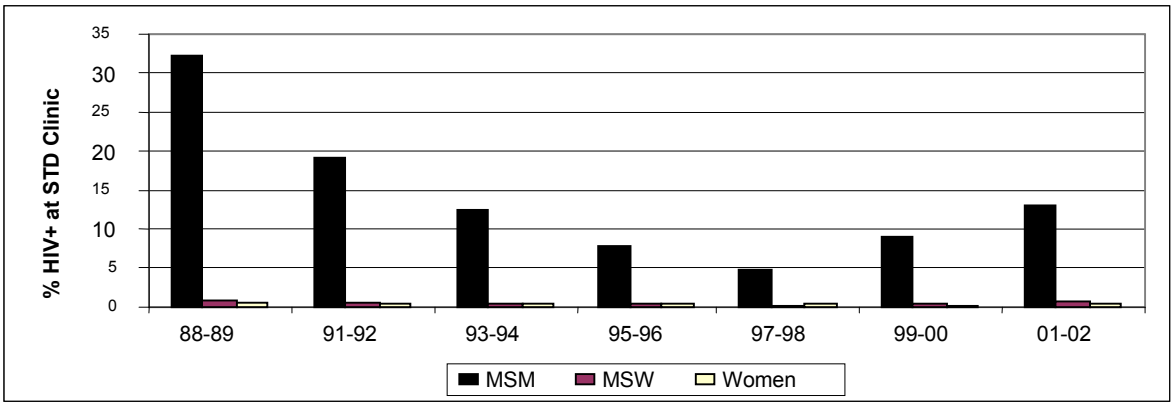
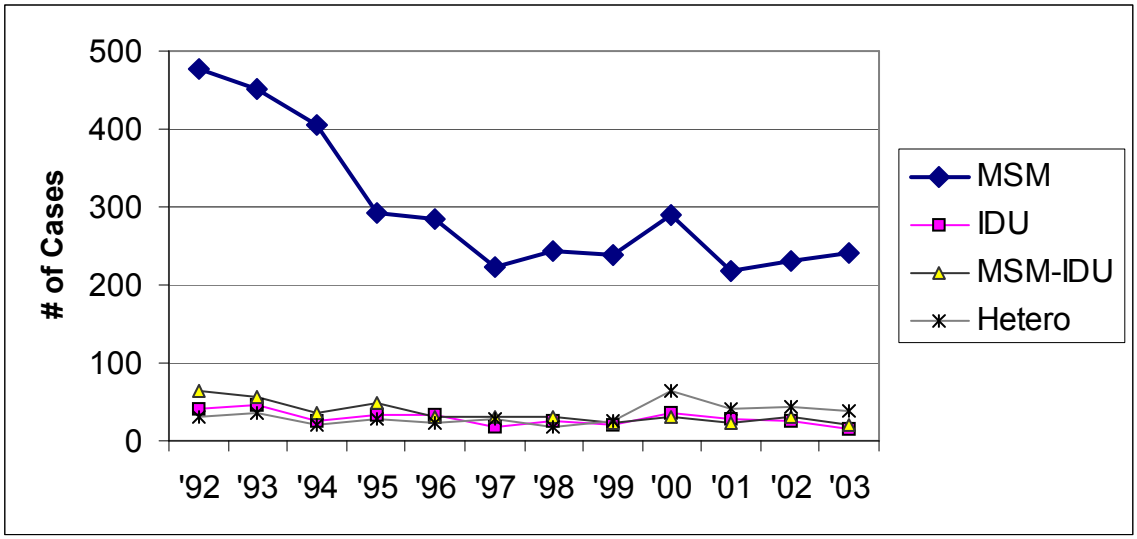


Figure 7: Reported cases of HIV by transmission risk group



Discussion

We conclude that while there is strong evidence of increasing non-HIV STD and risk behaviors in local MSM, a phenomenon that is being described in most urban areas of the developed world, we cannot yet demonstrate that HIV rates are rising locally. We are concerned that the estimated rates of HIV seroprevalence (16%) and the 2-3% HIV sero-incidence we report continue to be much higher among MSM than in all other risk populations in our region. And our data do conclusively show that these rates have not fallen. We can speculate, but not prove, that these rates might have fallen had other STD and risk behaviors not increased.

There are important limitations even to this large set of measures. Although the STD data come from community-wide surveillance, most of the MSM cases were identified at the STD clinic, since not all providers in the community routinely inquire about the gender of sex

partners. From cases of STD diagnosed outside the STD Clinic, the STD Program could only reasonably include data on men with rectal GC as indicating MSM behavior. STD surveillance data, therefore, may under represent cases of STD among MSM.

The next three of these additional measures are drawn from convenience samples of persons presenting for clinical services at the STD and HIV/AIDS Program sites. Since persons who choose to seek care at public health sites could change over time, these data may be less representative of MSM generally, and they leave some room for doubt. However, as recently reported by Dr. Devon Brewer, in a 2003 random digit dial survey in selected areas of Capitol Hill in Seattle, STD Clinic MSM are similar to MSM in the Capitol Hill area in number of sex partners, levels of unprotected anal sex, and substance abuse profiles.[1] Finally, the last indicator, HIV surveillance data, as mentioned above may not be rapidly sensitive to changes in HIV incidence, because of delays in HIV reporting. However HIV and AIDS surveillance data are population based, and therefore may be among the most comprehensive of all available assessments.

We hope to acquire more confidence about trends in HIV incidence, if any, as HIV surveillance data become more complete. Any significant changes in HIV incidence should eventually be seen in HIV surveillance data. We are also working to expand the STAHRS method to detect among those with newly identified HIV infection those with lower antibody levels, reflecting relatively recent infection – the so-called "front end" of the epidemic. To add to our ongoing monitoring of risk behaviors among those persons being seen for HIV counseling and testing, and for other STD services in public health sites, the HIV/AIDS Epidemiology Program has recently received resources to conduct venue-based behavioral surveillance, rotating yearly through three high risk populations: injection drug users, at-risk heterosexuals, and MSM. However, data collection on the latter group is not currently expected to occur until 2006.

How could it be that large numbers of MSM report increases in number of partners and in unprotected anal sex and that STD surveillance data show such steady increases in case numbers of STD, yet there is conflicting evidence about possible increases in the most worrisome STD, HIV? We believe that a number of factors may be involved. For example, it is known (from our 2003 Random Digit Dial survey[1] and other studies) that many MSM with and without HIV do disclose their HIV status and either select other same-serostatus partners for unprotected sex, or engage in safer, protected sex with sero-discordant partners. Thus both risky behaviors and other STD could increase in MSM partnering with HIV-sero-concordant men without greatly increasing the risk of HIV transmission. Further, use of highly active antiretrovirals (HAART) among a large proportion of HIV-infected individuals may result in a decrease in seminal viral load corresponding to a decrease in HIV transmission despite increases in STD and unsafe behaviors.

The bottom line of concern to public health from all these data is that the STD increases, substantially overlapping with HIV, and the increasing risk behavior trends pose great threats to the health of MSM even if we cannot yet identify a significant rise in HIV incidence. These STD and behaviors could certainly be maintaining the high levels of HIV incidence in this population which is already inordinately burdened by high levels of HIV prevalence and other STD. About one in six MSM in King County are currently estimated to carry HIV, and unless risk is substantially reduced, these rates may only grow.

Over 60 risk-reduction interventions specifically implemented to reverse these trends have so far been applied with little or no evidence of success in reducing reported risk behaviors, STD, or high HIV rates. Public Health needs all people concerned about the health of the MSM communities to promote reductions in numbers of partners and in recreational drug use which may be aggravating these trends, and promote increased consistent and correct use of condoms, testing for HIV, and disclosures of serostatus. Providers are urged to identify their MSM patients, inquire about risk, promote risk reduction, regularly screen MSM for STD and HIV, and treat or refer as appropriate.

• Contributed by Robert W. Wood, MD; Gary Goldbaum, MD, MPH; and Christina Lynch, MPH

Reference

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The Survey of HIV Disease and Care (SHDC) in urban and non-urban Washington State

Introduction

Approximately 12,000 people in Washington State, including 7,500 people in King County, are currently infected with HIV. Public health officials in the state estimate that each year more people contract HIV infection than die with HIV or AIDS, so the projected number of prevalent infections is increasing. Monitoring the presentation, morbidity, laboratory parameters, health services utilization, and mortality of persons infected with HIV is critical for HIV care and prevention planning.

Medical care for HIV and AIDS has become quite complicated since highly active antiretroviral therapy (HAART) became available in 1996. Medical care for HIV includes: prescription of diverse HAART regimens — each element with its own contraindications and restrictions; testing for antiretroviral resistance; CD4+ lymphocyte monitoring; opportunistic illness prophylaxis; plasma viral load monitoring; assessing adherence to therapy; and for those persons who have succumbed, treatments for opportunistic and other HIV-related illnesses. The Survey of HIV Disease and Care (SHDC) was designed to monitor these and other aspects of HIV-related therapy and outcomes. In this report, we describe SHDC methods and compare results from the two project years - 1999 and 2001 - when the study was conducted in one urban and several non-urban areas of Washington State.

Methods

SHDC was an expanded surveillance project that used medical record review for data collection and was population-based, with a two stage random selection of medical providers followed by systematic sampling of patients. Medical records were reviewed with the goal of describing HIV-infected persons receiving medical care. Specifically, data were collected about patient demographics, health services usage, morbidity, mortality, therapies used, laboratory measures, and other markers of access to care.

Public Health - Seattle & King County (PHSKC) conducted SHDC since its inception as the Health Care Sampling Project in 1999 using cross-sectional data for 1998. These pilot data were previously presented in this publication.[1] PHSKC conducted the SHDC project a second year, in 2000, using cross-sectional data for 1999. During 2000, PHSKC also conducted a separate non-urban SHDC project. This project was done in medical clinics and health care providers' offices randomly selected from non-urban counties in Washington State. Non-urban counties were those with a population in the largest metropolitan area of less than 500,000. For reasons that have to do with the weighting of the data and go beyond the scope of this report, data from the non-urban portion on the 2000 sample will not be used for this analysis. During 2002, we conducted the non-urban portion of SHDC for a second year using cross-sectional data for 2001 in medical clinics and health care providers' offices that were redrawn randomly from non-urban counties of Washington State. The following sites were excluded from sampling: any site not providing primary care for HIV (e.g. counseling and testing, inpatient, and/or research facilities), correctional institutions, psychiatric institutions, and the region's largest HMO (due to logistical reasons).

The data were entered into Epi Info. Weighting was done by a statistician at CDC to project the numbers of HIV infected persons in care. Analysis was performed by SAS version 8.02. As these comparisons were meant to be descriptive, we have not presented statistical comparisons, such as 95% confidence intervals or p-values.

Results

Table 1 outlines the number of patients selected for medical record reviews, the weighted number estimating the number of HIV infected person in care, the number of health care providers that participated and the provider participation rate for each year the project was conducted.

Demographic characteristics of patients observed in SHDC are shown in Table 2. There were more women in the 1999 urban sample compared to the 2001 non-urban cohort (weighted proportions 18% vs. 15%), but most subjects were male in both years. Racial/ethnic breakdowns show there are more Blacks (African Americans and foreign-born Blacks) in the urban sample (11% vs. 3%) and more Latinos in the non-urban sample (14% vs. 10%). Mean ages were fairly similar (41 and 40 years).

Country of birth was frequently unknown — 28% and 20% in 1999 and 2001, respectively. Among those with birthplaces recorded, in the 1999 SHDC urban sample, 15% were of foreign birthplace and in the 2001 non-urban sample, 9% were not born in the United States.

The predominant HIV exposure mode was MSM (men who have sex with men), with the 1999 cohort having a larger percentage of MSM (81% vs. 62%). These numbers include MSM injection drug users (IDUs) who comprised 12% and 8% of the 1999 and 2001 cohorts respectively.

Table 1: Survey of HIV Disease and Care King County (urban) and Washington State (non-urban) projects including sample sizes and provider participation 1999- 2001.

Year	SHDC	Weighted number	# of healthcare providers	Provider participation rate
1999 urban	Done (n=245)	3050	13	94%
1999 non-urban	Done (n=198)	Not available	10	71%
2001 urban	Not done	NA	NA	NA
2001 non-urban	Done (n=199)	1269	10	67%

Table 2. Demographics: Survey of HIV Disease and Care

	Urban 1999 SHDC weighted (N=3050)	Non-urban 2001 SHDC weighted (N=1269)
Gender		
Men	82% (2499)	85% (1083)
Women	18% (551)	15% (186)
Pregnancy in women	11% (59)	2% (19)
Migrant farm worker	0%	3% (34)
Race/ethnicity		
White	75% (2296)	79% (997)
Black	11% (326)	3% (37)
Latino/Hispanic	10% (298)	14% (181)
Asian & Pacific Islander	2% (54)	<1% (8)
Native American	2% (66)	2% (20)
Unknown	<1% (10)	2% (20)
Country of birth		
US	61% (1850) 85% known	72% (915) 91% known
US territory	<1% (5) <1% known	0% 0% known
Other	11% (328) 15% known	8% (95) 9% known
Unknown	28% (868)	20% (259)
Mode of HIV transmission		
Men who have sex with men (MSM)	69% (2105)	54% (689)
Injection drug user (IDU)	19% (579)	18% (261)
MSM/IDU	12% (355)	8% (97)
Age in years		
Mean	41	40
Median	38	39

Comparisons of care parameters between the two cohorts are presented in Table 3. Most - 86% of the 1999 urban cohort and 93% of the 2001 non-urban cohort - persons for whom HAART was most strongly recommended (CD4<200 cells/microliter) were prescribed one or more antiretrovirals. Among those for whom it might be recommended, we tried to assess why HAART was not prescribed. In 1999, the most common reasons were "provider defers due to adherence concerns" (27%), "patient refusal" (26%) and "high CD4, low viral load without therapy" (21%). In 2001, the predominant reason was "high CD4, low viral load without therapy" (42%).

More eligible persons (CD4<200 cells/microliter or <14% of total lymphocytes) were prescribed PCP prophylaxis in the urban sample compared to the non-urban sample (91% vs. 72%). PCP prophylaxis included atovaquone, dapsone, aerosolized pentamidine, trimethoprim-sulfamethoxazole. Percentages were more similar for those eligible for MAC prophylaxis (CD4 <50 cells/microliter) (71% vs. 69%). MAC prophylaxis included azithromycin, clarithromycin and rifabutin.

There were more people in the urban sample with documentation of TB screening (55% in 1999) compared with those in the non-urban sample (44%). In 1999, 48% of the cohort had documentation of a flu vaccine relative to 31% in the 2001 non-urban sample. In 1999, 60% of the cohort received the pneumococcal vaccine, compared to 47% in the 2001 non-urban cohort. In the urban sample, there was more documentation of toxoplasmosis titer (70% vs. 42%). Pap smear coverage for women was 87% in 1999 and 44% in 2001. Ten percent of persons had antiretroviral resistance assays in 1999 and 14% in 2001.

A higher percentage of the 1999 cohort had documentation of hepatitis A vaccinations (31% vs. 20%) and hepatitis B vaccinations (33% vs. 27%).

Over a third in each cohort had private insurance or were enrolled in an HMO (36% in 1999 and 37% in 2001). In 1999, 39% received public assistance as measured by enrollment in Medicaid or Medicare, compared to 41% in the non-urban 2001 sample. The remainder had other types of health insurance, were uninsured, or had no insurance documented.

There was an average of nine outpatient visits per year, excluding emergency room visits, per person in the urban cohort compared to eight visits in the non-urban cohort. Mean number of ER visits and hospital admissions were less than one for both years. Among those who were admitted to the hospital, the average length of stay was 12 days in 1999 and 8 days in 2001.

Disease status and clinical outcomes are compared in Table 4. Just over half of the people followed in both years had already progressed to AIDS - 55% in 1999 and 54% in 2001. The mean lowest CD4 count during the observation year was 325 in 1999 and 367 in 2001. The mean highest viral load was 72,945 in 1999 and 76,694 in 2001.

An estimated 3% of the cohort, or 91 people, had OIs in 1999 and 8% or 103 people had OIs in the 2001 cohort. PCP was the most common OI in both cohorts (46% of persons with OIs in 1999 and 41% of persons with OIs in 2001).

Comorbidities are shown in Table 5. Problems with alcohol were documented in 16% and 8% of persons in the cohorts, 11% and 9% of participants had documentation of illicit non-injection-drug-use, and approximately 9% and 2% had documentation of current illicit injection drug use. "Severe mental illness" (including depression) was present in 12% and 4% of the cohorts. Homelessness was more common among the urban sample (7% vs. 1%).

Data on sexually transmitted diseases (STDs) were abstracted from the medical records. Overall, STDs were more prevalent among the 1999 urban sample than among the non-urban 2001 sample. In the 1999 cohort the most common STDs that occurred during the interval were chlamydia (19%) and human papillomavirus (9%). Among the 2001 cohort, genital herpes (3%) and human papillomavirus (3%) were the most common STDs.

Table 3. Health Services Data: Survey of HIV Disease and Care

	Urban 1999 SHDC weighted (N=3050)	Non-urban 2001 SHDC weighted (N=1269)
No antiretroviral medication among those with CD4<200	14% (142/1012)	7% (31/476)
Reason HAART not prescribed among all not on HAART	**(N=578)**	**(N=238)**
Patient recently diagnosed	NA	9% (22/238)
High CD4, low viral load without therapy	21% (122/578)	42% (99/238)
Patient refused	26% (151/578)	9% (22/238)
Toxicity/side effects	NA	2% (4/238)
Provider defers due to adherence concerns	27% (158/578)	2% (5/238)
Other	14% (81/578)	0%
No reason given	11% (66/578)	36% (86/238)
PCP prophylaxis (among PCP prophylaxis eligible)	91% (919/1012)	72% (343/476)
MAC prophylaxis (among MAC eligible)	71% (254/355)	69% (60/87)
TB skin test	55% (1671)	44% (560)
Flu vaccine	48% (1471)	31% (397)
Pneumococcus vaccine	60% (1835)	47% (592)
Toxo titer	70% (2138)	42% (532)
Pap smear (women only)	87% (480)	44% (82)
Hepatitis A vaccine	31% (954)	20% (259)
Hepatitis B vaccine	33% (1014)	27% (342)
Resistance testing	10% (316)	14% (178)
Phenotypic testing only	0%	1% (16)
Genotypic testing only	10% (314)	12% (150)
Phenotypic and genotypic	<1% (2)	0%
Yes, type not specified	0%	1% (12)
Missing	<1% (22)	3% (38)
Health care utilization		
Mean admissions	<1	<1
Mean no. days among those with an inpatient visit	12	8.4
Mean ER visits	<1	<1
Mean outpatient visits	9	8
ADAP Drug Assistance	10% (293)	11% (133)
Insurance status		
Medicaid	22% (660)	19% (237)
Private/HMO	36% (1097)	37% (469)
Medicare	17% (517)	22% (281)
Other	5% (163)	9% (113)
Medicaid pending	3% (75)	1% (12)
None documented	18% (539)	12% (156)

Table 4. Disease Status and Outcomes: Survey of HIV Disease and Care

	Urban 1999 SHDC weighted (N=3050)	Non-urban 2001 SHDC weighted (N=1269)
Mean low CD4 count during interval	325	367
Mean high viral load during interval	72,945	76,694
Opportunistic Illness during interval	3% (91)	8% (103)
AIDS	55% (1661)	54% (691)
Vital status end of interval		
Alive	90% (2743)	90% (1137)
Dead	<1% (6)	3% (38)
Unknown	10% (301)	7% (94)

Table 5. Comorbidities: Survey of HIV Disease and Care

	Urban 1999 SHDC weighted (N=3050)	Non-urban 2001 SHDC weighted (N=1269)
Substance use during interval		
Alcohol use	16% (495)	8% (98)
Non-injection drug use	11% (336)	9% (119)
Injection drug use	9% (273)	2% (31)
Psycho-social issues		
Mental illness	12% (350)	4% (51)
Homeless	7% (222)	1% (14)
Incarceration	2% (48)	5% (63)
Psych referral	15% (456)	17% (210)
STDs		
Chlamydia		
during interval	19% (59)	0%
before interval	26% (90)	2% (28)
Genital Herpes		
during interval	4% (128)	3% (39)
before interval	19% (590)	10% (130)
Gonorrhea		
during interval	<1% (22)	0%
before interval	7% (221)	3% (34)
Human Papillomavirus		
during interval	9% (267)	3% (38)
before interval	19% (563)	15% (190)
Non-Gonococcal Urethritis		
during interval	0%	0%
before interval	2% (64)	0%
Syphilis		
during interval	2% (50)	<1% (2)
before interval	7% (208)	<1% (11)

Discussion

The findings of SHDC are important as they represent actual clinical practice from several different medical facilities and because providers and patients were sampled to make inferences regarding all HIV-infected persons in medical care. In addition, SHDC provides a unique opportunity to compare health care utilization and clinical outcomes among persons with HIV infection in urban and non-urban settings throughout Washington State. Unfortunately the main limitation of the project was that both temporal and geographical differences may have contributed to each of the parameters we have examined. Thus we cannot be certain whether there were major differences in care at non-urban sites relative to urban sites versus changes among persons living with HIV and the care they received in 1999 relative to 2001.

Overall, the people with HIV observed by SHDC were predominantly White men who have sex with men in their late 30s and early 40s. There were some interesting differences seen among the urban and non-urban cohorts when looking at health care services. HAART prescription levels were highest in the non-urban setting but in general the urban cohort received more preventative care — or perhaps their preventative care was better documented in the medical records. The urban cohort was more likely to have received PCP prophylaxis, TB skin tests, pneumoccoccus vaccine, and toxoplasmosis antibody titer. The urban 1999 cohort also had a higher percentage of hepatitis A and B vaccinations. However, the urban group had higher levels of injection drug use and were also more likely to be of foreign birth, factors that might have increased TB and hepatitis screening and vaccination rates. Since mean number of outpatient visits was similar among the two groups, simply accessing health care does not explain these differences in receiving preventive care.

In looking at disease status, both groups had a similar proportion with an AIDS diagnosis and both had similar mean lowest CD4 counts and highest viral load during the interval periods. The urban sample was more likely to have complex co-morbidity conditions, such as problems with alcohol, mental illness, injection drug use, homelessness and STDs that could complicate their HIV care or the course of their HIV disease. However, since overall the urban cohort appeared to receive more preventative care and have similar markers of disease status as the non-urban cohort, it appears these conditions did not inversely impact health care access or disease outcomes.

There are additional limitations to this project given that it relied solely on medical record reviews. Of special concern are missing and incomplete data. For example, for persons not classified as being prescribed a recommended therapy (e.g. antiretroviral regimens or OI prophylaxis), we cannot rule out an error in the medical record documentation, data abstraction, and/or data entry. Other components of care, such as adherence to antiretroviral medications, are important to consider, but such data are typically not well documented in medical records and if available, were generally not collected in a uniform fashion. In addition, the SHDC methodology limits record reviews to a single medical facility so we do not know if someone may be receiving HIV-related medical care at another site.

In summary, SHDC data have shown that it is possible to conduct a multistage probability-sampling project that can provide population-based estimates of HIV care parameters. This type of project can add important information to the data already collected as part of routine HIV/AIDS surveillance and can help guide planning for both care and prevention services in urban and non-urban areas in Washington State.

• Contributed by Elizabeth Barash, MPH, and Susan Buskin, PhD, MPH

Reference

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The importance of meeting the ongoing prevention needs of HIV-infected people: data from the SHAS Interview Project

Introduction

In a previous edition of this publication (1st Half 2003 HIV/AIDS Epidemiology Report, available at www.metrokc.gov/health/apu/epi/epireports.htm), data from the Supplement to HIV/AIDS Surveillance (SHAS) Interview Project were presented on HIV testing patterns in those found to be HIV positive. These data demonstrated the importance of making individuals who are HIV+ aware of their status early in the course of their infection, as is highlighted in the HIV prevention initiative introduced last year by the Centers for Disease Control and Prevention (CDC), Advancing HIV Prevention.[1] Studies suggest that when infected persons learn they are HIV+, they reduce their HIV-related risk behaviors.[2] However, learning one's positive HIV status is only the first step in preventing further transmission of HIV. Another important strategy in Advancing HIV Prevention is "preventing new infections by working with people diagnosed with HIV and their partners." Since more people are living with HIV than ever before (as demonstrated in Figures 1 and 2 at the beginning of this publication), and since people with HIV are living longer, healthier lives, it is important to understand the ongoing risk behaviors of those who are infected as well as their ongoing access to and use of HIV prevention services. Collecting data from HIV infected individuals in order to describe and understand ongoing risk behavior can contribute to development of behavioral interventions that are appropriately focused and lead to behavioral change that can be sustained over long periods.

Methods

The Supplement to HIV/AIDS Surveillance (SHAS) Interview Project is a multi-center study sponsored by the CDC that was conducted in Washington State starting in 1991 and ending at the end of June 2004. The study expanded from limited counties in the Puget Sound area to the entire state, and eligible participants included those with HIV and AIDS who were 18+ years of age who had recently been reported to the state HIV/AIDS reporting system. Methods for collecting SHAS data and representativeness of SHAS data are described in the publication mentioned above. Data for this article will focus on interviews conducted between 2000 and 2004 and on behaviors in the 12 months preceding the interview. Data collected about risk behavior among different risk groups, receipt of partner counseling and referral services, and need for education or information on HIV risk reduction will be presented.

For those interviewed, the majority (560/610, or 92%) were diagnosed with HIV 12 or more months before being interviewed; 12 (2%) were diagnosed six or more months prior to being interviewed, and 38 (6%) were interviewed within five months of being diagnosed. Consequently, the majority of those reporting risk behavior in the twelve months preceding the interview date were aware of their positive HIV status at the time they engaged in the risk behavior.

The risk groups defined in this section are self-reported by SHAS respondents. As a result, they are not mutually exclusive and are categorized as follows:

1) MSM: Men who reported sex with another man in the 12 months preceding the interview date. To be considered eligible for the MSM risk group, a man must have reported having sex with a man within the twelve months preceding their SHAS interview. Questions pertaining to sex refer to their last sexual encounter. This risk group includes 109 men who are also part of the IDU risk group.
2) IDU: Respondents who reported injection drug use. To be considered eligible for the IDU risk group, a person must have reported injection drug use at least one time in their life (ever) or within the twelve months preceding their SHAS interview. Questions pertaining to sex refer to their last sexual encounter. This risk group includes 109 men who are also part of the MSM risk group and 73 respondents who are also part of the heterosexual risk group.
3) Heterosexual: To be considered eligible for the heterosexual risk group, a person must have reported having heterosexual sex and not same sex contact within the twelve months preceding their SHAS interview. Questions pertaining to sex refer to their last sexual encounter. This risk group includes 73 respondents who are also part of the IDU risk group.

Results

Ongoing risk behavior

Tables 1 to 3 describe risk behaviors of MSM SHAS respondents, including number of male sex partners, condom use by partner HIV serostatus, and substance use at last sexual encounter.

Table 1. Number of male sex partners among men reporting sex with men (MSM) in the 12 months preceding interview (n = 281), SHAS Interview Project, Washington, 2000 – June 2004

	Number of Male Sex Partners					
	1		2-3		4+	
	No.	(%)	No.	(%)	No.	(%)
Age (years)						
18-24	4	(33)	5	(42)	3	(25)
25-29	7	(21)	8	(24)	18	(55)
30-39	27	(22)	33	(27)	62	(51)
40+	44	(39)	27	(24)	43	(38)
Race/Ethnicity						
White, Non-Hispanic	60	(31)	45	(23)	91	(46)
Black, Non-Hispanic	8	(20)	16	(40)	16	(40)
Hispanic, all races	14	(34)	12	(29)	15	(37)
Injection Drug Use – Past 12 months						
Yes	8	(15)	14	(26)	32	(59)
No	18	(33)	11	(20)	26	(47)
Condom Use[1]						
No	26	(29)	17	(19)	46	(52)
Inconsistent	31	(27)	31	(27)	52	(46)
Total	**82**	**(29)**	**73**	**(26)**	**126**	**(45)**

[1]Condom use describes whether or not a respondent reported using a condom at their last sexual encounter. Includes only insertive and receptive anal sex. "No" refers to not using a condom at either type of sex at last encounter and "Inconsistent" refers to using a condom at least once during insertive anal or receptive sex at last encounter. There were no respondents who reported using a condom for every sex behavior they engaged in during their last sexual encounter. Oral sex was not included. As a result, 78 respondents were excluded. Note: Columns may not add to totals due to different subsets.

Among men who reported having sex with men in the 12 months preceding their interview, the highest proportion of respondents reported four or more sex partners (45%) (Table 1). Of these individuals, more than half (59%) reported injecting drugs in the year prior to interview. Among men who reported not using condoms during insertive or receptive anal sex at their last sex encounter, over half (52%) reported four or more sex partners. No male respondents who engaged in insertive and/or receptive anal sex at their last encounter reported always using a condom.

In regards to condom use, MSM respondents were most likely to use condoms with non-steady sex partners who were HIV negative when engaging in either insertive or receptive anal sex (80% and 74%, respectively) (Table 2). Proportions of those using condoms for insertive or receptive anal sex were lower when serostatus of the partner was unknown. Respondents were least likely to use condoms with steady partners who were also HIV positive (26% and 15%, respectively).

Of MSM respondents who knew their sex partner was HIV-negative, 27% (23/84) did not use a condom at their last sexual encounter while 73% inconsistently used a condom (i.e.: used a condom during one type of anal sex but not the other). Forty-six percent (30/65) of MSM respondents who did not know the HIV status of their most recent sex partner did not use a condom at their last sexual encounter while 54% inconsistently used a condom (data not shown). There were no MSM respondents who reported using a condom for every sex behavior they engaged in during their last sexual encounter.

Table 2. Condom use at last sex encounter among MSM by partner status and sexual behavior, SHAS Interview Project, Washington, 2000 – June 2004

	HIV Serostatus of Partner		
	(+)	(-)	(?)
Insertive Anal			
Steady (68)	26%	70%	67%
Other (76)	34%	80%	46%
Receptive Anal			
Steady (63)	15%	63%	29%
Other (100)	37%	74%	53%

Table 3. Alcohol / drug[1] use by condom use at last sex encounter among MSM respondents, SHAS Interview Project, Washington, 2000 – June 2004

	Alcohol / drug use @ last sex encounter					
	Yes (n =98)		No (n =105)		All MSM[2] (n = 203)	
Condom Use	No.	(%)	No.	(%)	No.	(%)
No	51	(57)	38	(43)	89	(44)
Inconsistent	47	(41)	67	(59)	114	(56)

1. Alcohol/drug use reflects respondents who answered yes to the following questions, *"The last time you had sex with this partner, were you drunk?" "The last time you had sex with this partner, had you been using drugs?"*
2. Includes only insertive and receptive anal sex among men reporting sex with men in the 12 months preceding their interview.

Drug and alcohol use often impair judgment during sexual intimacy and can lead people to engage in risky behavior when they otherwise would not. Table 3 describes MSM respondents who reported whether or not they were using alcohol and/or drugs during their last sexual encounter and whether or not they used condoms. Almost half (48%) of all MSM respondents reporting sex in the past 12 months were under the influence of alcohol and/or drugs during their last sex encounter. Among respondents who did not drink or use drugs at their last sex encounter, a higher proportion used a condom at least once during their last sexual encounter as compared to those who did not use a condom at all (59% vs. 43%, respectively).

Another measure of risk among MSM includes having sex in high-risk settings such as at a bath house, circuit party, public bathroom, adult theater or bookstore, or public place like a park or highway rest stop. Among MSM respondents, 41% (113/276) reported having sex in these types of setting in the year prior to interview. Additionally, 36% (99/276) were given money or drugs in exchange for sex at some point during their life, and of these, 24 (26%) reported receiving money or drugs in exchange for sex in the twelve months prior to interview (data not shown).

Tables 4 and 5 describe the characteristics and behaviors of SHAS respondents who injected drugs.

Table 4. Characteristics of injection drug users among SHAS respondents, Washington, 2000 – June 2004

	Injected drugs, ever		Injected in past 12 months[1]	
	No.	(%)	No.	(%)
Gender				
Male	207	(42)	87	(42)
Female	43	(36)	14	(33)
Race/Ethnicity				
White, Non-Hispanic	196	(49)	79	(40)
Black, Non-Hispanic	24	(22)	10	(42)
Hispanic, all races	19	(23)	5	(26)
Total	**250**	**(41)**	**101**	**(17)**

Note: Columns may not add to totals due to different subsets.
[1]Among persons who ever practiced the behavior.

Among SHAS respondents, 41% (250/610) injected drugs at some point during their lives, and 17% continued to inject drugs in the 12 months preceding their interview (Table 4). Among those who injected in the 12 months prior to interview, 54 (53%) also reported male-to-male sexual contact (MSM/IDU). The largest proportion (48%) of MSM/IDU reported injecting stimulants/amphetamines/meth.

Of those who reported ever injecting drugs, 67% (159/239) had used a needle that was used before by someone else. Among those had injected in the 12 months prior to interview, 19% (19/101) shared their needle after they used it (Data not shown). Ninety-six percent (97/101) of these individuals were aware of needle exchange programs in their area, and 70% (68/97) had used the needle exchange to get new needles in the 12 months preceding their interview (data not shown).

Table 5. The number of sex partners among IDUs in the 12 months preceding their interview (n = 83), SHAS Interview Project, Washington, 2000 – June 2004

	Current IDUs (n = 83)[1]	
No. of Sex Partners	No.	(%)
1	27	(33)
2-3	18	(22)
4+	37	(45)

[1]Among persons who injected drugs in the 12 months preceding the interview and reported having sex.

A higher proportion (45%) of those recently injecting had four or more sex partners as compared to one or two - three partners (Table 5). Among MSM/IDUs, over half (61%) reported four or more sex partners and 83% of those who reported injecting stimulants/amphetamines/meth had four or more sex partners.

Over half (56%) of those who had injected in the 12 months prior to interview were given money or drugs in exchange for sex at some point during their lives and of these, 17 (30%) were given money or drugs in exchange for sex in the 12 months prior to interview (data not shown).

Table 6. Number of sex partners among persons reporting heterosexual sex in the 12 months preceding their interview (n = 169), SHAS Interview Project, Washington, 2000 – June 2004

	Number of Sex Partners					
	1		2-3		4+	
	No.	(%)	No.	(%)	No.	(%)
Gender						
Male	51	(66)	19	(25)	7	(9)
Female	67	(73)	19	(21)	6	(7)
Age (years)						
18-24	7	(50)	6	(43)	1	(7)
25-29	9	(75)	3	(25)	0	(-)
30-39	40	(61)	18	(27)	8	(12)
40+	62	(81)	11	(14)	4	(5)
Race/Ethnicity						
White, Non-Hispanic	67	(75)	17	(19)	5	(6)
Black, Non-Hispanic	24	(53)	15	(33)	6	(13)
Hispanic, all races	15	(68)	6	(27)	1	(5)
Injection Drug Use – Past 12 months						
Yes	21	(75)	3	(11)	4	(14)
No	34	(76)	8	(18)	3	(7)
Condom Use[1]						
No	45	(88)	5	(10)	1	(2)
Inconsistent	64	(59)	32	(30)	12	(11)
Total	**118**	**(70)**	**38**	**(22)**	**13**	**(8)**

1. Condom use describes whether or not a respondent reported using a condom at their last sexual encounter. Includes only anal or vaginal sex. "No" refers to not using a condom at either type of sex at last encounter and "Inconsistent" refers to using a condom at least once during anal or vaginal sex at last encounter. There were no respondents who reported using a condom for every sex behavior they engaged in during their last sexual encounter. Oral sex was not included. As a result, 10 respondents were excluded.

Note: Columns may not add to totals due to different subsets.

Table 6 describes the characteristics and behaviors of SHAS respondents who reported having exclusively heterosexual sex in the 12 months prior to interview. Among respondents who reported heterosexual contact, the highest proportion reported one sex partner in the year prior to interview (70%) (Table 6). More women than men reported one sex partner (73% among women vs. 66% in men). The majority of respondents (88%) who reported not using condoms during vaginal/anal sex at their last sex encounter also reported one sex partner. No respondents who engaged in vaginal and/or anal sex at their last encounter reported always using a condom.

Other indicators of risk include the use of alcohol and/or drugs during sex. In regards to alcohol and/or drug use during their last sex encounter, 37% (63/169) of respondents used alcohol and/or drugs (data not shown).

Being paid money or drugs in exchange for sex may also indicate increased risk behavior among heterosexual populations. In regards to receiving money or drugs for sex, 37% (62/169) of persons reporting heterosexual sex were given money or drugs in exchange for sex at some point during their life. Of these, 12 (19%) reported receiving money or drugs in exchange for sex in the twelve months preceding their interview (data not shown).

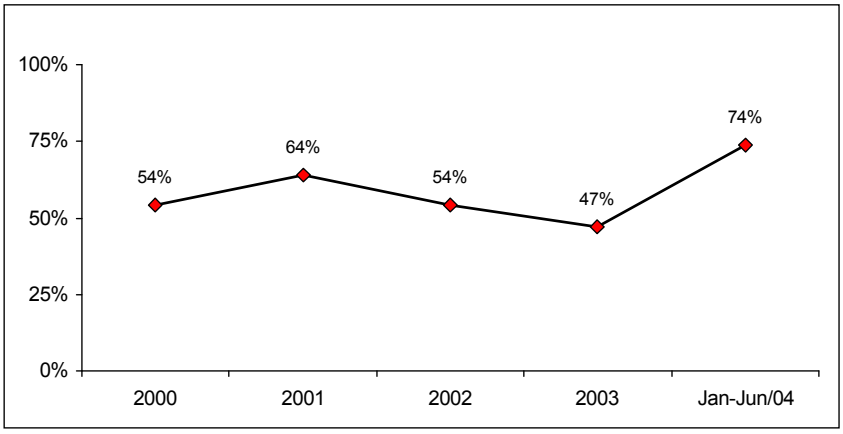
Receipt of partner counseling and referral services

SHAS respondents were asked about whether anyone (for example, from the health department or a health care provider) ever offered to tell their sex or drug using partners that they may have been exposed to HIV so they could get tested. Of those interviewed from 2000-2004, 309 (53%) indicated that they had been asked about notifying their partners. This proportion has fluctuated over time, as can be observed in Figure 1.

Perceived need for prevention services

SHAS respondents were asked a series of questions related to services that they needed in the 12 months prior to interview or still needed at the time of interview. These services included things like case management, mental health counseling, services, and transportation. There is also a question about need for education or information on HIV risk reduction. Overall, 182 (31%) indicated that they had need of HIV education and risk reduction services.

Figure 1. Percentage of respondents offered partner notification by year of interview, SHAS Interview Project, Washington State, 2000 – June 2004



Discussion

For several reasons, SHAS respondents may not be representative of all people with HIV in Washington State. Due to sampling methods, some populations are overrepresented in the SHAS data, as described in previous publications. SHAS respondents must have been reported to the HIV/AIDS surveillance system and recruited through health care providers; consequently, they represent those who have had interaction with the health care system. Patient participation can be biased by many factors such as loss to medical follow-up and lack of provider participation (in reporting and referring patients). Interview data are subject to recall bias as well as potential interviewer/interviewee bias. However, SHAS provides important information about those who are HIV-infected.

SHAS data indicate that HIV-infected individuals continue to engage in behaviors that may transmit HIV since not all partners are HIV positive. While many persons with HIV may reduce their risk for transmitting HIV immediately after they learn they are infected, it is challenging to maintain behavior change over long periods of time. And while maintaining behavior change is difficult in the best of circumstances, it is further complicated by substance use.

The benefits of providing ongoing medical care to individuals after they are diagnosed with HIV are well-recognized. Those with HIV also need to be offered prevention services in the same ongoing way. Recently, more attention has been focused on the importance of partner counseling and referral services. The proportion of SHAS respondents who had ever been offered these services has fluctuated over time; only 53% of those interviewed in the past four years had ever been offered these services, even though some had been receiving care for infection for a number of years. Since some with HIV infection continue to engage in behaviors that may transmit infection, these services need to be offered not only at initial diagnosis but over time. Providers and public health should continue to work together to make these services available to those who need them.

Another limitation of the SHAS project is that, because of the breadth of the survey instrument, respondents can only be asked a limited number of questions on any particular topic. They are asked only one question about their need for HIV education and risk reduction services. The majority of respondents indicated that they did not need these services. It is difficult to know whether this is because they were receiving the services (and perhaps not effectively, considering how many continued to engage in behaviors that can transmit HIV) or because they did not perceive the need for services since historically, the notion of HIV prevention has been that of keeping negative people from becoming positive.

It continues to be important to gather information that will guide efforts to provide HIV-infected individuals with effective, appropriate prevention services that can keep them from transmitting infection over the course of their lives. Even though SHAS has ended, new projects will collect information from HIV-positive individuals. Both the Washington State Department of Health (DOH) and Public Health – Seattle & King County (PHSKC) will be conducting needs assessments of HIV-positive individuals in the near future. Additionally, DOH has just received funding for a project that will in part replace the SHAS project in collecting behavioral information from those who are infected and will be working together with PHSKC to collect these data.

• Contributed by Alexia Exarchos, MPH and Maria Courogen, MPH

Reference

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HIV testing patterns for persons at risk for HIV: results from the Washington State HIV Testing Survey, 2002-2003

Introduction

In the early 1990s, a national discussion began about the inclusion of confidential name-based reporting for HIV. These discussions raised concerns from some community representatives and public health officials that HIV infection surveillance may deter some at-risk persons from seeking HIV testing.[1] HIV testing has been acknowledged as a key component of prevention activities. Learning one's HIV status is the "key stepping stone" into care or ongoing behavioral risk reduction services.[2] Since 1995, the Centers for Disease Control and Prevention (CDC) has sponsored states to participate in the HIV Testing Survey (HITS). HITS is a survey for those at highest risk for HIV. In addition to examining the effects HIV name reporting has on persons seeking HIV testing, HITS also aims to assess HIV testing patterns and other reasons or barriers that influence persons to seek or avoid HIV testing, knowledge of state policies for HIV surveillance, risk behaviors among persons at risk for HIV, and exposure to HIV prevention information and activities.

In 1999, Washington State adopted a name-to-code reporting system for those with asymptomatic HIV. In order to assess the impact of this type of reporting, Washington participated in HITS in 2000, 2002 and 2003. In 2000, HITS interviews were conducted in King County. In 2002 and 2003 HITS was conducted in Pierce County (Tacoma), Yakima County (Yakima), Benton-Franklin Counties (Pasco), and Spokane County (Spokane). These areas were initially chosen because a higher proportion of their county populations are African American and/or Hispanic/Latino than in other parts of the state. In Washington State, case rates for African American men living with HIV/AIDS are 4-5 times higher than those for White men, and African American women have case rates 18-22 times higher than White women. Rates of Hispanic men living with HIV/AIDS are approximately double those in White men, while rates of Hispanic women are 4 times higher than in White women.[3] In this same time period, a special Asian and Pacific Islander HITS (HITS-API) project was also conducted in King County.

Methods

The HIV Testing Survey (HITS) is an anonymous, venue-based cross-sectional study conducted among persons at risk for HIV infection. The survey targets three at-risk populations: men who have sex with men (MSM) who had one or more sexual contact(s) with men in the last 12 months; high risk heterosexuals (HRH) who had one or more sexual contacts with an opposite sex partner in the last 12 months and have presented themselves for STD testing; and injecting-drug users (IDU), who injected drugs in the last 12 months. MSM were recruited from gay bars, HRH through clinics providing sexually transmitted disease services and IDU through street outreach or needle exchange programs (NEP). In order to be eligible for HITS, respondents had to be at least 18 years of age, reside in Washington State for at least 6 months, and be able to give informed consent. They also had to be HIV negative and not transgender. Respondents received $25 for participation.

HITS 2002-2003 focused on the second largest Washington State metropolitan area (Tacoma), and three areas in Eastern Washington (Yakima, Pasco and Spokane). Using a structured questionnaire provided by the CDC, trained interviewers from health departments and community-based organizations offered the survey in English and Spanish. In 2002, interviews were conducted in two gay bars and one NEP in Tacoma, a clinic providing STD services and NEP in Yakima, and an STD clinic serving Benton-Franklin counties. In 2003, HITS interviews were conducted in one gay bar, two STD clinics, and a NEP in Spokane, as well as another NEP in Tacoma.

Results

Of the 604 respondents who were surveyed, 539 (89%) met the eligibility criteria. There were 9 respondents omitted from the analysis because they were HIV positive, and 5 respondents who reported being transgender. Table 1 describes the demographic characteristics of eligible survey respondents. Of 539 eligible participants, 145 (27%) were MSM, 200 (37%) were IDU, and 194 (36%) were HRH. Most of the MSM were surveyed in bars in Tacoma (72%); 28% were from Spokane. Half of IDU were surveyed at Tacoma needle exchanges, 28% at a Yakima NEP, and 22% at a Spokane NEP. The majority of HRH respondents were surveyed in Yakima and Pasco (76%); the remaining 24% were surveyed in Spokane. Most of the MSM and IDU surveyed were White (61% and 64%, respectively); for HRH, 44% were White and 42% were Hispanic. A large proportion of respondents (13%) reported multiple races. The largest proportion (62%) of these respondents were White and Native American mixes. The age distributions varied by risk group, with MSM and HRH being mostly younger (43% and 56%, respectively, were ages 18-24); 77% of IDU were over the age of 35.

Table 1. Characteristics of Washington State HIV Testing Survey participants, by recruitment venue, 2002 - 2003

Characteristic	Recruitment Venue						Overall	
	MSM (Bar)		IDU (NEP)		HRH (Clinic)			
	#	%	#	%	#	%	#	%
Sex								
Male	143	100	128	64	114	59	387	72
Female	-	-	72	36	80	41	152	28
Race & Ethnicity[1]								
White (non-Hispanic)	87	61	126	64	85	44	298	56
Black (non-Hispanic)	13	9	13	7	6	3	32	6
Asian/Nat. HI/Pac. Islander	3	2	1	1	1	1	5	1
Native Am./Alaska Native	1	1	15	8	1	1	17	3
Hispanic	15	11	14	7	81	42	110	21
Multi-Race	23	16	28	14	18	9	71	13
Age in years								
18-24	62	43	8	4	108	56	178	33
25-34	49	34	39	19	66	34	154	29
35-44	22	15	64	32	16	8	102	19
45 and up	12	8	89	45	4	2	105	19
Education								
Some High School or Less	8	5	72	36	46	24	126	23
High School Grad/GED	33	23	70	35	66	34	169	31
Some College or More	104	72	58	29	82	42	244	43
Monthly Income								
Less than $1,000	18	13	140	70	70	36	228	42
$1,000-$1,999	42	29	34	17	78	40	154	29
$2000 or More	84	58	25	13	46	24	155	29
Housing								
Own Home	31	21	7	3	23	12	61	11
Rent Home or Apt.	93	64	92	46	125	64	310	58
Friends/Family No Rent	15	10	38	19	44	23	97	18
Homeless	3	2	49	25	1	1	53	10
Other	3	2	14	7	1	1	18	3
Employment								
Unemployed	22	15	117	59	73	38	212	40
Employed	122	85	80	41	117	62	319	60
Health Insurance								
Yes	103	71	78	39	84	44	265	49
No	42	29	122	61	109	56	273	51
Region								
1 (Spokane)	41	28	44	22	46	24	131	24
2 (Yakima/Pasco)	-	-	56	28	148	76	204	38
5 (Tacoma)	104	72	100	50	-	-	204	38
TOTALS	145	100	200	100	194	100	539	100

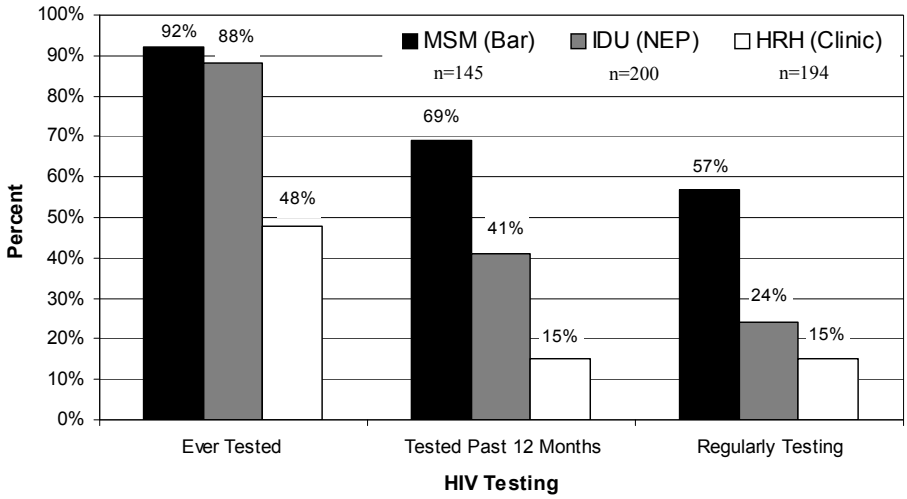
Note: Numbers may not add to totals due to missing data. Column percents may not add to 100 due to rounding. MSM = men who have sex with men; IDU = injection drug users; HRH = high risk heterosexuals; NEP = needle exchange program.

1. Those reporting more than one racial group were categorized as multi-race. However, those reporting Hispanic were categorized as Hispanic, regardless of other reported racial groups.

HIV testing

A high proportion of individuals had ever been tested for HIV, particularly MSM and IDU (see Figure 1). Ninety-two percent of MSM and 88% of IDU had ever been tested, compared to only 48% of HRH. Sixty-nine percent of MSM reported testing within the past 12 months, which was significantly higher than IDU (41%) and HRH (15%) ($p< 0.001$). MSM were also significantly more likely to report testing regularly (regularly was defined by the respondent) than were IDU and HRH (57% vs. 24% and 15% respectively, $p< 0.001$). These findings differ from the Seattle-area HITS conducted in 2000.[4] A lower proportion of MSM from Seattle HITS reported testing in the last 12 months (52%). A higher proportion of Seattle IDU reported ever testing (96%), testing within 12 months (71%), and testing regularly (57%). HRH in Seattle HITS were also more likely to have ever been tested (82%), tested in the previous 12 months (30%), and test regularly (36%).

Figure 1.
Percent ever testing for HIV, testing in the past 12 months, and regularly testing by recruitment venue, HIV Testing Survey, Washington State, 2002 - 2003



Note: MSM = men who have sex with men; IDU = injection drug users; HRH = high risk heterosexuals; NEP = needle exchange program.

Table 2 displays differences in MSM and IDU testing within the last 12 months, and differences in HRH ever testing, by respondent demographics. Female IDUs were significantly more likely to have been tested than male IDUs (50% vs. 35%, $p=0.02$). MSM over the age of 34 were significantly less likely to have been tested in the last 12 months (47%) than were those ages 18-24 (76%, $p=0.004$) and ages 25-34 (73%, $p=0.01$). MSM surveyed in Tacoma were more likely to report testing in the past 12 months than were those from Spokane (73% vs. 56%, $p=0.047$). A higher proportion of White HRH reported ever testing (52%) than did Hispanic HRH (43%); however, this difference was not statistically significant. Only 38% of HRH ages 18-24 report ever HIV testing. There were no statistically significant differences in HIV testing by race/ethnicity, education, income, employment, or having health insurance.

Other factors that were found to be associated with HIV testing were risk behavior and HIV prevention outreach. Risk behaviors were defined as having more than one primary sex partner or any non-primary sex partners in the past 12 months and not always using condoms, or injecting in the past 12 months with a needle known or suspected to have been used by someone else. Eighty-eight (61%) of MSM, 107 (54%) of IDU, and 88 (45%) of HRH had risk behaviors according to this definition. Those IDUs with risk behaviors were significantly more likely to have been HIV tested the past 12 months (48%), than were those without risk behaviors (33%) ($p=0.036$). Of MSM with risk behaviors, 74% were HIV tested the last 12 months versus 60% of MSM without risk behavior (difference not statistically significant). HRH with risk behaviors were no more likely to have been tested the past 12 months than were HRH without risk behaviors. In regards to HIV prevention outreach, respondents were asked, "In the past 12 months, not including when you may have been tested for HIV, have you talked to an outreach worker, counselor, or prevention program worker about HIV or other STDs?" Of the 80 respondents indicating they had talked to someone about HIV or STDs, 60% were tested during that 12 months, compared to 36% of those who had not talked to someone ($p<0.001$).

Of the 402 respondents indicating ever being HIV tested, 78 (19%) reported not getting their results every time tested, and 6% did not receive the results of their last test. Sixty-one percent of those reporting not receiving all test results were IDU, and 16 out of the 23 respondents not receiving their last test results were IDU. The main reasons given for not getting test results were that they thought the testing place would contact them, or they were too busy, or forgot.

Table 2. Number & percentage[1] of men who have sex with men (MSM) and injection drug users (IDU) tested the last 12 months, and high risk heterosexuals (HRH) ever tested, by respondent characteristics. HIV Testing Survey, Washington State, 2002 - 2003

Characteristic	HIV Tested Last 12 Months				Ever HIV Tested	
	MSM (Bar)		IDU (NEP)		HRH (Clinic)	
	#	%	#	%	#	%
Sex						
Male	99	69	45	35	48	42
Female	-	-	36	50	45	56
Race & Ethnicity						
White (non-Hispanic)	62	71	52	41	44	52
Black (non-Hispanic)	7	54	3	23	5	83
Asian/Nat. HI/Pac. Islander	3	100	1	100	1	100
Native Am./Alaska Native	1	100	9	60	-0-	-0-
Hispanic	7	47	3	21	35	43
Multi-Race	18	78	12	43	7	39
Age in years						
18-24	47	76	2	25	41	38
25-34	36	73	17	44	34	51
35 and up	16	47	62	41	18	90
Education						
Some High School or Less	5	63	31	43	19	41
High School Grad/GED	25	76	28	40	36	54
Some College or More	69	66	22	38	38	46
Monthly Income						
Less than $1,000	11	61	56	40	31	44
$1,000-$1,999	26	62	15	44	38	49
$2000 or More	61	73	10	40	24	52
Employment						
Unemployed	13	59	48	41	39	53
Employed	85	70	31	39	52	44
Health Insurance						
Yes	71	69	38	49	43	51
No	28	67	43	35	49	45
Region						
1 (Spokane)	23	56	13	30	25	54
2 (Yakima/Pasco)	-	-	21	38	68	46
5 (Tacoma)	76	73	47	47	-	-

1. MSM and IDU include the number and percent of all respondents within each category tested the last 12 months. Due to small numbers tested the last 12 months, HRH includes the number and percent of all respondents within each category ever tested. Denominators appear in Table 1.

Reasons for seeking or delaying testing

Participants who were ever tested for HIV were asked to think about the last time they were tested and respond "yes" or "no" to a series of reasons why people get tested for HIV. From the reasons they chose (or other reasons they provided), they were asked which was the most important reason they were tested. Table 3 displays the most important reasons by risk group. Of the MSM that had ever been tested, 43% indicated that wanting to know where they stood was the most important reason for their last test. This was also the most common reason for IDU (49%) and HRH (42%). Another 12% of MSM and 15% of HRH indicated the main reason for their last test was because they thought they had been exposed through sex, and 20% of IDU said it was because they thought they had been exposed through drug use. Other common reasons for testing, though not necessarily the most important reason, included being time for regular testing (52% of MSM, 24% of IDU, and 24% of HRH had as a reason), concern about transmitting HIV (35% of MSM, 40% of IDU, and 32% of HRH had as a reason), and someone other than a doctor suggested it (20% of MSM, 26% of IDU, and 21% of HRH had as a reason) (data not shown).

Those respondents not testing in the last 12 months were similarly asked to give reasons that they had not been tested and designate one as most important. Table 4 displays the most important reasons for not testing by risk group. Of the MSM who had not been tested in the previous 12 months, 33% indicated the main reason was that it had been unlikely that they had experienced a sexual risk. This also was the most common reason for HRH (59%). The most common reason for IDU was because they thought they were HIV negative (23%). Other common reasons for not being tested in the past year included not wanting to think about being HIV positive (36% of MSM, 36% of IDU, and 11% of HRH had as a reason), not wanting to worry family members (19% of MSM, 31% of IDU, and 11% of HRH had as a reason), not having time (17% of MSM, 36% of IDU, and 25% of HRH had as a reason), and

Table 3. Most important reason for last HIV test among participants who had ever been tested, by recruitment venue. HIV Testing Survey, Washington State, 2002 - 2003

Most Important Reason	Recruitment Venue					
	MSM (Bar) (n=134)		IDU (NEP) (n=175)		HRH (Clinic) (n=93)	
	#	%	#	%	#	%
To know where they stood	56	43	80	49	34	42
Thought exposed through sex	16	12	5	3	12	15
Thought exposed through drug use	1	1	32	20	2	2
It was time for regular test	10	8	3	2	1	1
Concerned about transmitting HIV	5	4	10	6	2	2
Part of routine medical checkup	4	3	2	1	2	2
Doctor suggested getting tested	4	3	5	3	4	5
Required for insurance/military/jail	6	5	8	5	4	5
Pregnant or wanted a child	-0-	-0-	2	1	5	6
Part of STD checkup	1	1	-0-	-0-	1	1
Sex partner requested	5	4	1	1	1	1
Partner was HIV-positive	6	5	1	1	-0-	-0-
Someone (not doctor) suggested it	-0-	-0-	5	3	-0-	-0-
Suspected an HIV health problem	2	2	-0-	-0-	1	1
Other	14	11	9	6	12	15

Note: Numbers may not add to totals due to missing data. Percentages for main reason may not add to 100% due to rounding. MSM = men who have sex with men; IDU = injection drug users; HRH = high risk heterosexuals; NEP = needle exchange program; STDs = sexually transmitted diseases.

afraid to find out they were HIV positive (24% of MSM, 12% of IDU, and 16% of HRH had as a reason) (data not shown). Reasons for delaying testing are similar to results from the 2000 Seattle HITS project, which found the main reasons for all three risk groups were that it was unlikely they had been exposed to HIV, thought they were HIV negative, not having the time, and being afraid to find out they were HIV positive.

HIV reporting policies

One of the principal reasons for implementing HITS in Washington State was to assess whether or not those at highest risk for HIV are familiar with Washington's HIV reporting policy, and whether or not the reporting policy acts as a deterrent to testing. Washington State Administrative Code[5] changed in 1999 to include reporting of asymptomatic HIV infection. Although standard confidential name reporting is done for AIDS, a name-to-code system was adopted for those with HIV. Patient names are reported to public health departments but are then converted to a non-name coded identifier within three months of the completed case report.

HITS participants were asked if several types of reporting methods were used in Washington State. They responded "yes", "no", or "don't know" to questions about use of name, unique identifier, name-to-code, and background information reporting. Over 65% of respondents indicated "don't know" to each question about reporting system type, 75% indicated "don't know" to name-to-code reporting, 11% said "no", and only 13% (72) correctly indicated name-to-code reporting as the HIV reporting method in Washington. This number actually overestimates those familiar with Washington's reporting method since not all individuals answered questions about other reporting methods correctly.

For most respondents, government reporting was not a hindrance to HIV testing. Twenty-three percent of all respondents indicated that they believed Washington had either name or name-to-code reporting, and 28% thought HIV positive names were reported to the federal government. These respondents were not any less likely to have ever been HIV tested or tested within the past 12 months. Furthermore, only one MSM respondent indicated that being worried about government reporting was his main reason for not testing in the last 12 months. Only six MSM, six IDU, and 11 HRH said government reporting was one of the reasons, but not the only reason, for not testing in the last 12 months.

Table 4. Most important reason for not HIV testing among respondents who have not been tested the last 12 months, by recruitment venue. HIV Testing Survey, Washington State, 2002 - 2003

Most Important Reason	Recruitment Venue					
	MSM (Bar) (n=46)		IDU (NEP) (n=115)		HRH (Clinic) (n=164)	
	#	%	#	%	#	%
Unlikely sex risk	14	33	12	12	89	59
Thought they were HIV-negative	6	14	22	23	13	9
Afraid to find out	5	12	5	5	8	5
Didn't have time	1	2	15	15	13	9
Didn't want to think about being HIV Positive	1	2	5	5	7	5
Didn't want to worry family members	1	2	4	4	4	3
Worried about who would learn results	2	5	1	1	1	1
Unlikely drug risk	-0-	-0-	5	5	2	1
Worried name reported to government	1	2	-0-	-0-	-0-	-0-
Worried name reported to insurance/employer	1	2	1	1	1	1
Didn't want people to think they used drugs	-0-	-0-	4	4	-0-	-0-
Worried that friends would react badly	-0-	-0-	-0-	-0-	-0-	-0-
Other	10	24	23	23	12	8

Note: Numbers may not add to totals due to missing data. Percentages for main reason may not add to 100% due to rounding. MSM = men who have sex with men; IDU = injection drug users; HRH = high risk heterosexuals; NEP = needle exchange program.

Washington residents testing anonymously (not giving their names when tested) for HIV are not reported until they enter medical care. During pre-test counseling, providers are supposed to advise individuals that both confidential and anonymous HIV testing are available in Washington. Overall, 43% of those HIV tested reported that their last test was anonymous. This varied significantly by risk group such that 47% and 49% of MSM and IDU versus 25% of HRH were anonymously tested the last time they were tested ($p < 0.001$). This result is related to the finding that HRH were also less likely to know that anonymous HIV testing is available in Washington State. Forty percent of HRH knew that anonymous testing was available versus 75% of MSM and 71% of IDU. Those indicating no anonymous testing, or not knowing, were not any less likely to ever been tested for HIV, or tested within the past 12 months.

Discussion

Findings from this study are limited and potentially biased given that it was not population-based and relied on recruitment from certain venues. The views and behaviors of MSM interviewed in bars may not represent MSM who do not go to bars. Likewise, behaviors of IDUs who participated in this study may only represent those frequenting NEP and not IDU in the general population. Furthermore, validity of the information gathered through this study is dependent on respondents being truthful about their views and actions. However, this study does provide valuable information about individuals who have been identified as potentially having risk behaviors that may be associated with HIV transmission.

Results from the Washington State HITS 2002-2003 suggest that a high proportion of MSM and IDU have ever been tested for HIV (92% and 88%, respectively). These results are comparable to results from the Seattle HITS 2000 (92% and 96%)[4], and national HITS results from ten states compiled by the CDC in 2002 (88% and 88%).[6] A lower proportion of IDU had tested in the 12 months prior to interview than in Seattle and nationally. Forty-one percent of IDU surveyed in Tacoma, Yakima, and Spokane reported testing the previous 12 months, compared to 71% in Seattle HITS 2000, and 73% in CDC HITS 2002. HRH surveyed in Yakima and Spokane were also less likely to have ever been tested and tested in the previous 12 months. Forty-eight percent reported having ever been tested and 15% had tested in the last 12 months, compared to 82% and 30%, respectively, from Seattle 2000 HITS, and 73% and 56% from CDC HITS 2002.

There were several factors that were associated with whether or not a respondent was tested for HIV in the 12 months prior to interview. MSM in Tacoma were more likely to have been tested than MSM in Spokane, and younger MSM were more likely to have been tested than older MSM. Female IDUs were more likely to have been tested than male IDUs, and respondents who had recently engaged in risk behavior associated with HIV transmission were more likely to have been tested in the past 12 than those who had not. Respondents who had talked to an HIV outreach worker in the past 12 months (other than when testing) were also more likely to have been tested in the past 12 months. The primary reasons that MSM, IDU and HRH had not been tested in the previous 12 months included thinking they were not at risk or were HIV negative, not wanting to think about or afraid of being HIV positive, not wanting to worry family members and not having time. These reasons are consistent with those found in Seattle 2000 HITS and in national CDC HITS 2002.

Knowledge of Washington State HIV reporting policies was low. Only 13% of respondents correctly indicated that name-to-code reporting is being done in Washington. In Seattle HITS 2000, 18% indicated the correct reporting method. Nationally, 10% of HITS participants could correctly identify their state's HIV case surveillance policy.[6] These results may actually overestimate respondent knowledge of HIV reporting methods because even fewer individuals answered every question about HIV reporting methods correctly. As was found nationally[6], HIV reporting policies do not appear to be a deterrent to testing for individuals at high risk. Only 23 (4%) respondents listed government reporting as a reason that they did not get tested in the last 12 months, and only one MSM listed it as the main reason. Those who thought their names would be reported to the state or federal government if found to be positive were no less likely to have ever tested or tested in the past 12 months.

A cornerstone of HIV prevention is getting individuals at high risk for infection to have knowledge of their serostatus. Results from this study indicate that many persons at high risk for HIV infection are getting tested on a regular basis, and some have adopted regular testing as part of their HIV prevention strategy. Since many of these individuals continue to receive anonymous testing, it is important to retain this as an option.

Those who had talked to an outreach worker were more likely to have been tested in the previous 12 months. This is an encouraging sign that prevention efforts do have impact; however, there is more work to be done. There are specific groups of individuals defined by geographic area or demographic characteristics who engage in risk behaviors associated with transmission of HIV who do not get tested regularly and efforts should be made to focus on the needs of these populations. One particular finding of this study is that IDUs are less likely to receive their test results; use of new testing technologies that allow for rapid tests in outreach settings may contribute to better knowledge of serostatus by this population.

• Contributed by Todd Rime MS, Amy Manchester Harris MPA, and Maria Courogen MPH

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Adult AIDS Clinical Trials Unit report: Focus on salvage therapy

HIV treatment has dramatically changed since the recognition of AIDS in the early 1980's. Treating HIV-infected patients with a combination of three or more drugs, or Highly Active Anti-Retroviral Therapy (HAART), has resulted in a substantial decline in mortality and morbidity. Research studies have shown which combinations of drugs in initial therapy are more effective and have less toxicity.

Despite the advances, HIV treatment still remains challenging. Up to 50% of patients may fail treatment with their first antiretroviral combination within one year. Failing therapy is often due to the development of mutations in the HIV genome, which produce resistance to one or more antiretroviral agents. The development of resistance is very problematic in that resistance to one antiretroviral medication may result in resistance to multiple drugs, or even all drugs, in the same class. It may severely limit therapeutic options. Salvage regimens are constructed for patients failing their therapies that are new combinations of antiretrovirals chosen based on resistance testing. The increased use of resistance testing for patients failing therapy is based on the results of studies and on guidelines proposed by several expert panels. Using resistance tests to plan new treatment regimens has been shown to improve the outcome for patients. Salvage therapy may also benefit from several new approaches including pharmacokinetic enhancement, therapeutic drug monitoring, and the addition of new drugs to the HIV treatment armamentarium.

HIV resistance occurs when the virus continues to replicate in the presence of anti-retrovirals (ARVs). However, this resistance may be overcome by increasing the levels of drugs and be considered more of a continuum than an absolute pattern. HIV phenotype testing provides information about the relative amount of antiretroviral drug required to suppress replication of the patient's virus. This is performed by measuring the growth of the patient's HIV virus in the presence of ARVs to determine the concentration of each drug that will inhibit its growth (inhibitory concentration). For most drugs, especially protease inhibitors (PIs), these values of inhibitory concentrations do not take into consideration the large variation in concentrations between patients, the effect of protein binding, or drug-drug interactions.

Therapeutic drug monitoring (TDM) may address some of these issues and provide useful information. TDM involves determining the level of drugs in the patient's blood. The inhibitory concentration determined from the phenotypic testing can then be compared to the concentration measured in the patient's blood, and the dose of ARVs can be altered to obtain the desired level for optimal inhibition while minimizing toxicity. This type of test is often used in Europe, but is not widely used in the United States. To date, studies of TDM have shown contradictory results. Therefore, further studies are needed to assess the utility of TDM in patients with HIV.

Increasing the concentration of the ARVs to inhibit HIV may be achieved by increasing the dose; however, this may result in increased toxicity. Pharmacokinetic enhancement, meaning adding a drug to increase the levels of other ARVs, can also result in significantly increased plasma concentrations. Pharmacokinetic enhancement, or "boosting", is most commonly achieved by using low-dose ritonavir (RTV) in combination with other PIs, and is used clinically with several PIs.

Despite these advances, some patients still exhibit resistance to all currently approved drugs, showing that new medications are still needed. New drugs from the current classes as well as new classes of medications are in development. TMC114 is an experimental protease inhibitor with significant in vitro activity against HIV strains that are resistant to all other protease inhibitors. Preliminary data have suggested that TMC114 has efficacy in people. Another novel protease inhibitor in development is tipranavir. This protease inhibitor is a non-peptidic protease inhibitor, and it also has activity against HIV strains resistant to other protease inhibitors. Clinical trials to date suggest efficacy for patients resistant to other protease inhibitors, and a limited expanded access program is available for tipranavir.

The HIV treatment community is seeking to improve care for HIV infected individuals, especially those failing their current therapy and requiring salvage therapy. The new approaches discussed above may help provide better quality care. These and other therapeutic options require further study to determine the best management.

Seeking Patients for Treatment Studies

Current studies at the ACTU are addressing these and other important issues in HIV therapy. Selected studies are briefly described below, but other studies including studies for antiretroviral naïve patients, patients co-infected with Hepatitis B, HIV negative individuals, and patients with metabolic complications are also seeking enrollees. Please contact us at the number below for more information.

The UW ACTU is seeking HIV infected patients failing a PI regimen for a study comparing standard of care (standard PI dosing) versus utilizing therapeutic drug

monitoring (TDM) to alter the doses of protease inhibitors based on drug levels. This study is enrolling HIV infected patients on a stable PI HAART regimen with HIV viral loads at least 1,000 copies/mL and who are planning to switch to a different PI regimen. Resistance testing is provided during screening.

We are also looking for patients for a study to investigate the relationship of drug levels in three ritonavir boosted protease inhibitor regimens with anti-HIV effects. This study is enrolling HIV positive patients with past treatment of three drug classes (nucleoside reverse transcriptase inhibitors [NRTIs], non-nucleoside reverse transcriptase inhibitors [NNRTIs], and protease inhibitors [PIs]). Patients must currently be taking one or two PIs and have a viral load above 2,500 copies/mL, and be willing to change to a new PI regimen. Resistance testing is provided during screening.

Separate studies of TMC-114 (an experimental protease inhibitor) and DAPD (amdoxovir) with or without mycophenolate will also be done at the ACTU. The TMC-114 study is comparing different doses of TMC-114 (boosted with RTV) versus other approved protease inhibitors as backbones of an anti-retroviral regimen. Potential patients must have been on their current anti-retroviral regimen for at least 8 weeks and have previously been treated with at least 2 PIs, and have failed an NNRTI-containing regimen. Their viral load must be at least 1,000 copies/mL, and they cannot currently be on an NNRTI. DAPD study enrollees must also have had experience with three classes of antiretrovirals and a viral load of at least 2,000 copies/mL.

For More Information

Physicians, their staff, or potential volunteers may call the ACTU for additional information and to schedule appointments. Please call Lori Cray, Alyssa Spingola, or Jeanne Conley at **(206) 731-3184** for more information, or visit the UW ACTU website at **http://depts.washington.edu/actu**.

Screening tests, medications (for most studies), and laboratory and clinical monitoring performed for 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 coordinates care with each patient's primary care provider.

- *Contributed by Shelia Dunaway, MD*

Key to Terms on following table:

3TC:	lamivudine (Epivir)
ABC:	abacavir (Ziagen)
APV:	amprenavir (Agenerase)
ARV:	antiretroviral
AZT:	zidovudine (Retrovir)
CBV:	combivir (lamivudine/zidovudine)
ddI:	didanosine (Videx)
d4T:	stavudine (Zerit)
ddc:	zalcitabine (Hivid)
EFV:	efavirenz (Sustiva)
HARRT:	highly active antiretroviral therapy
HBV:	hepatitis B
HCV:	hepatitis C
IDV:	indinavir (Crixivan)
LPV/r:	lopinavir/ritonavir (Kaletra)
NFV:	nelfinavir (Viracept)
NNRTI:	non-nucleoside reverse transcriptase inhibitor
NRTI:	nucleoside reverse transcriptase inhibitor
NVP:	nevirapine (Viramune)
PI:	protease inhibitor
RBV:	ribavirin
RTV:	ritonavir (Norvir)

> : greater than
≥ : greater than or equal to
<= : less than or equal to
< : less than
+ : positive

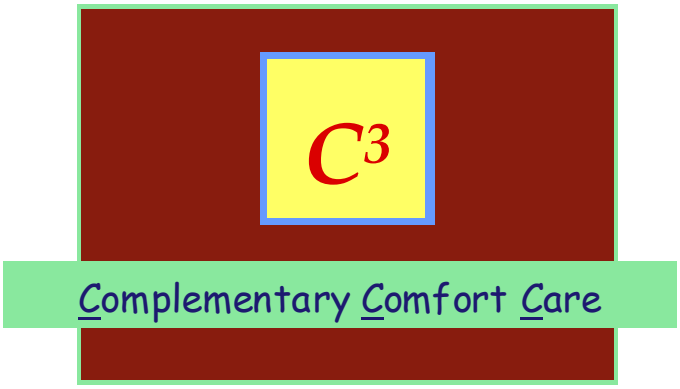
UW AIDS Clinical Trials Unit Open Studies, Summer 2004

Antiretroviral and Rescue Studies

Eligibility	Study Purpose	Study Drug or Treatment
• ARV naïve • HIV RNA ≥ 2000 • No severe medical condition or infection	**(Study # 5073)** Directly observed therapy vs 1X a day dosing of LRV/RTV vs 2X day dosing of LPV/RTV	LPV/RTV plus FTC and D4T ***Tenofovir (TDF) may be substituted for D4T***
• On current ARV regimen ≥ 4 weeks • RNA >1,000 prior to starting 1st ARV regimen • Current RNA <50 • Suppressed RNA <500 for last 2 years • CD4 >500 • CD4 never <300 • Willingness to stop ARV's for 16 weeks after vaccine is given	**(Study # 5197)** To see if **MRK Ad5 HIV-1 Gag vaccine** is able to lower viral load levels after stopping ARV's for 16 weeks ***This study has 4 steps*** **Step 1**: Immunization with Vaccine **Step II**: ARV's will be stopped for 16 weeks **Step III**: Continue ARV interruption or restart ARV's **Step IV**: Long-term safety follow-up	MRK Ad5 HIV-1 Gag vaccine or MRK Ad5 HIV-1 Gag vaccine **placebo** **Vaccine/placebo given by injection into upper arm at week 0, 4, and 26**
• Failure of current ARV regimen • Failure of at least one PI containing regimen • HIV RNA ≥ 1000 • Planning to start a PI containing salvage regimen	**(Study # 5146)** To learn if monitoring drug levels, *therapeutic drug monitoring (TDM)*, is useful in lowering viral load by increasing doses of PI's based on *Normalized Inhibitory Quotient (NIQ)*	No medications provided Doses of PI's may be increased
• HIV RNA >2500 • 3 Class experienced • Current regimen must contain a PI ≥ 90 days • Previous PI experience with a cumulative total of ≥ 48 weeks • Decreased susceptibility to 2 of these 3 PI's: LPV, APV, & IDV (phenotype will be done at screening)	**(Study # 5126)** To look at the relationship between drug levels of PI's, resistance test results, and antiviral activity.	Arm A: IDV 800mg & RTV 200 mg BID Arm B: Fosamprenavir 700 mg & RTV 100 mg BID Arm C: LPV/RTV 400 mg/100 mg Plus RTV 100 mg BID ❑ TDF will be added at day 15 ❑ ZDV, 3TC, & ABC are also provided if they are chosen as background medications
• HIV RNA > 1000 • 3 class experienced • Prior use of ≥ 1 NNRTI • Prior use of ≥ 2 NRTI's • Current regimen must contain a PI ≥ 8 weeks • Current regimen must not contain an NNRTI • Active Hep A, B, or C excludes	**(Study # 114)** To study the safety and effectiveness of TMC114 (a new PI by Tibotec) boosted with ritonavir compared to other PI's which may be boosted with ritonavir. ***If switching your patient to a new PI regimen -- Please call – may be eligible for this study***	TMC114 + low dose RTV vs Other PI (+/- low dose RTV) plus At least two other anti-HIV drugs TMC114 and RTV will be provided *(TMC114 is an investigational PI)*
• HIV Positive • HIV Viral load ≥ 2,000 • CD4 Tcells ≥ 50 • On stable HAART for 30 days • Use of at least 2 NRTIs, 1 NNRTI, and 2 PIs (past or current) • ≥ 18 years of age • Men & non-pregnant women	**(Study # 5165)** To see if diaminopurine dioxolane (DAPD or amdoxovir) is safe and decreases HIV viral load when added to other antiretrovirals, and to see if adding mycophenolate mofetil (MMF) to DADP is useful	Arm A: DAPD 500mg BID + MMF Placebo BID Arm B: DAPD 500mg BID + MMF 500mg BID

Complications of HIV and Other Conditions		
Condition & Eligibility	**Study Purpose**	**Study Drug or Treatment**
CMV • HIV and CMV + • Not receiving treatment for CMV organ disease • Have three semen studies that show CMV and HIV • On ARV's therapy for ≥ 3 months • No recent treatment for STD's	**(Study #905)** Effect of CMV on HIV in semen.	Valganciclovir 900mg vs placebo
Neurological • Documented HIV-associated dementia • No current mental illness • On stable ARV therapy	**(Study # 5090)** To see if selegiline is safe and effective as a treatment for HIV dementia	Selegiline Transdermal System (STS) vs placebo
HCV & HBV • HIV and HVB + • HIV RNA <= 10,000 or TDF naïve with HIV RNA >10,000 • High HVB viral load • No hepatitis C or hepatitis D • On stable anti-HIV therapy • No kidney problems in the last 12 months	**(Study # 5127)** Treatment of lamivudine resistant HBV	ADV vs TDF
HCV/HIV • HIV and HCV + • Currently taking ZDV or D4T for ≥4 wks • Planning to start treatment with ribavirin	**(Study # 5092)** To study the effects of ribavirin on ZDV or D4T	Pharmacokinetic study. No treatment provided.
Other • Stable ARV therapy ≥ 12 weeks • CD4 ≥ 100 • RNA <= 5000 • ≥ 25 years • No current or prior treatment for osteoporosis within last 12 months • No hx of esophagitis, Paget's dz., Vit. D def, Hep C	**(Study # 5163)** To find out if alendronate, plus calcium and vitamin D, is an effective way to treat bone mass density (BMD) loss in HIV-infected individuals. The study will also look at the safety and tolerance of alendronate.	**Arm 1:** Alendronate 70 mg PO once weekly; Calcium carbonate 500 mg/ Vitamin D 200 IU PO BID **Arm 2:** Placebo for alendronate PO once weekly; Calcium carbonate 500 mg/ Vitamin D 200 IU PO BID
• Female ≥ 13 years • Pregnant (will enter study between 22 & 30 weeks of pregnancy • Planning to receive ARV's ≥ 8 weeks before delivery • Not planning to breastfeed	**(Study # 5150)** Sometimes pregnant women have an increase in their viral load after delivery. This study will try to find out why and how often this happens.	No treatment Observation only
• HIV RNA available within the last 90 days • No active pulmonary disease • No use of any inhaled pulmonary medication • Age >18 years	**(Study # 079)** To see if alveolar macrophages is a reservoir for HIV	No study drug or treatment Induced sputum collected at entry. Optional second visit for an induced sputum for subjects with a VL >5000
• Fasting triglycerides ≥ 400 mg/dl • LDL <= 60 mg/dl • RNA <10,000 • On HAART ≥ 3 months before study entry • On a lipid lowering diet & exercise program ≥ 28 days prior to screening • No known history of CHD, CHF, PVD, DM, stroke, or uncontrolled HTN	**(Study # 5186)** To see whether the combination of fish oil supplement and fenofibrate will lower the level of triglycerides to =200 mg/dl in patients whose triglyceride levels are not responding to one of these agents alone.	Randomized to either: **Arm A**: Fish oil sup-plement 3 gm BID or **Arm B**: Fenofibrate 160 mg QD At week 10, patients whose triglyceride levels are still >200 on 1 agent will be given both treatments.

Massage, meditation, or friendly visits: do they improve the quality of life for persons with cancer or AIDS?



Complementary Comfort Care for Seriously Ill Persons

The C³ (Complementary Comfort Care) Study is recruiting King County patients

An exciting new study, testing the efficacy of massage and guided meditation for improving end-of-life care for persons with cancer or AIDS, is now recruiting patients in King County. Funded for 4 years by the National Institutes of Health / National Cancer Institute, the C³ Study is a collaborative venture between the University of Washington Department of Health Services and Bastyr University.

Although results from several small pilot studies have suggested that both meditation and massage may improve the quality of life for seriously ill patients, there have been no large-scale controlled trials of these treatments with patients approaching the end of life. Efficacy tests such as the C³ Study will assist with decision-making about whether to incorporate complementary treatments into standard end-of-life care.

Participating patients must have the following characteristics:

1. be receiving hospice care or suffering from advanced cancer or AIDS,
2. be 18 years old or older,
3. speak English,
4. not suffer serious cognitive impairment,
5. live in King County.

Patients must also have a study partner, someone close to them during this time of their illness, who is willing to participate by doing up to two interviews.

After completing an initial interview, the patient is randomly assigned to receive twice weekly treatments of massage, guided meditation, or visits from a hospice trained volunteer.

Here's How Referrals Work

If you have a patient that you believe will benefit from participation, please refer them to us so we can screen them for the study. The number to call is **(206) 685-9617**. Referrals to the study must always come via a provider providing a flyer to a patient who meets the eligibility criteria noted above. For this reason, study materials are not placed in public venues like waiting rooms. We can deliver recruitment flyers to your office. Study staff would be happy to provide interested health care providers with additional information about the study. Even providers with only one or two patients who might qualify can make an important contribution to this research by referring interested persons to the study. If you have question or would like to request study flyers, please call Doug Fisher or Grace Killorin at **(206) 685-9617.**

• Contributed by Doug Fisher MA, Lois Downey MA, and Bill Lafferty MD