

hiv/aids



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EPIDEMIOLOGY REPORT

WASHINGTON STATE • SEATTLE & KING COUNTY

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

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

Alternative formats provided upon request. To be included on the mailing list or to request address corrections, please call (206) 296-4645.

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Credits

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HIV/AIDS Epidemiology Report Co-editors:

HIV/AIDS Epidemiology Program

Susan Buskin, PhD, MPH and Jim Kent, MS
Senior Epidemiologists
400 Yesler Way, 3rd Floor; Seattle, WA 98104
(206) 296-4645

IDRH Assessment Unit

Maria Courogen, MPH
Section Manager & Lead Epidemiologist
Washington State Department of Health
PO Box 47838; Olympia, WA 98504-7838

Public Health 
Seattle & King County

 Washington State Department of
Health

Contributors To This Issue

Public Health – Seattle & King County

- Amy Bauer, MPH, Epidemiologist
- Jim Kent, MS, Senior Epidemiologist
- Hanne Thiede, DVM, MPH, Senior Epidemiologist
- Harnik Gulati, MSW, MPH
- Susan Buskin, PhD, MPH, Senior Epidemiologist
- Christina Thibault, MPH, Epidemiologist

University of Washington

- Shelia Dunaway, MD
- Julie Loughran, BA
- Warren Leyh, BA
- Lisa Schafer, BA

Washington State Department of Health

- Jason Carr, MPH, Epidemiologist
- Alexia Exarchos, MPH, Epidemiologist
- Todd E Rime, MA, Research Investigator
- Mark Stenger, MA, Epidemiologist
- Maria Courogen, MPH, Senior Epidemiologist

HIV/AIDS Reporting Requirements

Detailed requirements for reporting of communicable disease including HIV/AIDS are described in the Washington Administrative Code (WAC), section 246-101, online <http://apps.leg.wa.gov/WAC/default.aspx?cite=246-101>.

Washington health care providers are required to report all HIV infections, regardless of the date of the patient's initial diagnosis, to the health department. Providers are also required to report new diagnoses of AIDS in a person previously diagnosed with HIV infection. Local health department officials forward case reports to the State Department of Health. Names are never sent to the federal government.

Laboratories are required to report evidence of HIV infection (i.e. positive western blot assays, p24 antigen detection, viral culture, and nucleic acid detection), all HIV viral load tests (detectable or not), and all CD4 counts in the setting of HIV infection. If the laboratory cannot distinguish tests, such as CD4 counts, done due to HIV versus other diseases (such as cancer), the CD4 counts should be reported and the health department will investigate. However, laboratory reporting does not relieve health care providers of their duty to report as most of the critical information necessary for surveillance and follow-up is not available to labs.

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

Table 1: Surveillance of reported¹ HIV/AIDS cases, deaths, and people living with HIV/AIDS—reported as of 06/30/2008—King County, other Washington counties, all Washington state, and U.S.

		Adult/Adolescent		Pediatric ²	Total
		HIV	AIDS	HIV or AIDS	
King County	New cases reported in 1st half 2008	129	103	2	234
	Cases reported year-to-date	129	103	2	234
	Cumulative Cases	2,894	7,751	35	10,680
	Cumulative Deaths	143	4,245	9	4,397
	Persons Living (prevalent cases)	2,751	3,506	26	6,283
Other Counties	New cases reported in 1st half 2008	86	99	1	186
	Cases reported year-to-date	86	99	1	186
	Cumulative Cases	1,629	4,468	40	6,137
	Cumulative Deaths	103	2,287	12	2,402
	Persons Living (prevalent cases)	1,526	2,181	28	3,735
Washington State	New cases reported in 1st half 2008	215	202	3	420
	Cases reported year-to-date	215	202	3	420
	Cumulative Cases	4,523	12,219	75	16,817
	Cumulative Deaths	246	6,532	21	6,799
	Persons Living (prevalent cases)	4,277	5,687	54	10,018
United States³	Estimated Cases as of 12/31/2006				
	Cumulative Cases	282,640	1,005,653	14,458	1,302,751
	Cumulative Deaths	2,978	560,558	5,432	568,968
	Persons Living (prevalent cases)	279,662	445,095	9,026	733,783

- There are an estimated 11,000 to 12,000 people living in Washington with HIV infection including AIDS. These include the 10,018 prevalent cases reported above. In King County, there are an estimated 7,200 to 7,800 people living with HIV infection including AIDS. These include the 6,283 prevalent cases reported above. The difference between the estimated cases and the reported prevalent cases include three groups:
 - A small number of persons diagnosed with AIDS but not yet reported (probably fewer than 5% of the total AIDS reports).
 - An unknown number of persons diagnosed with HIV infection but not yet reported.
 - An unknown number of persons (10-20% of the total) infected with HIV but not yet diagnosed or reported.
- Pediatric cases are persons under age 13 at the time of diagnosis with HIV or AIDS.
- U.S. data for persons with HIV infection not AIDS are based upon reports from 45 states and 4 areas with confidential, named-based HIV infection reporting.

Table 2: Cumulative HIV/AIDS case counts and deaths by resident county and AIDSNet region at diagnosis—reported as of 06/30/2008—Washington state

	Cumulative Cases	Deaths		Presumed Living			
		No.	(%) ¹	HIV	AIDS	Total	(Total %) ²
Adams	6	1	(17)	1	4	5	(0.0)
Asotin	21	8	(38)	2	11	13	(0.1)
Columbia	7	4	(57)	1	2	3	(0.0)
Ferry	8	6	(75)	1	1	2	(0.0)
Garfield	1	0	(0)	1	0	1	(0.0)
Lincoln	4	2	(50)	0	2	2	(0.0)
Okanogan	35	9	(26)	8	18	26	(0.3)
Pend Orielle	9	6	(67)	0	3	3	(0.0)
Spokane	698	306	(44)	159	233	392	(3.9)
Stevens	26	13	(50)	7	6	13	(0.1)
Walla Walla	62	29	(47)	6	27	33	(0.3)
Whitman	18	4	(22)	3	11	14	(0.1)
Region 1 Subtotal	895	388	(43)	189	318	507	(5.1)
Benton	124	39	(31)	34	51	85	(0.8)
Chelan	63	26	(41)	17	20	37	(0.4)
Douglas	5	2	(40)	1	2	3	(0.0)
Franklin	72	19	(26)	21	32	53	(0.5)
Grant	47	21	(45)	9	17	26	(0.3)
Kittitas	24	10	(42)	4	10	14	(0.1)
Klickitat	16	6	(38)	7	3	10	(0.1)
Yakima	244	86	(35)	56	102	158	(1.6)
Region 2 Subtotal	595	209	(35)	149	237	386	(3.9)
Island	78	35	(45)	15	28	43	(0.4)
San Juan	25	11	(44)	6	8	14	(0.1)
Skagit	95	41	(43)	24	30	54	(0.5)
Snohomish	975	352	(36)	244	379	623	(6.2)
Whatcom	221	88	(40)	56	77	133	(1.3)
Region 3 Subtotal	1,394	527	(38)	345	522	867	(8.7)
Region 4 King	10,680	4,397	(41)	2,772	3,511	6,283	(62.7)
Kitsap	307	125	(41)	78	104	182	(1.8)
Pierce	1,514	624	(41)	411	479	890	(8.9)
Region 5 Subtotal	1,821	749	(41)	489	583	1,072	(10.7)
Clallam	78	36	(46)	20	22	42	(0.4)
Clark	637	229	(36)	186	222	408	(4.1)
Cowlitz	139	57	(41)	39	43	82	(0.8)
Grays Harbor	80	33	(41)	15	32	47	(0.5)
Jefferson	39	18	(46)	10	11	21	(0.2)
Lewis	52	26	(50)	8	18	26	(0.3)
Mason	108	26	(24)	24	58	82	(0.8)
Pacific	32	12	(38)	12	8	20	(0.2)
Skamania	7	6	(86)	0	1	1	(0.0)
Thurston	257	86	(33)	59	112	171	(1.7)
Wahkiakum	3	0	(0)	1	2	3	(0.0)
Region 6 Subtotal	1,432	529	(37)	374	529	903	(9.0)
Total	16,817	6,799	(40)	4,318	5,700	10,018	(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 people presumed living with HIV/AIDS—reported as of 06/30/2008—King County, other Washington counties, all Washington state, and U.S.

	King County		Other Counties		Washington State		Estimated U.S.AIDS ¹	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Sex								
Male	5,657	(90)	3,009	(81)	8,666	(87)	335,135	(77)
Female	626	(10)	726	(19)	1,352	(13)	101,558	(23)
Age Group at HIV Diagnosis								
Under 13	28	(0)	37	(1)	65	(1)	3,775	(1)
13-19	116	(2)	107	(3)	223	(2)	N/A ^a	
20-29	1,811	(29)	1,111	(30)	2,922	(29)	N/A ^a	
30-39	2,685	(43)	1,341	(36)	4,026	(40)	N/A ^a	
40-49	1,274	(20)	820	(22)	2,094	(21)	N/A ^a	
50-59	311	(5)	254	(7)	565	(6)	N/A ^a	
60 and over	58	(1)	65	(2)	123	(1)	N/A ^a	
Current Age as of 12/31/2006								
Under 13	8	(0)	10	(0)	18	(0)	1,115 ^a	(0)
13-19	20	(0)	29	(1)	49	(0)	3,198 ^a	(1)
20-29	353	(6)	276	(7)	629	(6)	19,726 ^a	(5)
30-39	1,345	(21)	821	(22)	2,166	(22)	88,473 ^a	(20)
40-49	2,650	(42)	1,438	(39)	4,088	(41)	185,950 ^a	(23)
50-59	1,452	(23)	858	(23)	2,310	(23)	105,490 ^a	(24)
60 and over	455	(7)	303	(8)	758	(8)	32,741 ^a	(7)
Race/Ethnicity								
White ²	4,299	(68)	2,665	(71)	6,964	(70)	154,495	(35)
Black ²	1,041	(17)	450	(12)	1,491	(15)	191,590	(44)
Hispanic	593	(9)	405	(11)	998	(10)	80,815	(19)
Asian & Pacific Islander ²	197	(3)	105	(3)	302	(3)	4,526	(1)
Asian ^{2,3}	184	(3)	58	(2)	242	(2)	N/A	
Native Hawaiian & Other PI ^{2,3}	13	(0)	18	(0)	31	(0)	N/A	
Native American or Alaskan Native ²	86	(1)	83	(2)	169	(2)	1,651	(0)
Multiple Race ^{2,3}	54	(1)	10	(0)	64	(1)	N/A	
Unknown Race ²	13	(0)	17	(0)	30	(0)	3,616	(1)
HIV Exposure Category								
Male-male sex	4,344	(69)	1,842	(49)	6,186	(62)	199,693	(46)
Injection drug use (IDU)	342	(5)	488	(13)	830	(8)	94,573	(22)
IDU & male-male sex	531	(8)	305	(8)	836	(8)	27,523	(6)
Heterosexual contact ⁴	601	(10)	650	(17)	1,251	(12)	104,635	(24)
Blood product exposure	36	(1)	45	(1)	81	(1)	N/A ^b	
Perinatal exposure	21	(0)	30	(1)	51	(1)	3,660	(1)
Undetermined/other ⁵	408	(6)	375	(10)	783	(8)	6,609 ^b	(2)
Total	6,283	(100)	3,735	(100)	10,018	(100)	436,693	(100)

1. US AIDS-only data for 50 states and Washington D.C. were reported as of 12/31/2006; detailed summaries of the 287,954 living HIV cases reported from states and areas with confidential name-based HIV infection reporting were not readily available. Hemophilia and blood product numbers were included in the 'Undetermined / other' category.
2. And not Hispanic. All race and ethnicity categories are mutually exclusive.
3. The federal Office of Management and Budget revised Asian & Pacific Islander race into two classifications (Asian versus Native Hawaiian & other Pacific Islander), and added Multiple Race. Some previously collected data could not be reassigned and are shown in the old category.
4. King County and Washington data include presumed heterosexual cases (females who deny injection drug use but have had sexual intercourse with a man whose HIV status or HIV risk behaviors are unknown).
5. Undetermined mode of exposure Includes cases with incomplete information, and heterosexual contact where the heterosexual partner(s) are not known to be HIV-infected, IDU, or a bisexual male. One King/WA case was probably infected via occupational exposure.

Table 4: People presumed living with HIV/AIDS by gender, race or ethnicity, and HIV exposure category—reported as of 06/30/2008—King County

HIV Exposure Category	White ¹		Black ¹		Hispanic		Asian & PI ^{1,2}		Native Am/AN ^{1,3}		Total ⁴	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male												
Male-male sex	3,378	(79)	365	(35)	399	(67)	128	(65)	33	(38)	4,344	(69)
Injection drug use (IDU)	111	(3)	70	(7)	30	(5)	5	(3)	6	(7)	225	(4)
IDU & male-male sex	420	(10)	40	(4)	37	(6)	5	(3)	17	(20)	531	(8)
Heterosexual contact	47	(1)	106	(10)	24	(4)	5	(3)	1	(1)	183	(3)
Blood product exposure	15	(0)	3	(0)	2	(0)	1	(1)	0	(0)	21	(0)
Perinatal exposure	2	(0)	5	(0)	0	(0)	1	(1)	0	(0)	8	(0)
Undetermined/other	98	(2)	151	(15)	57	(10)	29	(15)	4	(5)	345	(5)
Male Subtotal	4,071	(95)	740	(71)	549	(93)	174	(88)	61	(71)	5,657	(90)
Female												
Injection drug use	61	(1)	37	(4)	3	(1)	1	(1)	14	(16)	117	(2)
Heterosexual contact ⁵	145	(3)	211	(20)	32	(5)	16	(8)	10	(12)	418	(7)
Blood product exposure	4	(0)	9	(1)	2	(0)	0	(0)	0	(0)	15	(0)
Perinatal exposure	3	(0)	7	(1)	2	(0)	1	(1)	0	(0)	13	(0)
Undetermined/other	15	(0)	37	(4)	5	(1)	5	(3)	1	(1)	63	(1)
Female Subtotal	228	(5)	301	(29)	44	(7)	23	(12)	25	(29)	626	(10)
Total	4,299	(68)	1,041	(17)	593	(9)	197	(3)	86	(1)	6,283	(100)

Table 5: People presumed living with HIV/AIDS by gender, race or ethnicity, and HIV exposure category—reported as of 06/30/2008—Washington state

HIV Exposure Category	White ¹		Black ¹		Hispanic		Asian & PI ^{1,2}		Native Am/AN ^{1,3}		Total ⁴	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male												
Male-male sex	4,846	(70)	495	(33)	560	(56)	172	(57)	55	(33)	6,186	(62)
Injection drug use (IDU)	348	(5)	110	(7)	64	(6)	8	(3)	17	(10)	551	(6)
IDU & male-male sex	669	(10)	61	(4)	58	(6)	7	(2)	26	(15)	836	(9)
Heterosexual contact	131	(2)	157	(11)	56	(6)	13	(4)	7	(4)	364	(4)
Blood product exposure	42	(1)	3	(0)	7	(1)	2	(1)	0	(0)	54	(1)
Perinatal exposure	8	(0)	10	(1)	2	(0)	2	(1)	1	(1)	23	(0)
Undetermined/other	284	(4)	197	(13)	117	(12)	38	(13)	7	(4)	652	(7)
Male Subtotal	6,328	(91)	1,033	(69)	864	(87)	242	(80)	113	(67)	8,666	(87)
Female												
Injection drug use (IDU)	171	(2)	65	(4)	12	(1)	4	(1)	26	(15)	279	(3)
Heterosexual contact ⁵	395	(6)	310	(21)	104	(10)	43	(14)	28	(17)	887	(9)
Blood product exposure	7	(0)	14	(1)	3	(0)	3	(1)	0	(0)	27	(0)
Perinatal exposure	10	(0)	11	(1)	5	(1)	2	(1)	0	(0)	28	(0)
Undetermined/other	53	(1)	58	(4)	10	(1)	8	(3)	2	(1)	131	(1)
Female Subtotal	636	(9)	458	(31)	134	(13)	60	(20)	56	(33)	1,352	(13)
Total	6,964	(70)	1,491	(15)	998	(10)	302	(3)	169	(2)	10,018	(100)

1. And not Hispanic. All race and ethnicity categories are mutually exclusive.
2. Due to small cell sizes, data have been combined for Asians, Native Hawaiians, and other Pacific Islanders.
3. Native American or Alaskan Native.
4. Totals include 54 King County and 64 Washington state persons classified as multiple race, and 13 King County and 30 Washington state persons with missing race.
5. Includes presumed heterosexual cases (females who deny injection drug use but have had sexual intercourse with a man whose HIV status and HIV risk behaviors are unknown).

Table 6: People presumed living with HIV/AIDS by gender and age at HIV diagnosis—reported as of 06/30/2008—King County and Washington state

Age at HIV Diagnosis	King County				Washington State			
	Male		Female		Male		Female	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Under 13 years	13	(0)	15	(2)	30	(0)	35	(3)
13-19 years	83	(1)	33	(5)	149	(2)	74	(5)
20-29 years	1,600	(28)	211	(34)	2,468	(28)	454	(34)
30-39 years	2,471	(44)	214	(34)	3,586	(41)	440	(33)
40-49 years	1,180	(21)	94	(15)	1,857	(21)	237	(18)
50-59 years	260	(5)	51	(8)	469	(5)	96	(7)
60 years and over	50	(1)	8	(1)	107	(1)	16	(1)
Total	5,657	(100)	626	(100)	8,666	(100)	1,352	(100)

Table 7: People presumed living with HIV/AIDS by race or ethnicity and place of birth¹—reported as of 06/30/2008—King County and Washington state

Race / Ethnicity	King County				Washington State			
	U.S.-born		Foreign-born		U.S.-born		Foreign-born	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
White, non-Hispanic	4,017	(98)	99	(2)	6,521	(98)	145	(2)
Black, non-Hispanic	650	(64)	361	(36)	997	(69)	450	(31)
<i>Male black, non-Hispanic</i>	522		194		769		229	
<i>Female black, non-Hispanic</i>	128		167		228		221	
Hispanic	232	(43)	311	(57)	363	(40)	540	(60)
Asian & PI, non-Hispanic	52	(29)	130	(71)	88	(32)	188	(68)
Native American, non-Hispanic	78	(94)	5	(6)	160	(96)	6	(4)
Multiple or unknown race, non-Hispanic	54	(90)	6	(10)	72	(88)	10	(12)
TOTAL	5,083	(85)	912	(15)	8,201	(86)	1,339	(22)

1. Table 7 does not include 288 King County and 478 Washington cases missing place of birth information.

Figure 1: Number of new HIV/AIDS diagnoses, deaths, and people living with HIV/AIDS at end of three year intervals—reported as of 06/30/2008—King County

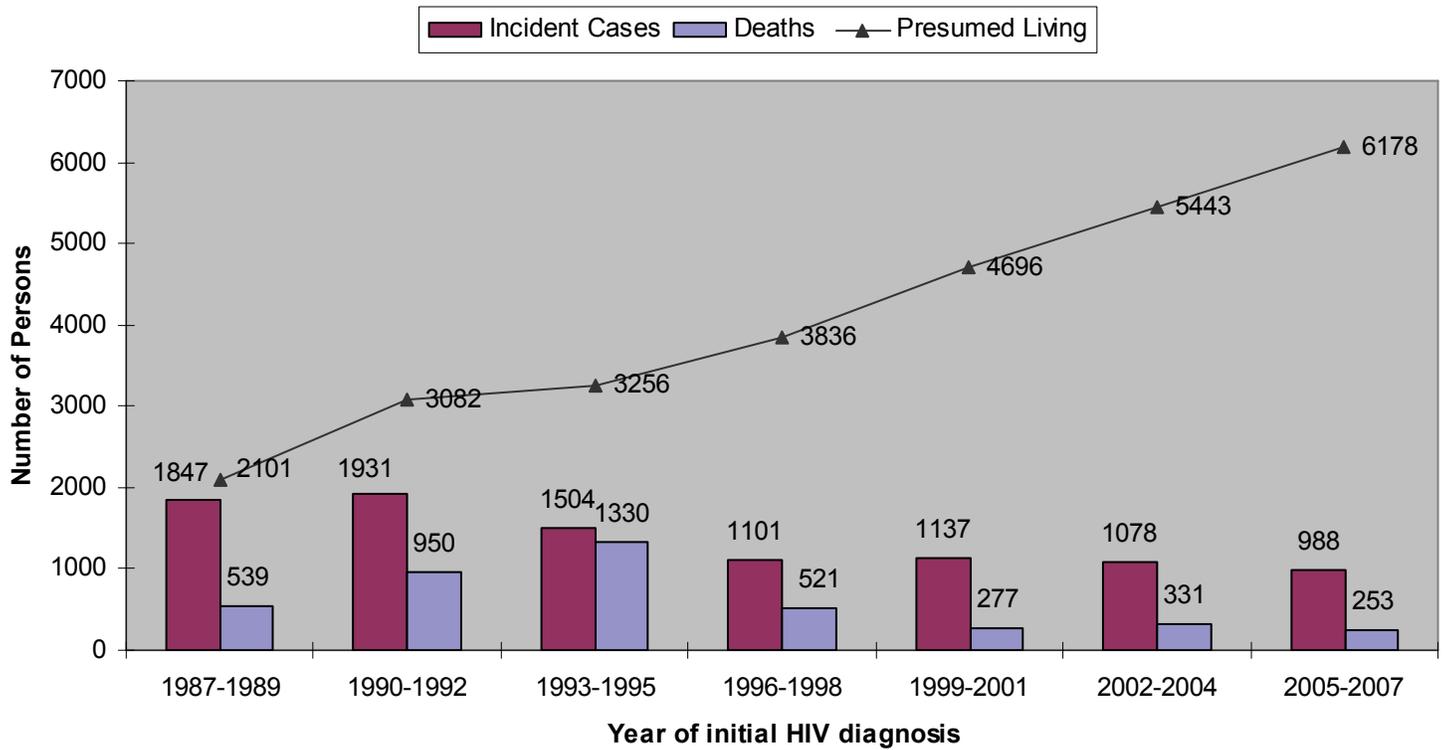


Figure 2: Number of new HIV/AIDS diagnoses, deaths, and people living with HIV/AIDS at end of three year intervals—reported as of 06/30/2008—Washington state

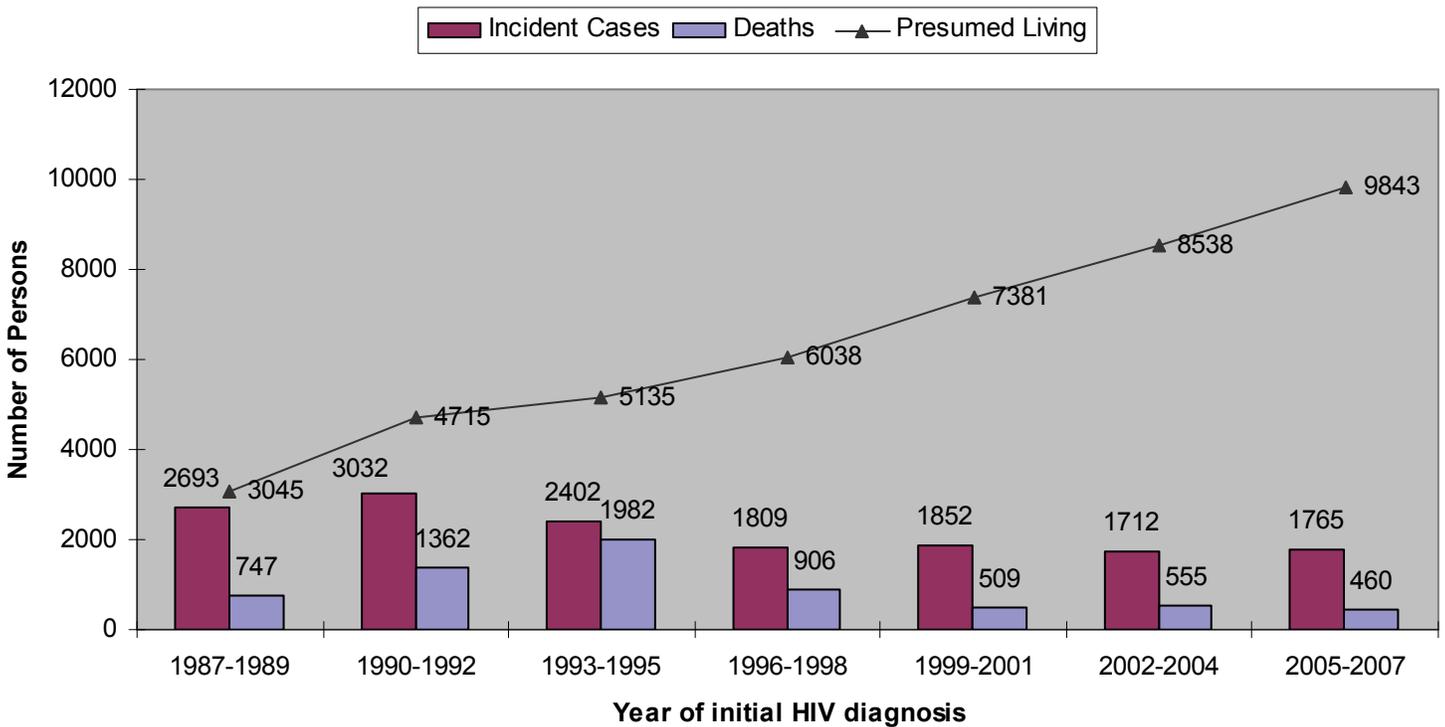


Table 8: Demographic characteristics of King County residents diagnosed 1982-2007 and reported through 06/30/2008, by date of HIV diagnosis

	1982-1998		1999-2001		2002-2004		2005-2007 ¹		Trend ² 1999-2007
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	
TOTAL	7,351	(100)	1,137	(100)	1,078	(100)	988	(100)	
HIV Exposure Category									
Men who have sex with men (MSM)	5,534	(75)	754	(66)	700	(65)	599	(61)	down
Injection drug user (IDU)	409	(6)	80	(7)	68	(6)	41	(4)	down
MSM-IDU	768	(10)	77	(7)	84	(8)	88	(9)	
Heterosexual contact ³	319	(4)	153	(13)	141	(13)	101	(10)	down
Blood product exposure	93	(1)	9	(1)	3	(0)	2	(0)	
Perinatal exposure	22	(0)	5	(0)	0	(0)	1	(0)	
<i>SUBTOTAL- known risk</i>	<i>7,145</i>		<i>1,078</i>		<i>996</i>		<i>832</i>		
Undetermined/other ³	206	(3)	59	(5)	82	(8)	156	(16)	up
Sex & Race/Ethnicity									
Male	<i>6,924</i>	<i>(94)</i>	<i>1,001</i>	<i>(88)</i>	<i>957</i>	<i>(89)</i>	<i>870</i>	<i>(88)</i>	
White Male ⁴	5,640	(77)	687	(60)	613	(57)	534	(54)	down
Black Male ⁴	650	(9)	158	(14)	164	(15)	141	(14)	
Hispanic Male	406	(6)	101	(9)	112	(10)	122	(12)	up
Other Male ⁴	228	(3)	55	(5)	68	(6)	73	(7)	up
Female	<i>427</i>	<i>(6)</i>	<i>136</i>	<i>(12)</i>	<i>121</i>	<i>(11)</i>	<i>118</i>	<i>(12)</i>	
White Female ⁴	226	(3)	43	(4)	32	(3)	33	(3)	
Black Female ⁴	138	(2)	73	(6)	67	(6)	67	(7)	
Hispanic Female	24	(0)	14	(1)	8	(1)	6	(1)	
Other Female ⁴	39	(1)	6	(1)	14	(1)	12	(1)	
Race/Ethnicity									
White ⁴	5,866	(80)	730	(64)	645	(60)	567	(57)	down
Black ⁴	788	(11)	231	(20)	231	(21)	208	(21)	
Hispanic	430	(6)	115	(10)	120	(11)	128	(13)	up
Asian & Pacific Islander ⁴	127	(2)	34	(3)	36	(3)	59	(6)	up
Native American or Alaskan Native ⁴	106	(1)	14	(1)	22	(2)	8	(1)	
Multiple Race ⁴	32	(0)	10	(1)	22	(2)	15	(2)	
Unknown Race ⁴	2	(0)	3	(0)	2	(0)	3	(0)	
Place of Birth									
Born in U.S. or Territories	6,708	(91)	881	(77)	840	(78)	702	(71)	down
Born outside U.S.	476	(6)	202	(18)	223	(21)	218	(22)	up
Birthplace unknown	167	(2)	54	(5)	15	(1)	68	(7)	
Age at diagnosis of HIV									
0-19 years	135	(2)	20	(2)	10	(1)	11	(1)	
20-29 years	2,012	(27)	254	(22)	232	(22)	250	(25)	
30-39 years	3,275	(45)	518	(46)	463	(43)	360	(36)	down
40-49 years	1,446	(20)	269	(24)	279	(26)	256	(26)	
50-59 years	389	(5)	66	(6)	79	(7)	82	(8)	up
60+ years	94	(1)	10	(1)	15	(1)	29	(3)	up
Residence									
Seattle residence	6,357	(86)	933	(82)	823	(76)	725	(73)	down
King County residence outside Seattle	994	(14)	204	(18)	255	(24)	263	(27)	up

1. Due to delays in reporting, data from recent years are incomplete.
2. Statistical trends ($p < .05$) were identified from the chi-square test for trend, calculated for the periods 1999-2001, 2002-04, and 2005-07.
3. Includes presumed heterosexual cases (females who deny injection drug use but have sex with men not known to be HIV-infected).
4. Includes persons for whom exposure information is incomplete (due to death, refusal to be interviewed, or loss to follow up), persons exposed to HIV through their occupation, and patients whose mode of exposure remains undetermined.
5. And not Hispanic. The groups Asian, Native Hawaiian, and Pacific Islanders were grouped due to small cell sizes. All race and ethnicity categories are mutually exclusive.
6. Among cases where country of birth is known.

Table 9: Demographic characteristics of Washington state residents diagnosed 1982-2007 and reported through 06/30/2008, by date of HIV diagnosis

	1982-1998		1999-2001		2002-2004		2005-2007 ¹		Trend ² 1999-2007
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	
TOTAL	11,280	(100)	1,852	(100)	1,712	(100)	1,765	(100)	
HIV Exposure Category									
Men who have sex with men (MSM)	7,671	(68)	1,100	(59)	986	(58)	967	(55)	down
Injection drug user (IDU)	989	(9)	201	(11)	154	(9)	117	(7)	down
MSM-IDU	1,168	(10)	124	(7)	127	(7)	139	(8)	
Heterosexual contact ³	751	(7)	278	(15)	279	(16)	240	(14)	
Blood product exposure	221	(2)	13	(1)	7	(0)	6	(0)	
Perinatal exposure	54	(0)	7	(0)	2	(0)	4	(0)	
<i>SUBTOTAL- known risk</i>	<i>10,854</i>		<i>1,723</i>		<i>1,555</i>		<i>1,473</i>		
Undetermined/other ⁴	426	(4)	129	(7)	157	(9)	292	(17)	
Sex & Race/Ethnicity									
Male	10,298	(91)	1,574	(85)	1,445	(84)	1,494	(85)	down
White Male ⁵	8,432	(75)	1,096	(59)	967	(56)	972	(55)	
Black Male ⁵	895	(8)	220	(12)	219	(13)	217	(12)	
Hispanic Male	627	(6)	174	(9)	162	(9)	199	(11)	
Other Male ⁵	344	(3)	84	(5)	97	(6)	106	(6)	up
Female	982	(9)	278	(15)	267	(16)	271	(15)	
White Female ⁵	587	(5)	123	(7)	106	(6)	110	(6)	
Black Female ⁵	237	(2)	98	(5)	105	(6)	106	(6)	
Hispanic Female	76	(1)	33	(2)	24	(1)	31	(2)	
Other Female ⁵	82	(1)	24	(1)	32	(2)	24	(1)	
Race/Ethnicity									
White ⁵	9,019	(80)	1,219	(66)	1,073	(63)	1,082	(61)	down
Black ⁵	1,132	(10)	318	(17)	324	(19)	323	(18)	
Hispanic	703	(6)	207	(11)	186	(11)	230	(13)	
Asian & Pacific Islander ⁵	189	(2)	56	(3)	61	(4)	85	(5)	up
Native American or Alaskan Native ⁵	188	(2)	32	(2)	42	(2)	22	(1)	
Multiple Race ⁵	37	(0)	11	(1)	23	(1)	19	(1)	
Unknown Race ⁵	12	(0)	9	(0)	3	(0)	4	(0)	
Place of Birth									
Born in U.S. or Territories	10,315	(91)	1,463	(79)	1,369	(80)	1,298	(74)	
Born Outside U.S.	724	(6)	282	(15)	310	(18)	329	(19)	
Birthplace Unknown	241	(2)	107	(6)	33	(2)	138	(8)	
Age at diagnosis of HIV									
0-19 Years	269	(2)	37	(2)	20	(1)	40	(2)	
20-29 Years	3,188	(28)	404	(22)	384	(22)	432	(24)	up
30-39 Years	4,835	(43)	804	(43)	663	(39)	574	(33)	down
40-49 Years	2,189	(19)	445	(24)	464	(27)	474	(27)	
50-59 Years	611	(5)	130	(7)	144	(8)	190	(11)	up
60+ Years	188	(2)	32	(2)	37	(2)	55	(3)	up
Residence⁷									
Region 1- Spokane area	571	(5)	113	(6)	95	(6)	103	(6)	
Region 2- Yakima area	352	(3)	77	(4)	72	(4)	88	(5)	
Region 3- Everett area	914	(8)	138	(7)	143	(8)	182	(10)	
Region 4- Seattle area	7,351	(65)	1,137	(61)	1,078	(63)	988	(56)	
Region 5- Tacoma area	1,180	(10)	225	(12)	166	(10)	220	(12)	down
Region 6- Olympia area	912	(8)	162	(9)	158	(9)	184	(10)	

1. Due to delays in reporting, data from recent years are incomplete.

2. Statistical trends (p < .05) were identified from the chi-square test for trend, calculated for the periods 1999-2001, 2002-04, and 2005-07.

3. Includes presumed heterosexual cases (females who deny injection drug use but have sex with men not known to be HIV-infected).

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 and 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.

5. And not Hispanic. The groups Asian, Native Hawaiian and other Pacific Islanders were grouped due to small cell sizes. All race and ethnicity categories are mutually exclusive.

6. Among cases where country of birth is known.

7. The counties and regions 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

Global and National Perspective

This article summarizes the status of the HIV and AIDS epidemics in King County (KC), Washington through June 30, 2008, based upon reports of people with AIDS or HIV infection.

According to the Joint United Nations Programme on HIV/AIDS¹, 33 million people worldwide were living with HIV or AIDS at the end of 2007, including 2 million children under 15 years of age. On average, 0.8% of adults worldwide age 15-49 are infected with HIV. An estimated 2.7 million persons acquired HIV infection, and 2 million deaths occurred in 2007. Twenty-five million people have died from AIDS worldwide since 1981.

There are 1.06 to 1.16 million HIV infected people in the United States, including 21% who remain undiagnosed and unaware of their status². According to CDC incidence calculations published in August 2008, approximately 56,300 new infections occur in the U.S. each year^{3,4} (about 1% of the world total), with over 14,600 deaths in 2006³.

In 2006, the Seattle Metropolitan Statistical Area (MSA) including King, Snohomish and Island counties, ranked 59th nationally with an annual AIDS rate of 10.2 reported cases per 100,000 population. In comparison, the Tacoma MSA had a rate of 3.3 and the Portland, Oregon MSA rate was 10.1 per 100,000. The highest metropolitan rates (per 100,000 population) in the country were in Miami FL (48.5), Fort Lauderdale FL (43.0), New York City (40.8), Baltimore MD (37.7), and Washington DC (36.5)⁵.

The Seattle MSA cases make up a decreasing proportion of total U.S. cases over time. 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 0.83% at the end of 2006⁵.

Number of People Infected with HIV in King County

The Washington State Department of Health estimates that 11,000 to 12,000 state residents, including 7,200 to

7,800 residents of King County, are living with HIV or AIDS⁶. The number of new, reported HIV diagnoses in King County has been level with 350-400 new diagnoses each year since 1998. Because there are about 100 HIV-related deaths annually, the reported number of King County residents living with HIV/AIDS is increasing by about 4-5% per year (Figure 1).

As of June 30, 2008, HIV-infected King County residents include 3,511 reported living with AIDS, 2,772 reported living with HIV but not AIDS, an estimated 300-500 people diagnosed but not yet reported, and an estimated 700-1200 people who are unaware of their infection status.

Characteristics of People Living with HIV or AIDS

Table 1 presents the number of reported cases, the estimated number of total infections, and the estimated 2006 infection rate. The estimated rates of HIV infection vary widely between population groups. The highest rates are among men who have sex with men (MSM), injection drug users (IDU), MSM who also inject drugs (MSM/IDU), and foreign-born Blacks, with over 1% of these populations infected. These four groups account for 90% of all diagnoses in King County.

Ninety percent of people living with HIV or AIDS in King County are male. Most, 68%, are White, 17% are Black, 9% Hispanic, 3% Asian & Pacific Islander (API), and 1% Native American & Alaskan Natives (NA/AN). Eighty-one percent were born in the U.S. or territories, 15% were foreign-born, and the birthplace was unknown for 5%. Compared with non-Hispanic Whites, the rates are four times higher among foreign-born Blacks, twice as high among U.S.-born Blacks and 1.5 times higher among NA/AN.

Six percent of cases have no identified behavioral exposure to HIV. Among cases with known exposure, 74% are MSM, 9% are MSM/IDU, 6% are IDU, 10% were likely infected heterosexually, and fewer than 1% each were born to HIV-infected mothers or received blood products (mostly prior to 1985 in the US).

Table 1: Characteristics of King County residents with HIV or AIDS as of 6/30/2008

	Actual Reports		Estimated HIV Prevalence		
	Number Reported	Percent	Estimated Infected ¹	2006 ² Population	Estimated Rate Per 100 ³
Total	6,283	100%	7,500	1,826,732	0.4%
Race/Ethnicity					
White, not Hispanic	4,299	68%	5,190	1,303,959	0.4%
Black, not Hispanic	1,041	17%	1,260	112,218	1.1%
<i>Foreign-born Blacks</i>	361	6%	440	27,520	1.6%
<i>Native-born Blacks</i>	650	10%	780	84,698	0.9%
Hispanic	593	9%	710	131,277	0.5%
Asian & Pacific Islander	197	3%	240	262,022	0.1%
Native American or Alaskan Native	86	1%	100	17,257	0.6%
Multiple Race	54	1%	N.A.	Not applicable	Not applicable
Unknown Race	13	<1%	N.A.	Not applicable	Not applicable
Sex & Race/Ethnicity					
Male	5,657	90%	6,750	914,083	0.7%
White Male	4,071	65%	4,910	650,379	0.8%
Black Male	740	12%	890	56,326	1.6%
Hispanic Male	549	9%	660	71,569	0.9%
Asian or Pacific Islander Male	174	3%	210	127,378	0.2%
Native American or Alaskan Native Male	61	1%	80	8,431	0.9%
Multiple or Unknown Race	62	1%	N.A.	Not applicable	Not applicable
Female	626	10%	760	912,649	<0.1%
White Female	228	4%	280	653,580	0.0%
Black Female	301	5%	360	55,897	0.6%
Hispanic Female	44	1%	60	59,708	0.1%
Asian or Pacific Islander Female	23	<1%	30	134,638	<0.1%
Native American or Alaskan Native Female	25	<1%	30	8,826	0.3%
Multiple or Unknown Race	5	<1%	N.A.	Not applicable	Not applicable
HIV Exposure Category					
Men who have sex w/men (MSM)	4,344	74%	5,550	40,000	13.9%
Injection drug user (IDU)	342	6%	440	15,000	2.9%
MSM-IDU	531	9%	680	3,150	21.6%
Blood product exposure	36	1%	50	Unknown	Unknown
Heterosexual contact ⁴	601	10%	770	1,250,000	0.06%
Perinatal exposure	21	<1%	30	Unknown	Unknown
Subtotal- known exposure	5,875	100%	7,500	1,826,732	0.4%
<i>Undetermined/ other</i>	408	6%	N.A.	Not applicable	Not applicable
Current Age as of 6/30/2008					
0-19 years	28	<1%	30	442,237	0.01%
20-24 years	63	1%	80	110,529	0.1%
25-34 years	734	12%	880	259,797	0.3%
35-44 years	2,186	35%	2,610	310,889	0.8%
45-54 years	2,269	36%	2,710	297,662	0.9%
55-64 years	841	13%	1,000	211,765	0.5%
65 years and over	162	3%	190	193,853	0.1%
Place of Birth					
Native-born	5,083	81%	6,360	1,468,749	0.4%
Foreign-born	912	15%	1,140	268,285	0.4%
Unknown birthplace	288	5%	N.A.	Not applicable	Not applicable

¹ Between 7,200 and 7,800 King County residents may be infected with HIV. Each estimate is the percentage of cases with known categories, times the midpoint 7,500, rounded to the nearest 10.

² 2006 population estimates are from the American Community Survey of the U.S. Census Bureau.

³ The estimated rate is the estimated number infected divided by the population.

⁴ Includes 120 presumed heterosexual cases among women.

While the distribution of exposure categories differs by race, gender, and birth country, 97% of all male cases are MSM, IDU, or foreign-born Blacks. MSM exposure accounts for 81-88% of known exposures among White, Hispanic, and API men; 58% among NA/AN men and 62% among Black men born in the U.S. MSM-IDU is the second most common exposure among White men (11%), Hispanic men (8%), and NA/AN men (30%). Foreign-born Blacks make up 26% of cases among Black men and are mostly due to heterosexual transmission.

The vast majority of HIV-infected women are either IDU (21% of cases) or have a heterosexual risk (71% of cases). Heterosexual cases are those with partners known to be HIV-infected (31%), partners who are IDU (9%), partners who are bisexual men (5%), or partners with hemophilia (1%). Another 22% of female cases are presumed heterosexual⁷ transmission, which includes documented sex with men and denial of IDU. HIV heterosexual exposures account for 68% of cases among White, 80% among Black, 82% among Hispanic, and 89% among API women. However, among NA/AN women with HIV, IDU is the most common risk behavior (58%), while 42% is heterosexual or presumed heterosexual transmission.

King County residents with HIV include people born worldwide. Among 663 people diagnosed with HIV in 2005 or 2006, the place of birth is

- 70% United States
- 8% Africa
- 7% Mexico, Latin America and Caribbean
- 4% Asia and Eastern Europe
- 1% Western Europe or Canada
- 8% Unknown birthplace

Infection rates are substantially higher among foreign-born Blacks (1.6%) than native-born Blacks (0.9%). Foreign-born Blacks are a significant population for special prevention interventions because their mode of transmission, language, and culture may differ greatly from their U.S.-born counterparts. The majority of reported cases among foreign-born Blacks are due to heterosexual transmission (40%) or presumed heterosexual transmission (15%); another 32% have no reported risk. Sixty-one percent of native-born Blacks are MSM or MSM-IDU and 17% are IDU.

Seventy-one percent of King County residents living with HIV are currently age 35-54 years, and 16% are at least age 50 years of age. At the time of diagnosis, 77% of HIV-infected individuals resided in Seattle, 8% on the Eastside or north of Seattle and Lake Washington, and 15% in South King County.

Immunologic and Virologic Status

The Washington Administrative Code requires that laboratories report all CD4 results and all HIV viral load results, regardless of level, to Public Health. While these data are still incomplete, they allow us to evaluate the immunologic status of all people living with HIV infection. Between July 2007 and June 2008, we documented CD4 or viral load laboratory data on 4,932 King County residents diagnosed with HIV or AIDS as of June 30, 2008. Based on the lowest reported result during that period, the status among 4,385 people with a CD4 after June 2007 included 24% with severe immune deficiency (CD4 under 200 cells or under 14% of total lymphocytes), 53% with moderate immune deficiency (200-500 cells per microliter or 14-28% of total lymphocytes), and 23% with negligible or no immune deficiency (CD4 over 500 and over 28% of total lymphocytes). Based on the highest result during this period, the status among 4,688 people with any viral load test after June 2007 includes 18% with a high viral burden (over 50,000 copies), 11% with a moderate viral burden (10-50,000 copies), 25% with a low viral burden (under 10,000 copies per microliter), and 46% with no detectable viral load.

Trends in Diagnosis of HIV Infection

Based upon data reported through June 2008, we compared the characteristics of persons diagnosed with HIV infection during 1999-2001, 2002-2004, and 2005-2007 (Table 2). A chi-square test for trend was used to determine if there was a statistically significant change in proportion of cases for each group over those three periods.

There have been only moderate shifts in the proportion of persons newly diagnosed with HIV infection among different groups over the past nine years. Between the three-year periods 1999-2001 through 2005-07 the proportion of cases increased among Hispanics (from 10% to 13%), Asians and Pacific Islanders (from 3% to 6%),

Table 2: Characteristics of King County residents with HIV or AIDS as of 6/30/2008

Characteristics	1999-2007	
	Statistical Trend	%
HIV Exposure Category		
Men who have sex with men (MSM)	No change	71%
Injection drug user (IDU)	Decreasing	7% to 5%
MSM-IDU	Increasing	7% to 11%
Heterosexual contact	No change	14%
Sex & Race/Ethnicity		
Male	No change	88%
White Male	Decreasing	60% to 54%
Black Male	No change	14%
Hispanic Male	Increasing	9% to 12%
Female	No change	12%
White Female	No change	4%
Black Female	No change	6%
Hispanic Female	No change	1%
Race/Ethnicity		
White, non Hispanic	Decreasing	64% to 57%
Black, non Hispanic	No change	21%
Hispanic	Increasing	10% to 13%
Asian or Pacific Islander	Increasing	3% to 6%
American Indian/ Alaska Native	No change	1%
Age at diagnosis of HIV		
0-19 years	No change	1%
20-29 years	No change	23%
30-39 years	Decreasing	46% to 36%
40-49 years	No change	26%
50-59 years	Increasing	6% to 8%
60 + years	Increasing	1% to 3%
Residence		
Seattle	Decreasing	84% to 75%
North and East King County	Increasing	6% to 9%
South King County	Increasing	10% to 16%
Place of birth, race, and exposure		
Born outside the U.S.	Increasing	18% to 22%
<i>Foreign-born Blacks</i>	<i>No change</i>	<i>9%</i>
<i>Foreign-born who are not Black</i>	<i>Increasing</i>	<i>10% to 13%</i>
Born in the U.S.	Decreasing	77% to 71%
<i>Native-born Blacks</i>	<i>No change</i>	<i>11%</i>
<i>Native-born who are not Black</i>	<i>Decreasing</i>	<i>66% to 61%</i>

and in persons over age 50 (from 7% to 11%). The proportion of total cases decreased for all Whites (from 64% to 57%).

There was an increase in the proportion of King County residents age 50 and over at diagnosis (from 7% to 11%), and a decrease in people age 30-39 at the time of diagnosis (from 46% to 36%). Over the past decade, the population of people living with HIV has aged consistently as HIV has become a chronic infection. In 1998, half of individuals living with HIV were under age 40. In 2006, the median age was 44.

The residence of King County persons diagnosed with HIV is shifting away from Seattle. The proportion of cases among City residents dropped from 84% to 75% newly diagnosed cases between 1999 and 2007, while residents outside Seattle make up an increasing proportion. South King County residents increased from 10% to 16% of the total, and East/North King County residents increased from 6% to 9% of new cases.

The overall perinatal transmission rate in King County and in Washington is essentially zero because of effective antiretroviral prophylaxis during pregnancy and at birth. Approximately 15-30 HIV+ women give birth each year in Washington but there have not been any perinatal infections transmitted to infants born in King County since 1997. All recent diagnoses of perinatal infection locally were among children born elsewhere who moved to King County.

Incidence and Resistance Training

Public Health – Seattle & King County participates in two CDC-funded projects in which leftover sera from HIV-diagnostic specimens is used to help characterize the infection in persons newly diagnosed with HIV. Currently about half of newly diagnosed cases are being tested. These tests reveal several characteristics of the HIV virus circulating within the local population.

- ▶ Approximately one-third of new HIV diagnoses are among persons likely infected within the preceding 12 months.
- ▶ 12% of treatment-naïve people have high-level resistance to one or more class of anti-retroviral drugs; 3% are resistant to two or more classes of drugs. These proportions have not changed since preliminary resistance testing data first became available in 1998.

- ▶ 11% of people tested are infected with a non-B subtype of HIV-1. Most of these were among persons born in other countries.

Declining Transmission Rates

While the number of people living with HIV has been increasing about 5% annually since effective treatments became available, the number who are diagnosed each year has been relatively stable. Therefore, the *transmission rate* (new diagnoses divided by total infected population) is declining slightly. This may mean that the few infected persons who transmit the virus to uninfected persons represent a smaller proportion of the entire infected population each year. This may be partly due to more HIV-infected people knowing their status and reducing risk to their partners.

Diagnosis of AIDS and Deaths

The diagnosis of AIDS is an important marker of HIV disease progression. Between 1981 and June 30, 2008, 7,765 King County residents have been diagnosed with AIDS and 4,254 (55%) of them have died. The number of new AIDS diagnoses has been steady near 250 per year between 1998 and 2007, compared with 400–600 per year in the mid-1990s (Figure 1). The number of AIDS deaths fluctuated between 70 and 131 annually from 1998 through 2007.

HIV/AIDS was the leading cause of death among 25-44 year old males in King County during the years 1989 to 1996, but dropped to the 5th leading cause of death by 2004.

The decline in AIDS diagnoses and deaths is due to implementing effective antiretroviral treatments, effective prophylaxis to prevent opportunistic infections, monitoring of HIV progression (for example by assays of CD4 counts and HIV viral load), and prevention efforts to reduce HIV transmission rates.

Despite widespread availability of highly active antiretroviral therapy (or HAART) since 1995-1996, several factors contributed to ongoing progression to AIDS and death. Some people learn their HIV status too late in the course of their HIV disease to prevent AIDS, some have problems accessing or adhering to treatment, and some refuse treatment. Other people may experience treatment failures due to problems with taking medications, adverse side effects of HAART, and/or develop-

ment of HIV strains resistant to antiretroviral drugs. Strategies to counter these factors include increased HIV testing to promote earlier diagnosis, and simplifying HAART regimens to improve adherence.

Conclusions

King County has an estimated 7,200-7,800 HIV-infected residents, including approximately 3,500 people with AIDS, 3,000 diagnosed with HIV, and 700-1200 who have yet to learn they carry HIV. Over 4,400 HIV-infected persons have died since 1982. About 350-400 new HIV infections have been diagnosed each year since 1998, of which about one-quarter were not diagnosed with HIV until they had already developed AIDS. The numbers of deaths, new HIV cases, and new AIDS diagnoses were roughly level from 1998 to 2006.

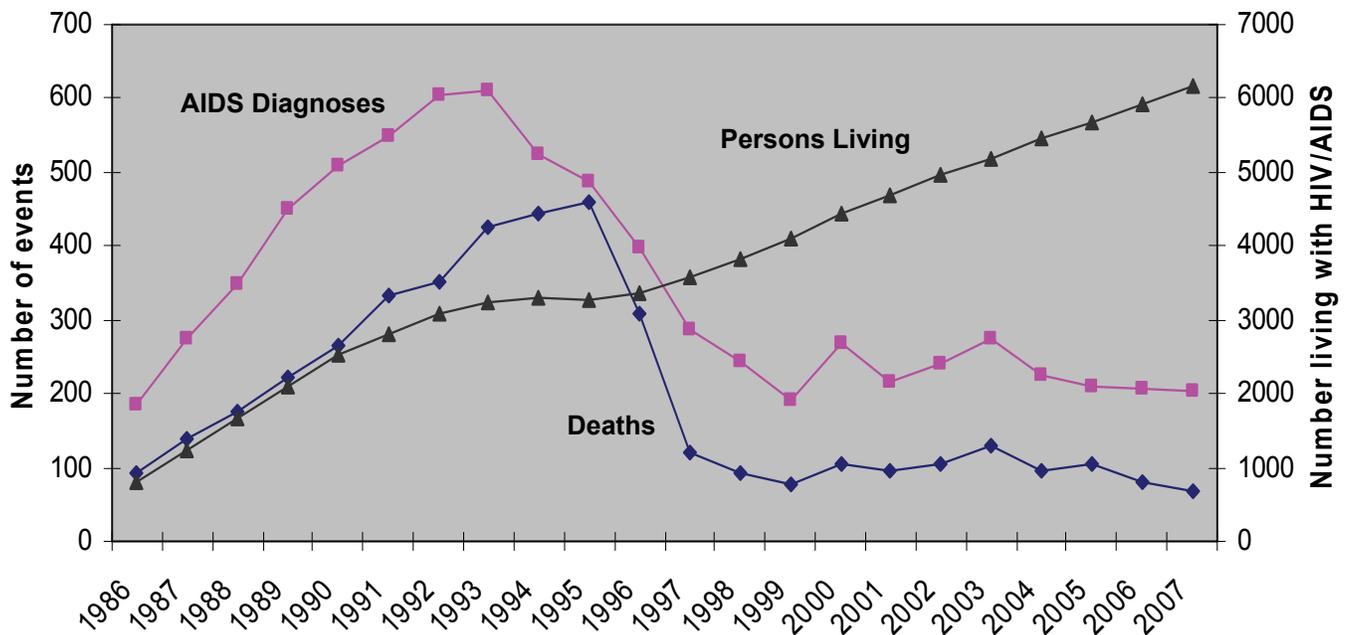
The total number of people living with AIDS or with HIV infection in King County is increasing because each year there are more new diagnoses than deaths. Ninety percent of all infections are among MSM, IDU, or foreign-born Blacks. Most HIV-infected King County residents are White men who have sex with men, are 30-45 years

of age at the time of diagnosis, and reside in Seattle. However, an increasing proportion of cases are among foreign-born Blacks and residents outside Seattle.

• *Contributed by Amy Bauer and Jim Kent*

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Figure 1: New AIDS Cases, Deaths, and Persons Reported Living with HIV Infection or AIDS, King County, 1986-2006. Reported through June 30, 2006



HIV Incidence Surveillance: Local and National Updates and How YOU Can Help

National HIV Incidence Findings

Unless you've been out of the country and off the Internet since August, you probably have heard that CDC released a new national estimate of HIV incidence – the estimated number of people newly infected with HIV in the U.S. – of 56,300. This estimate is for 2006, but the annual estimate was calculated as relatively flat since 2000. This incidence estimate is important for many reasons:

- It is much larger (41% higher) and probably more accurate than the prior incidence CDC estimate of 40,000 new cases per year.
- It is based on actual serological evidence supporting new infection among people recently diagnosed with HIV in 22 areas participating in HIV Incidence Surveillance (including Washington State).
- Thus, the data are population based and not limited to subsets, such as people testing in publicly funded clinics or cohort studies (for example, cohorts of men who have sex with men, or blood donors, or pregnant women followed with two or more HIV tests over time).
- Based on testing frequency and inter-test intervals (if there was a prior HIV test) of those recently diagnosed, the data are extrapolated to individuals who do not test for HIV in a timely manner. Unfortunately, these testing frequency and inter-test interval data are frequently missing, so please see below on how *you* can help make our local and national incidence estimates more reliable.
- Annual calculation of these estimates will allow us to determine whether incidence is increasing, decreasing, or staying the same.

Summary from the CDC

On August 6, 2008, JAMA published the first major findings from the HIV Incidence Surveillance (HIS) project, "Estimation of HIV Incidence in the United States".¹

This report included data from 22 states participating in HIS. These 22 states make up 70% of all new HIV diagnoses reported in the U.S. or about 39,400 new diagnoses in 2006. Again, the HIS project allows researchers to estimate how many people have been recently infected, including those not yet diagnosed with HIV. The JAMA report estimated that 73% of the estimated 56,300 new infections in 2006 were among men, including 55% in men who have sex with men (MSM). About 45% of the new infections occurred in Blacks, 35% in Whites, and 17% in Hispanics. Over a third (34%) of the new infections were estimated to occur in individuals less than 30 years of age. Rates of infection were calculated for an overall rate of about 23 infections per 100,000 individuals in the general population. Males were infected at about three times the rate of females, while Blacks and Latinos had over seven times and about two-and-a-half times the rate of Whites respectively. People in their 30's had six-and-a-half times the rate of HIV of people aged 50 and older. Use of a back-calculation method allowed CDC to estimate historical trends in the numbers of new infections. Although the overall numbers of new infections are estimated to be level since 2000, the numbers of cases in MSM has been rising since the early 1990's—as have cases in the combined race/ethnicity group of Asians & Pacific Islanders.

A second major article from HIS was published September 12, 2008 in the MMWR.² In this report, the CDC authors further break down the 54,230 (96% of the above-referenced 56,300) estimated incident HIV cases in 2006 that were attributed to Whites, Blacks, and Latinos. The breakdowns are by gender, age, and risk group. Among other findings, this article showed more Black MSM were infected at ages 13-29 relative to Whites, and the peak age group for HIV incidence for White MSM was 30-39. For more information on the 2006 HIV incidence estimates including CDC's podcast, questions and answers, fact sheets, and related surveillance information, please visit <http://www.cdc.gov/hiv/topics/surveillance/incidence.htm>.

From National to Local HIV Incidence Estimates

The CDC-generated estimate for Washington State is 700 new HIV infections in 2006. There is a no confidence interval associated with this number and it was rounded to the nearest 100. To generate HIV incidence estimates we require:

1. HIV reporting data, including HIV diagnosis date, dates of AIDS-defining conditions, HIV risk and demographic data; and
2. HIV Testing and Treatment History (TTH) data; and
3. STARHS results (a testing algorithm that can distinguish between recent and long-term HIV infection) for individuals newly diagnosed with HIV.

Although local HIV reporting data are quite complete, TTH data and STARHS results are frequently missing – locally and nationally. Consequently, CDC used a statistical technique called multiple imputation to assign values to missing data based on known characteristics for individuals with and without missing data. To generate state incidence estimates, data from all 22 sites were used to impute values to the missing data. Washington State is working to create our own local incidence estimates based on local data and local imputations. However we first need to ensure we have robust data for all three categories listed above. This estimate will also have confidence intervals to indicate the amount of variability. Until we can create robust Washington State and King County incidence estimates, data on HIV diagnoses will continue to provide the best snapshot of the local distribution of HIV infection. These data can be found in the HIV Surveillance Quarterly Report, located at: http://www.doh.wa.gov/cfh/HIV_AIDS/Prev_Edu/statistics.htm.

How Can You Help?

If you are a medical provider caring for HIV-infected individuals your help is crucial. Washington State and King County will be able to create our own reliable and robust estimates of HIV infection if, when you have a patient newly diagnosed with HIV, you help us gather the information required in the testing and treatment history form. This form is available on the Internet: www.metrokc.gov/health/apu/epi/his/THQ-English.pdf and also comprises part of the HIV/AIDS case report, also available on the Internet:

www.metrokc.gov/health/apu/epi/hivcase-reportform.pdf or www.doh.wa.gov/notify.forms/hiv-case-report.pdf but which is not frequently filled out by medical providers. In short, these are the data that will help us create better local – and national – estimates of HIV infection:

- Date of last negative HIV test
- Date of first HIV positive test and whether that test was anonymous or confidential
- Number of HIV tests taken in the two years up to – and including -- the first positive HIV test

Local Incidence History

Locally, King County has a long history of using STARHS, the serological testing algorithm used to estimate HIV incidence. The HIV Incidence Study was a pilot project implemented at publicly-funded King County HIV testing sites in 1999. Three years worth of stored samples were tested for recent infection using the STARHS assay, and prospectively, clients undergoing HIV testing were asked to consent to the special test. Some of the results of this study were included in an HIV/AIDS Epidemiology Report article in the first half of 2004, "Is HIV incidence rising among men who have sex with men in King County, 1997-2004?" Local incidence data have also been presented in posters at scientific conferences, including a description of HIV screening in King County jails that was presented at the North American Congress of Epidemiology in 2006 and a comparison of confidential and anonymous HIV testers that was presented at the Conference on Retroviruses and Opportunistic Infections in 2007.^{4,5} The local HIV Incidence Study ended in 2005 as we began to participate in the national HIV Incidence Surveillance system.

From Incidence Estimates to Prevention Programs

Incidence and diagnostic data indicate that MSM, including MSM of color, should continue to be one of the, if not the highest priority for programs and activities designed to prevent new HIV infections in Washington State. This includes the full range of science-based interventions: i.e. HIV testing with the goal of identifying new infections as early as possible; partner notification to ensure that all sex and needle sharing partners are aware of their exposure to HIV and have an opportunity

to be tested; and individual and group level interventions that have been demonstrated to be effective at reducing HIV infections among MSM. Washington State Department of Health recently received funds to support the development of a strategic plan to enhance HIV prevention services for MSM in Washington State. This planning process will provide an opportunity to analyze the most recent data available on the status of the HIV epidemic among MSM in our state and the most appropriate application of current research, interventions and technology to address the epidemic.

Thank you

We would not be able to conduct HIV incidence surveillance without the assistance of our partners, including HIV care providers, staff who fill out HIV case reports, people conducting HIV counseling and testing services, and laboratory personnel who process the remnant laboratory specimens. In time, with enough data, we will be able to provide more detailed incidence data that will help us to better understand our HIV epidemic in Washington State.

- *Contributed by Maria Courogen, Susan Buskin, Christina Thibault, Alexia Exarchos, and Jim Kent*

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Update on the National HIV Behavioral Surveillance System in Seattle-King County

Introduction

The National HIV Behavioral Surveillance (NHBS) system is funded by the Centers for Disease Control and Prevention (CDC). It was implemented in 2003 to help state and local health departments establish and maintain an ongoing surveillance system to monitor HIV-related behaviors and access to HIV prevention services among groups at highest risk for HIV. These groups include men who have sex with men (MSM), injection drug users (IDU), and heterosexuals (HET). NHBS provides important information on trends in key behavioral indicators over time and whether prevention services are reaching their intended audiences. Findings can be used locally as well as nationally to monitor CDC's progress toward the goals of the CDC's HIV Prevention Strategic Plan. Twenty-one large urban areas across the country currently participate in NHBS. These sites were chosen because they cover diverse geographical areas where HIV/AIDS has the most impact.

NHBS is conducted in rounds that consist of three annual survey cycles. In each cycle one of the three high-risk groups is surveyed using either respondent-driven or venue-based sampling. Prior to implementation of each survey cycle, a formative assessment is conducted to describe the local HIV epidemiology of the specific survey population and local prevention services, identify recruitment venues (in the case of venue-based sampling), and garner community support for the project.

All sites follow the same CDC NHBS protocol and use a CDC core questionnaire that includes questions about sociodemographic characteristics, drug-use and sexual behaviors, incarceration experiences, health history, and knowledge and use of local prevention services -- including HIV testing. Each site can also add a section with questions of local interest. After providing informed consent, the participant completes the survey, which is administered by a trained interviewer who uses a handheld computer to record responses. Participants are also offered voluntary HIV counseling and testing. They receive a monetary incentive and information about local HIV and STD prevention and health services. The study does not collect any names or other personal identifiers. It is approved by the CDC institutional review board (IRB) and a local IRB at each site.

The HIV/AIDS Epidemiology Program at Public Health – Seattle & King County has participated in two of the first three NHBS survey cycles, including NHBS-IDU1 (May 2005 – January 2006) and NHBS-HET1 (March – September 2007). We were not eligible for participation in NHBS-MSM1 (June 2004– April 2005). This year we are conducting NHBS-MSM2. The MSM cycle uses venue-based sampling and our research staff approach men at gay-identified venues in the community and invite them to participate in the survey on the spot. We use a motor home as a field office for conducting interviews and HIV counseling and rapid testing. We plan to enroll 500 eligible men over a 6-7 month period starting in August.

Several articles about NHBS have been published. For more information see the special issue of Public Health Reports (2007/supplement 1/Volume 122), which focused on HIV behavioral surveillance and includes articles that describe the background and need for NHBS as well as its methods. Two MMWR articles reported results from the NHBS-MSM1 cycle (June 24, 2005 available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5424a2.htm> and July 7, 2006, available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5506a1.htm>). Local results from our NHBS-IDU1 survey were published in the HIV/AIDS Epidemiology Report 1st Half 2007, pages 17-22). For more information about NHBS please contact Hanne Thiede at 206-296-4318 or hanne.thiede@kingcounty.gov.

- *Contributed by Hanne Thiede*

Mortality Among King County Residents with AIDS

This article examines recent trends in mortality and causes of mortality among King County residents diagnosed with HIV. National data show a decline in the proportion of deaths with an underlying cause of HIV infection.¹

Methods

Data are from the HIV Registry maintained by Public Health – Seattle & King County (PH-SKC), collected through August 31, 2008. The HIV Registry routinely collects vital status information on people diagnosed with HIV and AIDS. Sources include verbal reports from health care providers and from Public Health staff in other locations, and manual review of King County death records to identify those listing HIV. An electronic review of Washington State death records is conducted annually to identify deaths with an HIV cause, and to link with cases from the HIV Registry. Because 2007 death data may not be complete, they are excluded from this analysis.

Electronic death record data include the underlying cause of death as coded by vital records staff, the county of residence, and the county where the death occurred. Deaths received from other states or reported verbally may not contain all residence information and do not include the cause of death as coded by vital records staff.

In addition to the information on the death record, the HIV Registry may also identify residence at diagnosis of HIV, residence at diagnosis of AIDS, and most recent known residence. Each residence generally includes state, city, and zip code.

Results by Residence

A total of 883 deaths were reported to the HIV Registry from 2000 through 2006. The majority (71%) were residents of King County at the time of death. Another 20% of deaths were among former residents of King County, and 4% occurred here among non-residents. Five percent of death records were missing information on residence at the time of death.

Among the 623 King County residents who died, four percent died outside the county, and eight percent were first diagnosed with HIV before moving to King County.

King County Resident Deaths by Age and Underlying Cause

The total number of deaths among King County residents with HIV remained stable over the 2000-2006 period. There were between 76 and 95 deaths each year, except for a peak (not statistically higher than other years) of 116 deaths in 2003 (figure 1).

The age of persons living with HIV infection has previously been shown to increase consistently over time. The age at death has also increased consistently since 2002, but varied before that time. The median age at the time of death is shown below.

Year	Median Age at Death
2000	44
2001	47
2002	42
2003	43
2004	46
2005	48
2006	49

Among 610 King County resident deaths with cause of death information as recorded by the Vital Records Office at PH-SKC, HIV was the single largest underlying cause of death for all years, accounting for 67% of deaths over the period. Other important causes were cancers (8%), heart disease (6%), accidents (5%), suicides (3%), and 11% miscellaneous causes (figure 2).

A total of 129 (21%) death records did not list HIV as any of the contributing causes of death. The specific miscellaneous causes are tabulated below, along with the proportion of those death records that did not mention HIV infection.

Number	Underlying Cause	Percent with No Mention of HIV
406	HIV	0%
51	Cancers	29%
32	Accidents	88%
20	Suicides	100%
30	Heart disease	73%
67	Miscellaneous causes (below)	66%
12	Pulmonary disease	50%
11	Liver disease	27%
3	Kidney disease	100%
6	Other GI disorders	83%
10	Metabolic disorders	40%
7	Infectious diseases	100%
4	Cerebrovascular disease	100%
4	Effects of drugs or alcohol	75%
1	Neurologic disorders	0%
2	Assault	100%
7	Unspecified conditions	86%

The proportion of deaths with HIV as the underlying cause declined over this period, from a range of 67-72% between 2000 and 2004, and declining to 65% in 2005 and 50% in 2006 (figure 2). No statistical trends could be identified from the small number of deaths in other categories.

Conclusions

The number of deaths among King County residents with HIV remained generally stable between 2000 and 2006. The proportion with an underlying cause of HIV infection declined in 2005 and 2006. Cancers and heart disease were the leading non-HIV causes of death. Twenty-one percent of death records of persons with HIV did not list HIV infection as a contributing cause of death.

- Contributed by Jim Kent

- Trends in Diseases Reported on Death Certificates that Mentioned HIV Infection, USA, 1996 – 2005. W Adih and R Selik, Centers for Disease Control and Prevention. Paper # 172445 to be presented at APHA October 2008, available online at http://apha.confex.com/apha/136am/techprogram/paper_172445.htm.

Figure 1. Deaths Over Time Among King County Residents with HIV 2000–2006, n=623

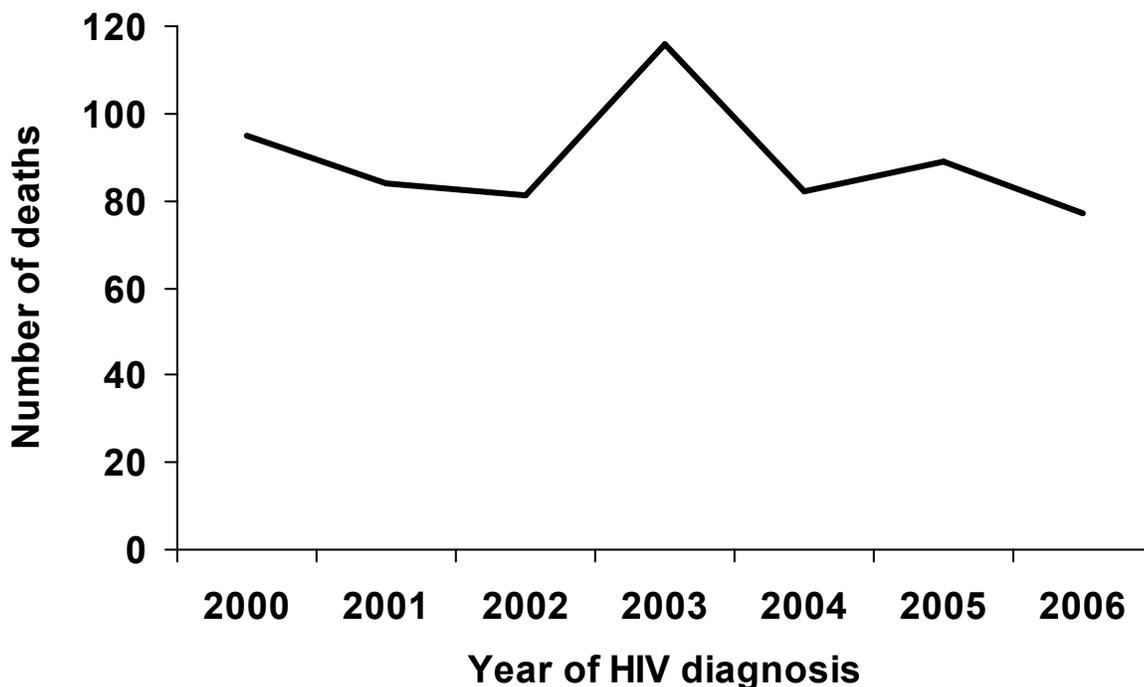
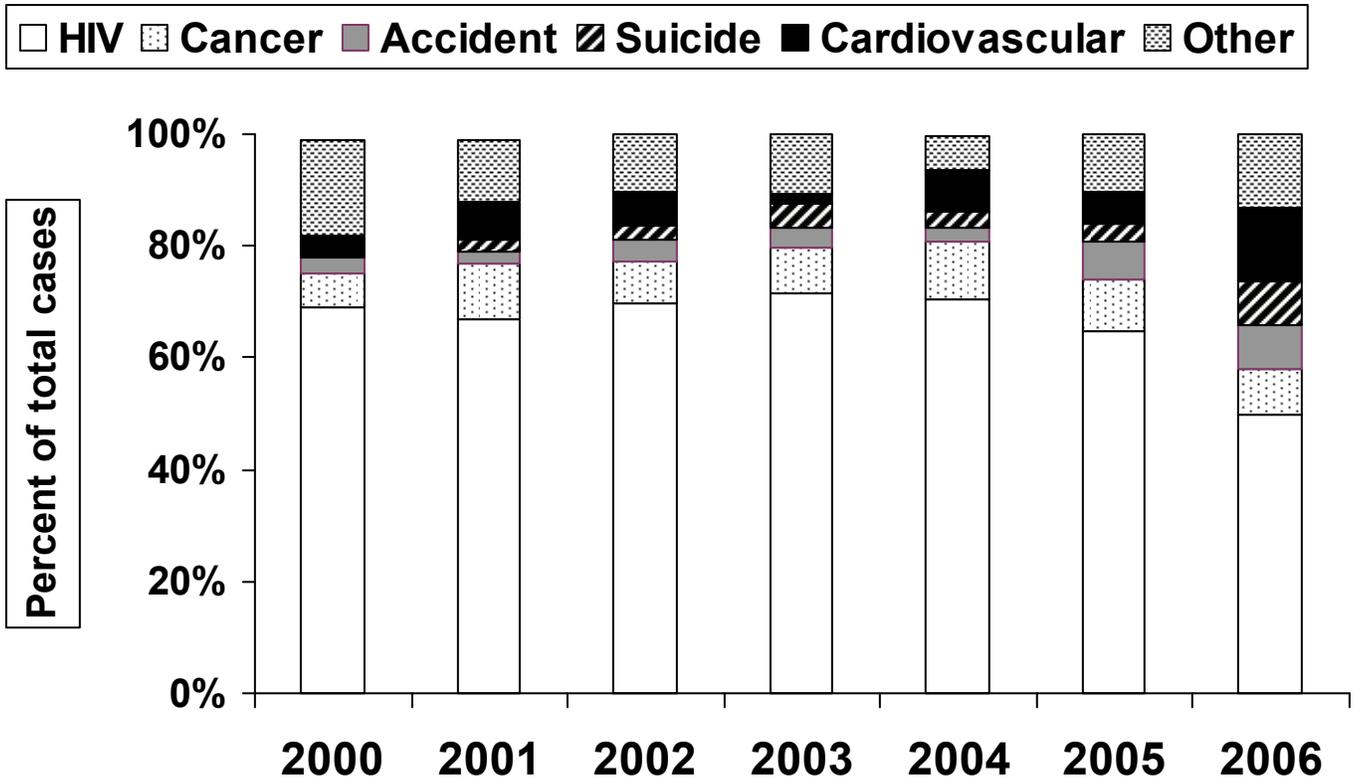


Figure 2. Underlying Cause of Death Among King County Residents with HIV 2000–2006, n=610



Employment Among Recipients of Ryan White Funded Services in King County, WA State; Findings from the 2007 HIV Care Services Needs Assessment

Introduction

To assess care service priorities and unmet needs among persons living with HIV (PLWH, including AIDS) in King County, the Seattle-area HIV/AIDS Planning Council conducts a comprehensive needs assessment every other year. The assessment uses multiple methods of gathering information from consumers and providers. The information collected is used to guide funding allocations by the Planning Council, determine unmet needs, and identify barriers to care among PLWH. While the Planning Council cannot directly fund employment services, concerns regarding employment and its relationship with HIV care, as well as barriers to employment specific to PLWH, were raised by the Planning Council and included as a small component of the 2007 needs assessment. This article offers analysis of this subset of data as it relates to the larger context of Ryan White funded service delivery.

Research has found that employment offers individual benefits beyond increased income. Social interaction, maintaining a daily routine, and developing a normalized identity outside that of an HIV patient can improve quality of life for PLWH.^{1,2} As such, identifying barriers to employment and ways in which programs can support PLWH in King County to successfully reengage with employment is an important factor in administering

Methods

In July 2007, written surveys were distributed, in English and Spanish, to providers of HIV-related services to give to their clients. Surveys were also mailed to all PLWH enrolled in the Early Intervention Program (EIP) in King County. EIP provides resources to assist low-income PLWH to improve and maintain their health.³ The surveys included pre-addressed, stamped return envelopes. A convenience sample was created from 506 valid surveys returned by the deadline of September 30, 2007. Valid surveys were from HIV-infected King County residents. This sample was compared to the overall population of individuals reported with HIV/AIDS in King County (Public Health Seattle-King County, HIV/AIDS Program, HIV/AIDS Epidemiology Report for 2nd half of 2007 accessed June 4, 2008 at <http://www.metrokc.gov/health/apu/epi/2nd-half-2007.pdf>).⁴

Characteristics of employed and unemployed individuals were compared with differences considered statistically significant if chi-square test p-values were $<.05$.

In January 2008, council staff conducted eight focus groups with sub-populations of PLWH, with 62 persons participating for the purpose of providing additional data regarding Ryan White service provision. These sub-populations included: recently incarcerated individuals (within the past five years), men who have sex with men (MSM) of color, recently homeless individuals (within the past two years), women, MSM with a history of injection drug use (MSM/IDU), Latinos, white MSM, and foreign-born blacks. Participants were recruited through self-referral in response to flyers distributed at service provider locations and by referral by service providers. Focus group participants received a travel reimbursement and a \$20 grocery voucher as compensation.

Results

The characteristics of the sample of 506 survey respondents were largely reflective of the demographics of PLWH in King County as a whole (Table 1). Within the total sample, 501 (99%) respondents answered questions regarding their employment status. Respondents were asked, "Are you currently employed?" Surveys indicated that 196 (39%) of respondents were currently employed (Table 2). Employed individuals were more likely to be white, under 40 years old, born out of the U.S., without a history of injection drug use, and not AIDS disabled. Of those employed 106 (54%) were earning less than 200% of the Federal Poverty Level (\$20,420). Information about wages or the number of hours worked per week was not included in the survey.

To gauge the level of desire to return to work, respondents were asked "If not employed, do you want to return to work?" Of the 305 (61%) of total respondents who were unemployed, 142 (47%) wanted to return to work. Respondents who wanted to return to work were significantly more likely to be under 40 years old, be Asian, Latino/a, American Indian/Alaskan Native, or mixed race, be an MSM of color.

To determine the extent of efforts to return to work, respondents were asked "If not employed, have you attempted to return to work?"

Of the 305 (61%) of respondents who were unemployed, 108 (35%) indicated that they had attempted to return to work. Latinos/as, those who did not speak English as their primary language, those born outside of the U.S., and MSM of color were more likely to report having attempted to return to work. Of those who reported wanting to return to work, 57% have attempted to reengage in the workforce. Information about how recently they had attempted to return to work was not available.

The survey asked "What has kept you from returning to work?" The 305 narrative responses were categorized by theme. Respondents often cited more than one barrier. In addition, focus group participants frequently elaborated on issues related to employment.

From the survey responses, the most commonly cited reasons for not working were related to medical conditions. 144 respondents (47%) noted medical reasons such as fatigue, illness, adverse effects from medications, and disability as barriers. Furthermore, survey respondents felt that work environments would not accommodate their complex medical needs. One respondent described the challenge as "health problems which prevent me from knowing day to day whether I need sleep, feel sick, short on energy, burnout easily, get sick if I don't rest frequently." While employment was not specifically asked about, focus group participants brought up the difficulty of balancing a job with managing health care. Of particular note were missed work due to medical appointments and the stress of employer dissatisfaction with absenteeism.

A major theme apparent in the open-ended survey responses and focus group comments was fear that an increase in their income would render them ineligible for medical services and insurance coverage. For many people working would disqualify them from publicly funding medical assistance; however, the cost of their medications and care would exceed their earned income and the medical benefits offered through their employer.

In the survey, 22 people (7%) noted this fear of losing benefits and not being able to afford medical care. This concern was reinforced by a number of focus group participants. One woman explains, "My meds cost over \$3000 and I am trying to go back to work, but am I going to get help with my meds? Will it be covered by my insurance? Because if I have to choose between going back to work and living a healthy life, I am going to stay where I'm at and live a healthy life."

While the survey did not explicitly ask consumers about their mental health histories, respondents

volunteered that mental health issues were a barrier to employment. Focus group participants also cited mental illness as a challenge with regard to ability to work. Nineteen survey respondents (6%) indicated that depression, mental health, or stress issues hindered their engagement in the workforce.

A particular challenge for the population of PLWH is overcoming large gaps in work history. Medical conditions, mental illness, substance use, and incarceration all contributed to periods of unemployment. Some survey respondents and focus group participants reported attempts to enroll in education or work training programs to improve their skills and make them more competitive when reentering the workforce.

Conclusions

Needs assessment data indicate that the primary reasons for failure to engage in the workforce were related to HIV disease progression, medication side effects, and comorbidities. Many of these impacts are more appropriately addressed individually in a clinical setting.

However, there are opportunities for policy change that can facilitate increased ability to return to work. Front and foremost is the need for universal health insurance for all regardless of employment status. Until this goal is achieved, reevaluating eligibility requirements for financial assistance in accessing HIV care related services may ease some fears that reengagement with the workforce would negatively affect health outcomes. Although Ryan White funds can not be used for employment programs, securing appropriate funding sources and including employment training and support in care programming could have a positive effect on reentry into the workforce. Further research is needed to examine the myriad challenges PLWH face in workforce engagement to determine how the Planning Council can mitigate these barriers to improve the lives of PLWH in King County.

- *Contributed by Harnik Gulati, Warren Leyh, Julie Loughran, Lisa Schafer, and Hanne Thiede*

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Table 1: Demographic characteristics of needs assessment survey respondents, 2007 compared to all King County residents with HIV/AIDS ⁴.

	Survey Respondents N=506	King County residents with HIV/AIDS
Sex		
Male	450 (89%)	5,698 (90%)
Female	53(11%)	622 (10%)
Transgender	3(<1%)	0 (0%)
Race		
White/Caucasian	349 (69%)	4,362 (69%)
Black/African American	70 (14%)	1,030 (16%)
Latino/a	48 (10%)	596 (9%)
American Indian/Alaskan Native	18 (4%)	85 (1%)
Asian & Pacific Islander	13 (3%)	183 (3%)
Mixed race	8 (2%)	52 (1%)
HIV Exposure Category		
Male-male sex	344 (68%)	4381 (69%)
Injection drug use (IDU)	20 (4%)	355 (6%)
IDU & male-male sex	35 (7%)	550 (9%)
Heterosexual contact	61 (12%)	461 (7%)
Born in the U.S.		
Yes	441 (87%)	5,155 (85%)
No	64 (13%)	879 (15%)
Age		
13-19	1 (<1%)	18 (<1%)
20-29	20 (4%)	353 (6%)
30-39	82 (17%)	1439 (23%)
40-49	211 (43%)	2661 (42%)
50-59	128 (26%)	1423 (23%)
60 and over	48 (10%)	419 (7%)
Client Income		
Less than \$10,210	198 (40%)	Not available
\$10,211 to \$20,420	190 (38%)	Not available
\$20,421 to \$30,630	88 (18%)	Not available
Greater than \$30,631	24 (5%)	Not available
Certified AIDS Disabled		
Yes	247 (48%)*	3,477 (55%)**
No	201 (40%)	2,819 (45%)
Don't know	52 (10%)	Not available

* Survey respondents were asked "Has a doctor certified you as 'AIDS disabled?'"

** Reported with AIDS defining diagnosis.

Table 2: Employment status by demographic characteristics from the 2007 needs assessment (n=501)

	Employed	Unemployed	Want to return to work (% of unemployed)	Attempted to return to work (% of unemployed)
Total	196 (39%)	305 (61%)	142 (47%)	108 (35%)
Sex				
Male	176 (90%)	269 (88%)	126 (47%)	96 (36%)
Female	20 (10%)	33 (11%)	15 (45%)	11 (33%)
Transgender	0 (0%)	3 (1%)	1 (33%)	1 (33%)
Race				
Black/African American	19 (10%)	49 (16%)*	22 (45%)	14 (29%)
American Indian/Alaskan Native	6 (3%)	12 (4%)	9 (75%)**	6 (50%)
Asian/Pacific Islander	6 (3%)	7 (2%)	5 (71%)**	3 (43%)
Latino/a	24 (12%)	24 (8%)	15 (63%)**	15 (63%)*
White/Caucasian	140 (71%)	206 (68%)	84 (41%)	65 (32%)
Mixed race	1 (1%)	7 (2%)	7 (100%)**	5 (71%)
HIV Exposure Category				
Male-male sex***	146 (77%)	193 (72%)	85 (44%)	68 (35%)
Injection drug use (IDU)	3 (2%)	19 (7%)*	9 (47%)	5 (26%)
IDU & male-male sex	17 (9%)	18 (7%)	12 (67%)	8 (44%)
Heterosexual contact	23 (12%)	37 (14%)	18 (49%)	13 (35%)
Born in the U.S.				
Yes	163 (83%)	273 (90%)*	123 (45%)	92 (34%)
No	33 (17%)	31 (10%)	19 (61%)	16 (52%)
Age				
13-19	0 (0%)	1 (<1%)	1 (100%)	1 (100%)
20-29	12 (6%)	8 (3%)	5 (63%)	5 (63%)
30-39	45 (23%)	37 (12%)	29 (78%)	17 (46%)
40-49	90 (47%)	124 (42%)	70 (56%)	48 (39%)
50-59	37 (19%)	90 (30%)	25 (28%)	28 (31%)
60 and over****	9 (5%)	38 (13%)	8 (21%)	7 (18%)
AIDS Disabled				
Yes	34 (20%)	209 (77%)*	89 (43%)	66 (32%)
No	140 (80%)	61 (23%)	37 (62%)	28 (46%)

* Indicates a statistically significant difference of $p < 0.05$.

**People of color, with the exception of African Americans, were significantly more likely than whites to *want* to return to work.

***MSM of color were significantly more likely to *want* and have *attempted* to return to work than white MSM.

****Respondents 40 years and older were significantly more likely to be unemployed than those under 40-years old.

Those under 40 years were more likely to *want* to return to work.

Research Update from the University of Washington AIDS Clinical Trials Unit: HPV Vaccine

Introduction

Human papillomavirus (HPV) is a virus that commonly infects the skin and mucous membranes. Approximately 130 HPV types have been identified. Of these, more than 40 types are typically transmitted through sexual contact and can infect the genital areas of men and women. HPV is estimated to be the most common sexually transmitted infection in the United States, and approximately 75% of sexually active adults will be infected with HPV at some point in their life. The infection is most often asymptomatic, and in normal hosts, the immune system clears 90% of HPV infections within two years. However, some types can cause genital warts, and persistent infection with "high-risk" HPV types may progress to precancerous lesions or dysplasia and eventually cancer.

Other less common cancers, such as cancers of the anus, vulva, and penis, have also been associated with HPV. Anogenital HPV infection is common in HIV-infected men who have sex with men, and this patient population has a 17 fold increased risk of developing anal cancer. One recent study also suggests that anal HPV infection is common in heterosexual men.

Screening for cervical cancer with a Papanicolaou ("Pap") smear has been shown to decrease mortality. However, the American Cancer Society estimates that 11,070 women will be diagnosed with cervical cancer and 3,870 women will die secondary to cervical cancer this year in the United States alone. World wide, cervical cancer is the second most common cause of cancer among women. Women infected with HIV have an even higher incidence of HPV-related dysplasia, experience a shorter time to development of cancer after acquisition of HPV, and are more likely to have recurrences after therapy. And, much controversy exists over screening and intervention for precancerous cells that could lead to cancer in the anus.

Clearly, additional measures were needed to combat this major health problem. In June 2006, the US Food and Drug Administration approved Gardasil, a recombinant, quadrivalent HPV vaccine. It is indicated for females 9 to 26 years of age for the prevention of cervical cancer and/or dysplastic lesions and genital warts. The

Advisory Committee on Immunization Practices recommends that the vaccine be given to girls 11 or 12 years of age. It has been shown to provide protection against infection with HPV types 16 and 18 (which cause 70% of cervical cancer) and against HPV types 6 and 11 (which cause 90% of genital warts). Its potential benefit in preventing anal infection in women and men has yet to be determined, and it has not yet been approved for women with HIV.

Recently, concerns have been raised over adverse events, including deaths, occurring after administration of the HPV vaccine. None of the deaths were determined to be caused by the vaccine, and it is not clear that the other events were related to HPV vaccination. The Food and Drug Administration and the Centers for Disease Control both confirmed the safety of the HPV vaccine. "Based on the review of available information by FDA and CDC, Gardasil continues to be safe and effective, and its benefits continue to outweigh its risks." To date, more than 8 million doses have been administered in the United States.

To further investigate the efficacy of Gardasil in HIV infected women, the UW AIDS Clinical Trials Unit (ACTU) is currently conducting a study administering the HPV vaccine to HIV infected women 13 to 45 years of age that have not had prior treatment for cervical cancer. The HPV vaccine is administered at entry to the study and at weeks 8 and 24. The study will determine if the HPV vaccine provides protection and will evaluate HPV vaccine safety in this population.

The ACTU continues to conduct other studies evaluating treatment strategies in HIV infected individuals, including recent HIV infection, rescue studies, and treatment for HIV-related dementia. We are also seeking subjects for other studies. Please see our study list below. For additional information, visit our web site at www.uwactu.org or call us at (206) 744-3184.

- *Contributed by Shelia Dunaway*

Research Helps - Help Research

University of Washington AIDS Clinical Trials Unit
 325 9th Avenue, 2-West Clinic; Box 359929
 Seattle, WA 98104
 206.731.3184 (voice) 206.731.3483 (fax); www.uwactu.org

The following is a list of studies open for enrollment. Screening, lab tests and clinical monitoring that are part of a study are provided free of charge for participants. Enrollment in a study at the ACTU does not replace the role of a primary care provider. The ACTU coordinates efforts with each participant's primary care provider. **Providers and potential enrollees can call the ACTU at 206.744.3184 and ask for Eric Helgeson for appointments or additional information.**

Antiretroviral Studies		
Eligibility	Study Purpose	Study Drug or Treatment
<ul style="list-style-type: none"> • HIV infected people at least 16 years of age • HIV viral load (HIV level) currently 1000 copies/mL or higher • Currently on an HIV drug regimen that includes a protease inhibitor (PI) • Have resistance to multiple types of HIV medications • Had exposure to multiple types of HIV medications 	<p style="text-align: center;">(Study 5241)</p> <p>To determine if adding nucleoside analogue reverse transcriptase inhibitors (NRTIs) to a novel antiretroviral regimen for volunteers who are triple-class antiretroviral-experienced or resistant is beneficial</p> <p>Two strategies will be evaluated: 1) including or not including NRTIs in a new regimen and 2) the use of continuous phenotype susceptibility (cPSS) score to help choose study regimens. The treatment response will then be observed.</p> <p>The study will make available several new drugs, including raltegravir, darunavir, tipranavir, etravirine, enfuvirtide and, if a subject has R5-tropic HIV, maraviroc</p>	<p><u>Part 1 – Continue current medications</u></p> <ul style="list-style-type: none"> • Genotype/phenotype/ tropism assays performed – these tests determine what HIV medications would be effective • A regimen is identified with a sum of at least 2 active medications • Study clinician, primary health care provider, and volunteer select study regimen and NRTIs from among options identified <p><u>Part 2 - New Study Regimen</u></p> <ul style="list-style-type: none"> • Randomization if cPSS >2.0 (greater than 2 active HIV medications) <ul style="list-style-type: none"> • Arm A: Study Regimen plus NRTIs for 48 weeks • Arm B: Study Regimen without NRTIs for 48 weeks • Registration if cPSS ≤2.0 (Observational Arm) <ul style="list-style-type: none"> • Arm C: Study Regimen plus NRTIs for 48 weeks • Up to 100 subjects may be enrolled <p>Screening, Part 2 pre-entry, Part 2 entry and then at weeks 1, 4, 8, 12, 16, 24, 36 and 48. Visits include physical exams and blood draws.</p>
<ul style="list-style-type: none"> • Acquired HIV-1 infection within the past 6 months • HIV viral load at least 500 copies/ml • CD4 T cells at least 350 cells/mm³ • No prior HIV treatment • No HIV progression to CDC category B or C disease • No history of pancreatitis 	<p style="text-align: center;">(Study 5217)</p> <p>To compare the safety and effectiveness of 36 weeks of treatment versus no treatment.</p>	<p>Screening, pre-entry, entry and weeks 1, 2, 4, and then every 4 weeks. Up to 96 weeks. Visits include physical exams, blood draws, and questionnaires</p> <p>Randomized (like flipping a coin) to either:</p> <p>Group A: Treatment with Emtricitabine/Tenofovir DF and lopinavir/ritonavir for 36 weeks (provided by study). After 36 weeks, participants will stop taking study medications.</p> <p style="text-align: center;">or</p> <p>Group B: No treatment (observation)</p> <p>At any time during the study, participants who are not on anti-HIV drugs may be encouraged to begin or restart based on symptoms or lab test results.</p>

Rescue Studies
Currently none available

Complications of HIV and Other Conditions		
Eligibility	Study Purpose	Study Drug or Treatment
<ul style="list-style-type: none"> • HIV-positive men and women 18 to 65 years old with memory or thinking problems • Worsening mental function • On stable HIV regimen for at least 16 weeks that doesn't include atazanavir. • Not pregnant or breast feeding • Able to sit or stand for at least 2 hours • Willing to have two spinal taps 	<p>(Study #5235)</p> <p>Study will evaluate if minocycline is safe and effective for treatment of thinking problems in people infected with HIV.</p>	<p>Subjects are randomized at entry to minocycline or placebo. At the end of 24 weeks, may receive open-label minocycline for an additional 24 weeks.</p> <p>Minocycline provided by study. Anti-HIV treatment not provided.</p> <p>Length of Study: Step 1 – 24 weeks. Step 2 – 24 weeks (Optional Open Label).</p>

Neuropathy
Currently None Available

HIV & Women's Studies		
Eligibility	Study Purpose	Study Drug or Treatment
<ul style="list-style-type: none"> • HIV positive, female, age 13-45. • Any CD4 count and any viral load • On stable HIV medications, or not on any HIV medications, for at least 12 weeks before joining the study. • No history of cervical cancer, very abnormal Pap smear, or genital warts within 6 months • Have never received an HPV vaccine • Not pregnant or planning pregnancy, and willing to use birth control if needed. • Not breast feeding 	<p>(Study #5240)</p> <p>To see if the HPV vaccine is safe and effective in HIV-positive women and girls and to check if the HPV vaccine can help develop immunity to help fight off HPV infection.</p>	<p>Medications while on study: The HPV vaccine (Gardasil) will be provided to you by the study.</p> <p>Length of Study: 72 weeks.</p> <p>Schedule of Study visits: Screening, entry, and visits at 4, 8, 12, 24, 28, 52, and 72 weeks.</p> <p>Reimbursement: Exams, the HPV vaccine and lab tests are provided at no cost. You will receive \$20-50* per visit, or up to \$250 total if you complete all study visits.</p>

Other Studies		
Eligibility	Study Purpose	Study Drug or Treatment
<ul style="list-style-type: none"> • No active or chronic heart or lung disease • No cigarette smoking in last 90 days • Not pregnant • No use of inhaled nasal or lung medication • No respiratory infection or bronchitis within 3 weeks 	<p>(Study #080)</p> <p>To see if alveolar macrophages is a reservoir for HIV</p>	<p>No study drug or treatment</p> <p>The macrophage cells will be collected by a bronchoalveolar lavage procedure (BAL) in the pulmonary lab</p>

Studies for HIV 'Negative' participants		
Eligibility	Study Purpose	Study Drug or Treatment
<ul style="list-style-type: none"> • HIV negative • Age 18-65 years • No active heart or lung disease • No hypertension • Not pregnant • No blood draws or donations within 6 weeks of screening 	<p>(Study #084)</p> <p>To study factors that control HIV infection in the test tube in a type of white blood cells called macrophages. This study may also help us learn more about how HIV infects cells.</p>	<p>Up to 5 study visits</p> <p>Screening</p> <p>3 on-study visits at ACTU for 100cc blood draw</p> <p>Two thirds of participants will undergo a leukapheresis procedure at the Clinical Research Center at UWMC</p>
Eligibility	Study Purpose	Study Drug or Treatment
<ul style="list-style-type: none"> • HIV negative • Male or non-pregnant female, age 18-50 • No history of heart, liver, or kidney disease • No history of cardiac disease, abnormal EKG, or low heart rate • No smoking for at least one month before and throughout the study 	<p>(Study #170)</p> <p>To determine if cytochrome P450 (CYP) enzymes and the multidrug resistant transporter (P-gp) are significantly induced after chronic administration of nelfinavir, ritonavir or rifampin.</p>	<p>Part One</p> <p>Visit Set One :</p> <p>Day 1: Bupropion</p> <p>Day 2: Mini-cocktail (digoxin & midazolam).</p> <p>Day 3-16: Randomized (like flipping a coin) to receive nelfinavir, ritonavir or rifampin for 12-21 days.</p> <p>Visit Set Two:</p> <p>Day 16: Bupropion</p> <p>Day 17: Mini-cocktail (digoxin & midazolam).</p> <p>Day 18-24: No drugs administered</p> <p>Day 25-38: Randomized to receive one of the two drugs not chosen on day 3 for 12-16 days.</p> <p>Visit Set Three:</p> <p>Day 38: Bupropion</p> <p>Day 39: Mini-cocktail (digoxin & midazolam).</p> <p>Day 40-46: No drugs administered</p> <p>Day 47-60: for 12-16 days.</p> <p>Visit Set Three:</p> <p>Day 60: Bupropion</p> <p>Day 61: Mini-cocktail (digoxin & midazolam).</p> <p>ALL ON-STUDY VISITS WILL BE AT THE CLINICAL RESEARCH CENTER AT UWMC</p>

Visit our new website at www.uwactu.org and find out about our latest studies, meet our staff, and find out about our outreach programs.

Key to Terms		
3TC: lamivudine (Epivir)	HAART: highly active antiretroviral therapy	TDF: tenofovir
ABC: abacavir (Ziagen)	HCV: hepatitis C	UWMC: University of Washington Medical Center
ACTU: AIDS Clinical Trials Unit	LPV/r: lopinavir/ritonavir (Kaletra)	> : greater than
APV: amprenavir (Agenerase)	NFV: nelfinavir (Viracept)	< : less than
AZT: zidovudine (Retrovir)	NNRTI: non-nucleoside reverse transcriptase inhibitor	≥ : greater than or equal to
d4T: stavudine (Zerit)	NRTI: nucleoside reverse transcriptase inhibitor	+ : positive
EFV: efavirenz (Sustiva)	PI: protease inhibitor	
FTC: emtricitabine	RTV: ritonavir (Norvir)	

