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

Summary Tables and Figures

HIV/AIDS Epidemiology and Surveillance News

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, write to the Public Health - Seattle & King County HIV/AIDS Epidemiology Program, 400 Yesler Way, 3rd Floor, Seattle, WA 98104 or phone (206) 296-4645.

Suggested Citation: *HIV/AIDS Epidemiology Unit, Public Health - Seattle & King County, and Infectious Diseases and Reproductive Health Assessment Unit, Washington State Department of Health. HIV/AIDS Epidemiology Report. First half 2005:Vol 65.*

Credits

This sixty-sixth edition of the HIV/AIDS Epidemiology Report, in general, includes data through the end of June 2005. The report is produced jointly by Public Health - Seattle & King County and the Washington State Infectious Disease and Reproductive Health Assessment Unit. It is funded in part by a Centers for Disease Control and Prevention cooperative agreement for HIV/AIDS surveillance. We wish to thank the health care providers caring for people with HIV/AIDS and the clinics and patients participating in epidemiologic studies. Their cooperation with the public health departments' HIV/AIDS control efforts provides the basis for the data presented in this report. We also wish to acknowledge the outstanding assistance of our staff. King County staff include Roxi Smith (who provided desktop publishing services for this edition), Tom Davis, Amy Bauer, Laura Arnold, Faythe Crosby, and Winnie Alston. Washington State staff include Mark Charonis, Sandy Hitchcock, Anna Meddaugh, and Jae Taylor.

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
(360) 236-3458

Contributors to this issue

Public Health - Seattle & King County
- Elizabeth Barash, MPH, Epidemiologist
- Amy Bauer, MPH, Epidemiologist
- Susan Buskin, PhD, MPH, Senior Epidemiologist
- Erin Kahle, MPH, Epidemiologist
- Jim Kent, MS, Senior Epidemiologist
- Christina Lynch, MPH, Epidemiologist
- Robert W. Wood, MD, FACP, Director, HIV/AIDS Program

Washington State Department of Health
- John Peppert, Manager, HIV Prevention and Education Services
- Todd E. Rime, MA, Research Investigator
- John Valliant, Disease Investigator

University of Washington
- Keith Barland, MA, Director, HIV AIDS Projects Development and Evaluation Unit
- Lisa Frenkel, MD, Professor of Pediatrics and Laboratory Medicine, University of Washington and Children's Hospital
- Joaquin V. Perez, Outreach Coordinator, Positivamente Latino Project and ACTU AIDS Clinical Trials Unit
- Jeffrey T. Schouten, MD, Staff Physician, University of Washington AIDS Clinical Trials Unit

Fred Hutchinson Cancer Research Center
- Gary Chovnick, MPH, Community Education Coordinator, HIV Vaccine Trials Unit

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/µl 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 to 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 Washington Counties, all Washington State, and U.S.

		Adult/Adolescent HIV	Adult/Adolescent AIDS	Pediatric[2] HIV or AIDS	Total
King County	New cases reported in 1st half 2005	171	123	0	294
	Cumulative cases	2,657	7,146	31	9,834
	Cumulative deaths	89	3,928	9	4,026
	Persons living (prevalent cases)	2,568	3,218	22	**5,808**
Other Counties	New cases reported in 1st half 2005	79	89	0	168
	Cumulative cases	1,352	3,957	39	5,348
	Cumulative deaths	79	2,047	12	2,138
	Persons living (prevalent cases)	1,273	1,910	27	**3,210**
Washington State	New cases reported in 1st half 2005	250	212	0	462
	Cumulative cases	4,009	11,103	70	15,182
	Cumulative deaths	168	5,975	21	6,164
	Persons living (prevalent cases)	3,841	5,128	49	**9,018**
United States[3]	Estimated cases as of 12/31/2003				
	Cumulative cases	216,486	920,566	13,998	1,151,050
	Cumulative deaths	1,913	518,567	6,916	527,396
	Persons living (prevalent cases)	214,573	401,999	7,082	**623,654**

1. There are an estimated 11,000 to 13,000 persons living in Washington with HIV infection including AIDS. These include the 9,018 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 5,808 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.
    c. An unknown number of persons (possibly 25% of the total HIV estimate) infected with HIV but not yet diagnosed or reported.
2. Pediatric cases are persons under age 13 at the time of diagnosis with HIV or AIDS.
3. 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.

Table 2: Cumulative HIV/AIDS case counts and deaths by resident County and AIDSNet region at diagnosis - reported as of 6/30/05 - Washington State

		Cumulative Cases	Deaths		Presumed Living			
			No.	(%)[1]	HIV	AIDS	Total	(Total %)[2]
	Adams	6	1	(17)	1	4	5	(0.1)
	Asotin	18	7	(39)	3	8	11	(0.1)
	Columbia	5	3	(60)	1	1	2	(0.0)
	Ferry	7	6	(86)	0	1	1	(0.0)
	Garfield	1	0	(0)	1	0	1	(0.0)
	Lincoln	5	2	(40)	0	3	3	(0.0)
	Okanogan	33	9	(27)	7	17	24	(0.3)
	Pend Orielle	9	5	(56)	1	3	4	(0.0)
	Spokane	603	264	(44)	133	206	339	(3.8)
	Stevens	25	8	(32)	5	12	17	(0.2)
	Walla Walla	59	27	(46)	6	26	32	(0.4)
	Whitman	13	4	(31)	1	8	9	(0.1)
Region 1	**Subtotal**	**784**	**336**	**(43)**	**159**	**289**	**448**	**(5.0)**
	Benton	101	37	(37)	22	42	64	(0.7)
	Chelan	50	22	(44)	14	14	28	(0.3)
	Douglas	4	2	(50)	2	0	2	(0.0)
	Franklin	67	15	(22)	20	32	52	(0.6)
	Grant	41	20	(49)	9	12	21	(0.2)
	Kittitas	19	8	(42)	4	7	11	(0.1)
	Klickitat	13	5	(38)	4	4	8	(0.1)
	Yakima	210	78	(37)	47	85	132	(1.5)
Region 2	**Subtotal**	**505**	**187**	**(37)**	**122**	**196**	**318**	**(3.5)**
	Island	74	34	(46)	14	26	40	(0.4)
	San Juan	25	11	(44)	5	9	14	(0.2)
	Skagit	81	33	(41)	24	24	48	(0.5)
	Snohomish	819	310	(38)	200	309	509	(5.6)
	Whatcom	196	80	(41)	45	71	116	(1.3)
Region 3	**Subtotal**	**1,195**	**468**	**(39)**	**288**	**439**	**727**	**(8.1)**
Region 4	**King**	**9,834**	**4,026**	**(41)**	**2,585**	**3,223**	**5,808**	**(64.4)**
	Kitsap	276	112	(41)	75	89	164	(1.8)
	Pierce	1,342	565	(42)	344	433	777	(8.6)
Region 5	**Subtotal**	**1,618**	**677**	**(42)**	**419**	**522**	**941**	**(10.4)**
	Clallam	68	29	(43)	16	23	39	(0.4)
	Clark	548	204	(37)	135	209	344	(3.8)
	Cowlitz	125	50	(40)	34	41	75	(0.8)
	Grays Harbor	64	30	(47)	12	22	34	(0.4)
	Jefferson	31	17	(55)	7	7	14	(0.2)
	Lewis	50	26	(52)	8	16	24	(0.3)
	Mason	93	22	(24)	20	51	71	(0.8)
	Pacific	25	11	(44)	8	6	14	(0.2)
	Skamania	7	5	(71)	0	2	2	(0.0)
	Thurston	232	76	(33)	64	92	156	(1.7)
	Wahkiakum	3	0	(0)	1	2	3	(0.0)
Region 6	**Subtotal**	**1,246**	**470**	**(38)**	**305**	**471**	**776**	**(8.6)**
Total		**15,182**	**6,164**	**(41)**	**3,878**	**5,140**	**9,018**	**(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 persons presumed living with HIV/AIDS - King County, other Washington Counties, all Washington State, and U.S. - reported as of 6/30/05

	King County		Other Counties		Washington State		Estimated U.S.AIDS[1]	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Sex								
Male	5,256	(90)	2,582	(80)	7,838	(87)	315,147	(78)
Female	552	(10)	628	(20)	1,180	(13)	90,779	(22)
Age Group at diagnosis of HIV								
Under 13	24	(0)	30	(1)	54	(1)	3,927	(1)
13-19	115	(2)	91	(3)	206	(2)	N/A[a]	
20-29	1,723	(30)	982	(31)	2,705	(30)	N/A[a]	
30-39	2,554	(44)	1,216	(38)	3,770	(42)	N/A[a]	
40-49	1,109	(19)	666	(21)	1,775	(20)	N/A[a]	
50-59	247	(4)	181	(6)	428	(5)	N/A[a]	
60 and over	36	(1)	44	(1)	80	(1)	N/A[a]	
Unknown Age	0	(0)	0	(0)	0	(0)	N/A[a]	
Race/Ethnicity								
White[2]	4,113	(71)	2,334	(73)	6,447	(71)	146,544	(36)
Black[2]	918	(16)	364	(11)	1,282	(14)	172,278	(42)
Hispanic	510	(9)	322	(10)	832	(9)	80,263	(20)
Asian & Pacific Islander[2]	137	(2)	85	(3)	222	(2)	3,826	(1)
Asian[2,3]	*130*	*(2)*	*40*	*(1)*	*170*	*(2)*	*N/A*	
Native Hawaiian & Other PI[2,3]	*7*	*(0)*	*12*	*(0)*	*19*	*(0)*	*N/A*	
Native American or Alaskan Native[2]	88	(2)	79	(2)	167	(2)	1,498	(0)
Multiple Race[2,3]	25	(0)	2	(0)	27	(0)	N/A	
Unknown Race[4]	17	(0)	24	(1)	41	(0)	1,517	(0)
HIV Exposure Category								
Male-male sex	4,069	(70)	1,553	(48)	5,622	(62)	182,989	(45)
Injection drug use (IDU)	369	(6)	497	(15)	866	(10)	98,901	(24)
IDU & male-male sex	504	(9)	269	(8)	773	(9)	24,334	(6)
Heterosexual contact	426	(7)	493	(15)	919	(10)	89,009	(22)
Blood product exposure	38	(1)	45	(1)	83	(1)	N/A	
Perinatal exposure	20	(0)	26	(1)	46	(1)	3,788	(1)
Undetermined/other[4]	382	(7)	327	(10)	709	(8)	6,905[b]	(2)
Total	**5,808**	**(100)**	**3,210**	**(100)**	**9,018**	**(100)**	**405,926**	**(100)**

1. US AIDS data were reported as of 12/31/2003 and are the most recent statistics available. These include 401,999 adult and 3,927 pediatric AIDS cases. Estimates for the states and areas with confidential name-based HIV infection reporting were not readily available.
   a. Age related data for person's 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 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 and 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 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.

Table 4: Persons presumed living with HIV/AIDS by gender, race or ethnicity, and HIV exposure category - reported as of 6/30/05, King County

	White[1]		Black[1]		Hispanic		Asian & PI[1,2]		Native Am/AN[1,3]		Total[4]	
HIV Exposure Category	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Male												
Male-male sex	3,236	(79)	344	(37)	339	(66)	95	(69)	31	(35)	4,069	(70)
Injection drug use (IDU)	118	(3)	81	(9)	33	(6)	4	(3)	7	(8)	247	(4)
IDU & male-male sex	403	(10)	39	(4)	35	(7)	4	(3)	18	(20)	504	(9)
Heterosexual contact	45	(1)	97	(11)	17	(3)	5	(4)	2	(2)	167	(3)
Blood product exposure	17	(0)	2	(0)	2	(0)	1	(1)	0	(0)	22	(0)
Perinatal exposure	1	(0)	3	(0)	0	(0)	1	(1)	0	(0)	5	(0)
Undetermined/other	76	(2)	105	(11)	40	(8)	13	(9)	4	(5)	242	(4)
Male Subtotal	**3,896**	**(95)**	**671**	**(73)**	**466**	**(91)**	**123**	**(90)**	**62**	**(70)**	**5,256**	**(90)**
Female												
Injection drug use (IDU)	66	(2)	36	(4)	4	(1)	0	(0)	16	(18)	122	(2)
Heterosexual contact	109	(3)	108	(12)	23	(5)	7	(5)	8	(9)	259	(4)
Blood product exposure	4	(0)	10	(1)	1	(0)	1	(1)	0	(0)	16	(0)
Perinatal exposure	4	(0)	8	(1)	2	(0)	1	(1)	0	(0)	15	(0)
Undetermined/other	34	(1)	85	(9)	14	(3)	5	(4)	2	(2)	140	(2)
Female Subtotal	**217**	**(5)**	**247**	**(27)**	**44**	**(9)**	**14**	**(10)**	**26**	**(30)**	**552**	**(10)**
Total	**4,113**	**(71)**	**918**	**(16)**	**510**	**(9)**	**137**	**(2)**	**88**	**(2)**	**5,808**	**(100)**

Table 5: Persons presumed living with HIV/AIDS by gender, race or ethnicity, and HIV exposure category - reported as of 6/30/05, Washington State

	White[1]		Black[1]		Hispanic		Asian & PI[1,2]		Native Am/AN[1,3]		Total[4]	
HIV Exposure Category	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Male												
Male-male sex	4,483	(70)	449	(35)	469	(56)	131	(59)	54	(32)	5,622	(62)
Injection drug use (IDU)	358	(6)	124	(10)	65	(8)	7	(3)	16	(10)	575	(6)
IDU & male-male sex	621	(10)	57	(4)	54	(6)	7	(3)	27	(16)	773	(9)
Heterosexual contact	122	(2)	139	(11)	44	(5)	10	(5)	6	(4)	323	(4)
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	222	(3)	132	(10)	78	(9)	23	(10)	5	(3)	469	(5)
Male Subtotal	**5,860**	**(91)**	**910**	**(71)**	**718**	**(86)**	**181**	**(82)**	**109**	**(65)**	**7,838**	**(87)**
Female												
Injection drug use (IDU)	176	(3)	67	(5)	13	(2)	3	(1)	31	(19)	291	(3)
Heterosexual contact	301	(5)	173	(13)	74	(9)	21	(9)	22	(13)	596	(7)
Blood product exposure	9	(0)	13	(1)	1	(0)	3	(1)	0	(0)	26	(0)
Perinatal exposure	10	(0)	11	(1)	4	(0)	2	(1)	0	(0)	27	(0)
Undetermined/other	91	(1)	108	(8)	22	(3)	12	(5)	5	(3)	240	(3)
Female Subtotal	**587**	**(9)**	**372**	**(29)**	**114**	**(14)**	**41**	**(18)**	**58**	**(35)**	**1,180**	**(13)**
Total	**6,447**	**(71)**	**1,282**	**(14)**	**832**	**(9)**	**222**	**(2)**	**167**	**(2)**	**9,018**	**(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 25 King County and 27 Washington State persons classified as multi race, and 17 King county and 41 Washington State persons with missing race.

Table 6: Persons presumed living with HIV/AIDS by gender and age at HIV diagnosis - reported as of 6/30/05 - King County and Washington State

Age at HIV Diagnosis	King County				Washington State			
	Male		Female		Male		Female	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Under 13 years	8	(0)	16	(3)	140	(2)	66	(6)
13-19 years	83	(2)	32	(6)	2,300	(29)	405	(34)
20-29 years	1,528	(29)	195	(35)	3,380	(43)	390	(33)
30-39 years	2,367	(45)	187	(34)	1,570	(20)	205	(17)
40-49 years	1,028	(20)	81	(15)	358	(5)	70	(6)
50-59 years	210	(4)	37	(7)	66	(1)	14	(1)
60 years and over	32	(1)	4	(1)	24	(0)	30	(3)
Total	**5,256**	**(100)**	**552**	**(100)**	**7,838**	**(100)**	**1,180**	**(100)**

Table 7: Persons presumed living with HIV/AIDS by gender, race or ethnicity, and place of birth[1] - reported as of 6/30/05 - King County

Race / Ethnicity and Place of Birth	King County				Washington State			
	U.S.-born		Foreign-born		U.S.-born		Foreign-born	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
White, non-Hispanic	3,864	(98)	74	(2)	6,093	(98)	111	(2)
Black, non-Hispanic	638	(71)	258	(29)	934	(75)	315	(25)
Hispanic	194	(43)	255	(57)	296	(41)	424	(59)
Asian & PI, non-Hispanic	46	(39)	73	(61)	76	(40)	115	(60)
Native American, non-Hispanic	84	(98)	2	(2)	161	(98)	3	(2)
Multiple or unknown race	34	(89)	4	(11)	48	(84)	9	(16)
Total	4,860	(88)	666	(12)	7,608	(89)	977	(11)

1. Table 7 does not include 282 King County and 433 Washington cases missing place of birth information.

Figure 1: Number of new HIV/AIDS diagnoses, deaths, and persons living with HIV/AIDS at end of three year intervals - reported as of 6/30/05 - King County

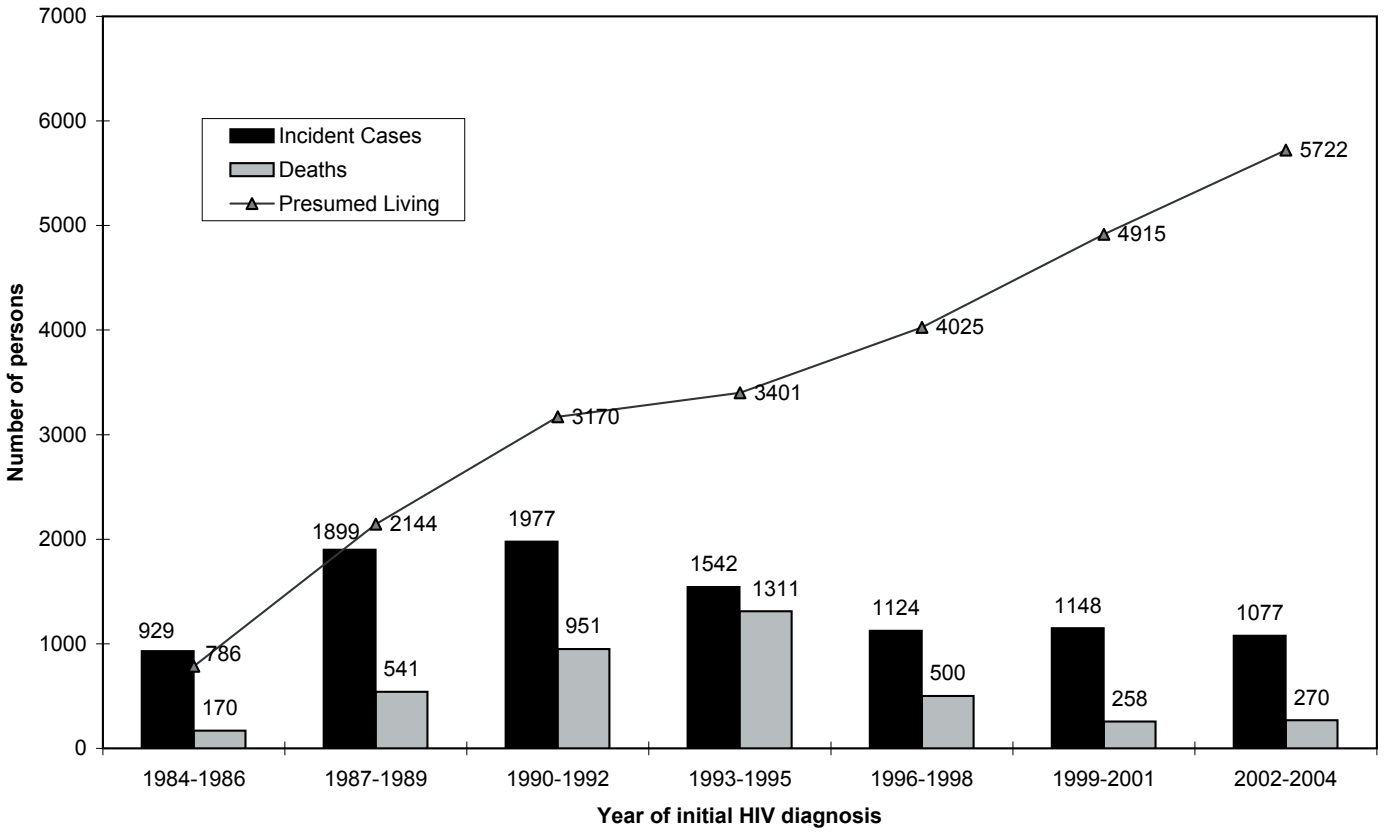


Figure 2: Number of new HIV/AIDS diagnoses, deaths, and persons living with HIV/AIDS at end of three year intervals - reported as of 6/30/05 - Washington State

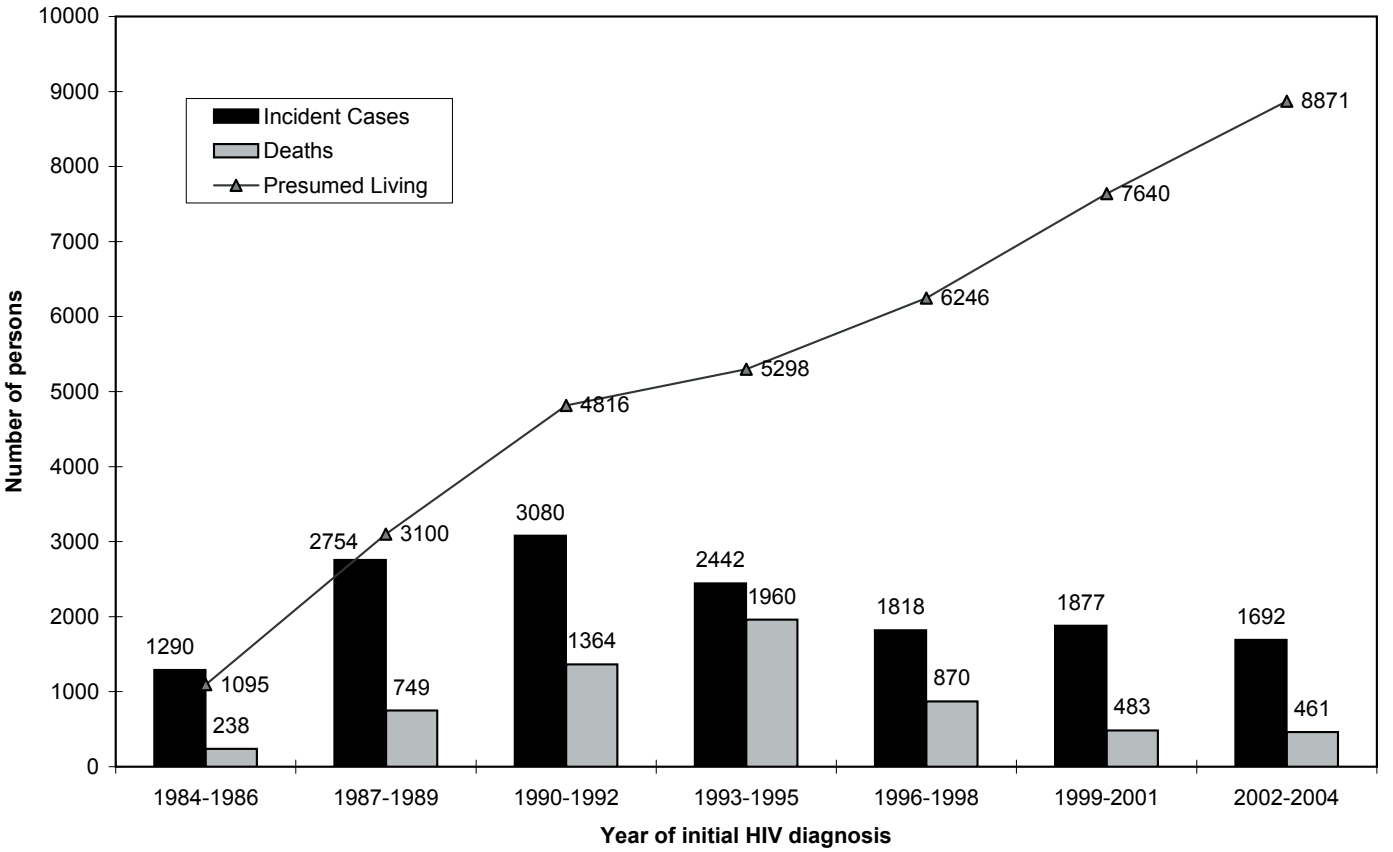


Table 8: Demographic characteristics of King County residents diagnosed 1982-2004 and reported through 6/30/05, by date of HIV diagnosis

	1982-1995		1996-1998		1999-2001		2002-2004[1]		Trend[2]
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	1996-2004
Total	**6,379**	**(100)**	**1,124**	**(100)**	**1,148**	**(100)**	**1,077**	**(100)**	
HIV Exposure Category									
Men who have sex with men (MSM)	4,861	(76)	766	(68)	757	(66)	704	(65)	
Injection drug user (IDU)	348	(5)	80	(7)	79	(7)	72	(7)	
MSM-IDU	694	(11)	94	(8)	81	(7)	74	(7)	
Heterosexual contact	205	(3)	65	(6)	131	(11)	113	(10)	up
Blood product exposure	89	(1)	6	(1)	8	(1)	3	(0)	
Perinatal exposure	21	(0)	3	(0)	4	(0)	0	(0)	
SUBTOTAL- known risk	*6,218*		*1,014*		*1,060*		*966*		
Undetermined/other[3]	161	(3)	110	(10)	88	(8)	111	(10)	
Sex & Race/Ethnicity									
Male	6,047	(95)	*1,015*	(90)	*1,013*	(88)	*956*	(89)	
White Male[4]	5,029	(79)	735	(65)	696	(61)	606	(56)	down
Black Male[4]	540	(8)	124	(11)	158	(14)	174	(16)	up
Hispanic Male	304	(5)	107	(10)	106	(9)	110	(10)	
Other Male[4]	174	(3)	49	(4)	53	(5)	66	(6)	
Female	332	(5)	*109*	(10)	*135*	(12)	*121*	(11)	
White Female[4]	183	(3)	51	(5)	44	(4)	34	(3)	
Black Female[4]	103	(2)	39	(3)	71	(6)	65	(6)	up
Hispanic Female	21	(0)	5	(0)	14	(1)	8	(1)	
Other Female[4]	25	(0)	14	(1)	6	(1)	14	(1)	
Race/Ethnicity									
White[4]	5,212	(82)	786	(70)	740	(64)	640	(59)	down
Black[4]	643	(10)	163	(15)	229	(20)	239	(22)	up
Hispanic	325	(5)	112	(10)	120	(10)	118	(11)	
Asian & Pacific Islander[4]	93	(1)	34	(3)	35	(3)	37	(3)	
Native American or Alaskan Native[4]	84	(1)	24	(2)	13	(1)	22	(2)	
Multiple Race[4]	20	(0)	3	(0)	5	(0)	17	(2)	up
Unknown Race[4]	2	(0)	2	(0)	6	(1)	4	(0)	
Place of Birth									
Born in U.S. or Territories	5,945	(93)	910	(81)	892	(78)	854	(79)	
Born outside U.S.	330	(5)	134	(12)	195	(17)	203	(19)	up
Birthplace unknown	104	(2)	80	(7)	61	(5)	20	(2)	
Age at diagnosis of HIV									
0-19 years	118	(2)	20	(2)	21	(2)	10	(1)	
20-24 years	528	(8)	58	(5)	93	(8)	83	(8)	up
25-29 years	1,303	(20)	197	(18)	170	(15)	148	(14)	down
30-34 years	1,535	(24)	274	(24)	262	(23)	204	(19)	down
35-39 years	1,295	(20)	251	(22)	262	(23)	259	(24)	
40-44 years	772	(12)	150	(13)	173	(15)	187	(17)	up
45-49 years	428	(7)	94	(8)	92	(8)	94	(9)	
50-54 years	200	(3)	48	(4)	50	(4)	51	(5)	
55-59 years	122	(2)	17	(2)	16	(1)	25	(2)	
60-64 years	47	(1)	4	(0)	4	(0)	9	(1)	
65 + years	31	(0)	11	(1)	5	(0)	7	(1)	
Residence									
Seattle residence	5,566	(87)	930	(83)	958	(83)	840	(78)	down
King Co. residence outside Seattle	813	(13)	194	(17)	190	(17)	237	(22)	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 1996-98, 1999-2001, and 2002-04.
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 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.
4. And not Hispanic. The groups Asian, Native Hawaiian, & other Pacific Islanders were grouped due to small cell sizes. All race and ethnicity categories are mutually exclusive.

Table 9: Demographic characteristics of Washington State residents diagnosed 1982-2004 and reported through 6/30/05, by date of HIV diagnosis

	1982-1995		1996-1998		1999-2001		2002-2004[1]		Trend[2]
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	1996-2004
Total	**9,616**	**(100)**	**1,818**	**(100)**	**1,877**	**(100)**	**1,692**	**(100)**	
HIV Exposure Category									
Men who have sex with men (MSM)	6,677	(69)	1,084	(60)	1,094	(58)	975	(58)	
Injection drug user (IDU)	825	(9)	194	(11)	209	(11)	163	(10)	
MSM-IDU	1,047	(11)	142	(8)	126	(7)	109	(6)	
Heterosexual contact	488	(5)	179	(10)	249	(13)	229	(14)	up
Blood product exposure	212	(2)	13	(1)	12	(1)	7	(0)	
Perinatal exposure	46	(0)	9	(0)	6	(0)	2	(0)	down
SUBTOTAL- known risk	*9,295*		*1,621*		*1,696*		*1,485*		
Undetermined/other[3]	321	(3)	197	(11)	181	(10)	207	(12)	
Sex & Race/Ethnicity									
Male	8,860	(92)	*1,584*	(87)	*1,594*	(85)	*1,426*	(84)	down
White Male[4]	7,371	(77)	1,184	(65)	1,104	(59)	940	(56)	down
Black Male[4]	737	(8)	173	(10)	222	(12)	229	(14)	up
Hispanic Male	490	(5)	148	(8)	182	(10)	162	(10)	
Other Male[4]	262	(3)	79	(4)	86	(5)	95	(6)	
Female	756	(8)	*234*	(13)	*283*	(15)	*266*	(16)	up
White Female[4]	473	(5)	123	(7)	125	(7)	107	(6)	
Black Female[4]	170	(2)	69	(4)	97	(5)	101	(6)	up
Hispanic Female	61	(1)	16	(1)	34	(2)	25	(1)	
Other Female[4]	52	(1)	26	(1)	27	(1)	33	(2)	
Race/Ethnicity									
White[4]	7,844	(82)	1,307	(72)	1,229	(65)	1,047	(62)	down
Black[4]	907	(9)	242	(13)	319	(17)	330	(20)	up
Hispanic	551	(6)	164	(9)	216	(12)	187	(11)	up
Asian & Pacific Islander[4]	136	(1)	51	(3)	59	(3)	61	(4)	
Native American or Alaskan Native[4]	145	(2)	45	(2)	34	(2)	42	(2)	
Multiple Race[4]	23	(0)	3	(0)	5	(0)	18	(1)	up
Unknown Race[4]	10	(0)	6	(0)	15	(1)	7	(0)	
Place of Birth									
Born in U.S. or Territories	8,965	(93)	1,498	(82)	1,460	(78)	1,338	(79)	down
Born outside U.S.	500	(5)	196	(11)	271	(14)	284	(17)	up
Birthplace unknown	151	(2)	124	(7)	146	(8)	70	(4)	
Age at diagnosis of HIV									
0-19 years	233	(2)	38	(2)	37	(2)	21	(1)	
20-24 years	921	(10)	107	(6)	157	(8)	144	(9)	up
25-29 years	1,948	(20)	301	(17)	260	(14)	231	(14)	down
30-34 years	2,257	(23)	421	(23)	406	(22)	292	(17)	down
35-39 years	1,841	(19)	394	(22)	411	(22)	367	(22)	
40-44 years	1,149	(12)	253	(14)	290	(15)	289	(17)	up
45-49 years	630	(7)	147	(8)	156	(8)	171	(10)	up
50-54 years	287	(3)	90	(5)	87	(5)	91	(5)	
55-59 years	196	(2)	35	(2)	43	(2)	50	(3)	up
60-64 years	79	(1)	15	(1)	14	(1)	19	(1)	
65 + years	72	(1)	17	(1)	16	(1)	17	(1)	
Residence[5]									
Region 1- Spokane area	477	(5)	94	(5)	112	(6)	93	(5)	
Region 2- Yakima area	275	(3)	73	(4)	77	(4)	70	(4)	
Region 3- Everett area	740	(8)	171	(9)	133	(7)	135	(8)	
Region 4- Seattle area	6,379	(66)	1,124	(62)	1,148	(61)	1,077	(64)	
Region 5- Tacoma area	980	(10)	209	(11)	240	(13)	172	(10)	
Region 6- Olympia area	765	(8)	147	(8)	167	(9)	145	(9)	

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 1996-98, 1999-2001, and 2002-04.
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 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.
4. And not Hispanic. The groups Asian, Native Hawaiian, & other Pacific Islanders were grouped due to small cell sizes. All categories are mutually exclusive.
5. 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

This article summarizes the status of the HIV and AIDS epidemics in King County (KC), Washington through June 30, 2005. 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] 39.4 million persons worldwide were living with HIV or AIDS at the end of 2004, including 2.2 million children under 15 years of age. An estimated 4.9 million persons acquired HIV infection (approximately 14,000 new infections per day), and 3.1 million deaths occurred, in 2004. A cumulative 20 million persons have died from AIDS worldwide since 1981.

There are an estimated 1.045 million HIV infected persons in the United States, including one-quarter who remain undiagnosed and unaware of their status.[2] About 40,000 new infections occur each year (less than 1% of the world total), with over 18,000 deaths reported 2003.[3]

In 2003, the Seattle metropolitan statistical area (MSA) ranked 23rd in the cumulative number and 37th in annual rate of reported AIDS cases nationally. This was among 106 metropolitan areas with a population of 500,000 or more. The Seattle MSA (which includes King, Snohomish and Island counties) AIDS rate during 2003 was 15.3 cases per 100,000 population. In comparison, the Tacoma MSA had a rate of 4.6, and the Portland (Oregon) MSA rate was 8.9 per 100,000. The highest rates in the country were in New York City (59.2), Miami FL (45.8), San Francisco CA (45.2), Fort Lauderdale FL (39.9), and Baltimore MD (39.3). [3]

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 0.85% at the end of 2003.[3]

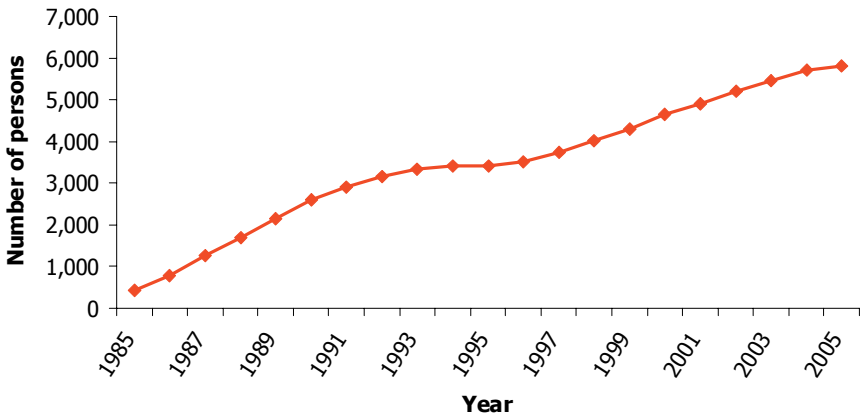
King County has the highest rate among all Washington counties. About one-third of the Washington population resides in King County, but almost two-thirds of all AIDS cases resided in King County at the time of AIDS diagnosis. Within King County the rate is highest in Seattle. Seattle has about one-third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

Number of persons infected with HIV in King County

As of December 2001, the Washington State Department of Health estimated that as many as 13,000 Washington residents were infected with HIV, including persons with AIDS.[4] Since 64.8% of reported HIV and AIDS cases reside in King County, we estimate that there are up to 8,400 King County residents currently living with HIV infection or AIDS.

The estimated number of new HIV diagnoses has been level with 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 - 2004



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 5,808 cases reported to Public Health through 6/30/2005, an estimated 800 HIV/AIDS diagnoses not yet reported, and an estimated 1,800 persons who are unaware of their infection status.

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

Ninety percent of persons living with HIV or AIDS in King County are male and 10% are female. Most, 71%, are White, 16% are Black, 9% Hispanic, 2% Asian or Pacific Islander (API), and 2% Native American or Alaskan Native (NA/AN). Eighty-four percent were born in the U.S. or territories, and 11% were foreign-born; the birthplace was unknown for 5%.

Table 1. Reported and estimated King County residents living with HIV or AIDS

Characteristics of King County Residents with HIV or AIDS 6/30/2005	Actual Reports		Estimated HIV Prevalence		
	Number Reported	Percent	Estimated Infected*	2000** Population	Estimated Rate per 100***
Total	5,808	100%	8,400	1,737,034	0.5%
Race/Ethnicity					
White, not Hispanic	4,113	71%	5,950	1,309,120	0.5%
Black, not Hispanic	918	16%	1,330	105,205	1.3%
Foreign-born Blacks	*258*	*4%*	*370*	*10,794*	*3.4%*
Native-born Blacks	*638*	*11%*	*920*	*94,411*	*1.0%*
Hispanic	510	9%	740	95,242	0.8%
Asian & Pacific Islander	137	2%	200	210,156	0.1%
Native American or Alaskan Native	88	2%	130	17,311	0.8%
Multiple Race	25	<1	N.A.	Not applicable	Not applicable
Unknown	17	<1	N.A.	Not applicable	Not applicable
Sex & Race/Ethnicity					
Male	5,256	90%	7,600	864,457	0.9%
White Male	3,896	67%	5,630	649,271	0.9%
Black Male	671	12%	970	53,895	1.8%
Hispanic Male	466	8%	670	51,662	1.3%
Asian or Pacific Islander Male	123	2%	180	101,045	0.2%
Native American or Alaskan Native Male	62	1%	90	8,584	1.0%
Multiple or Unknown Race	38	<1	N.A.	Not applicable	Not applicable
Female	552	10%	800	872,577	0.1%
White Female	217	4%	310	659,849	0.0%
Black Female	247	4%	360	51,310	0.7%
Hispanic Female	44	1%	60	43,580	0.1%
Asian or Pacific Islander Female	14	<1	<20	109,111	<0.1%
Native American or Alaskan Native Female	26	<1	<20	8,727	<0.2%
Multiple or Unknown Race	4	<1	N.A.	Not applicable	Not applicable
HIV Exposure Category					
Men who have sex w/men (MSM)	4,069	75%	6,300	40,000	15.8%
Injection drug user (IDU)	369	7%	570	15,000	3.8%
MSM-IDU	504	9%	780	3,150	24.8%
Blood product exposure	38	1%	60	Unknown	Unknown
Heterosexual contact	426	8%	660	1,245,000	0.1%
Perinatal exposure	20	<1	30	Unknown	Unknown
Subtotal- known exposure	5,426	100%	8,400	1,737,034	0.5%
Undetermined/ other	*382*	*7%*	*N.A.*	*Not applicable*	*Not applicable*
Age at HIV Diagnosis					
0-14 years	24	0%	30	326,475	0.0%
15-19 years	115	2%	170	108,261	0.2%
20-24 years	580	10%	840	116,597	0.7%
25-29 years	1,143	20%	1,650	141,795	1.2%
30-39 years	2,554	44%	3,690	308,187	1.2%
40-49 years	1,109	19%	1,600	292,470	0.5%
50 years and over	283	5%	410	443,249	0.1%
Place of Birth					
Native-born	4,880	84%	7,390	1,468,749	0.5%
Foreign-born	666	11%	1,010	268,285	0.4%
Unknown birthplace	262	5%	N.A	Not applicable	Not applicable

*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. Newer Census estimates are not available for bridged race groupings, or by place of birth.
***The estimated rate per 100 is the estimated number infected, divided by the population. These are expressed as percent..

Seven 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).

The distribution of exposure categories differs by race and gender. MSM exposure accounts for 85% of known exposures among White men, 61% among Black men, 80% among Hispanic men, 86% among API men, and 53% among NA/AN men. MSM-IDU is the second most common exposure among White men (11%), Hispanic men (8%), and NA/AN men (31%). Heterosexual transmission is the second most common exposure among Black men (17%) and API men (5%).

Among women, having a heterosexual partner with HIV or at risk for HIV is the most common exposure, including Whites (60%), Blacks (67%), Hispanics (77%), and API (78%). Among NA/AN women with HIV, IDU is the most common risk behavior (67%), and 33% had heterosexual partners with HIV or at risk.

The estimated rates of persons living with HIV infection vary widely between different population 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 more than two times higher among Blacks (1.3%) and one and one half times higher among NA/AN and Hispanics (each 0.8%) 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 among foreign-born Blacks (3.4%) than native-born Blacks (1.0%). This is a significant population for special prevention interventions because the risk profiles, language, cultural, and educational needs are so different. The majority of cases among foreign-born Blacks are due to heterosexual transmission (48%) or have no identified risk (43%), while 57% of native-born Blacks are MSM or MSM-IDU, and 17% are 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 age 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 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 2005, we compared the characteristics of persons first diagnosed with HIV infection during 1996-1998, 1999-2001, and 2002-2004. A chi-square test for trend was used to determine if the change in proportions for each group was statistically significant over those three periods. The trends highlighted in Table 2 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 1996-98 and 2002-04, the proportion of cases increased for heterosexual transmission (from 6% to 12%), Black males (from 11% to 16%), Black females, (from 3% to 6%), and all Blacks (from 15% to 22%). The proportion of cases decreased among White males (from 65% to 56%), and all Whites (from 70% to 59%). Foreign-born cases increased from 12% to 19% of the total. Specifically, foreign-born Blacks increased from 4% to 9% of the total, and native-born Blacks increased from 10% to 13%.

Diagnoses of AIDS and deaths (Figure 2)

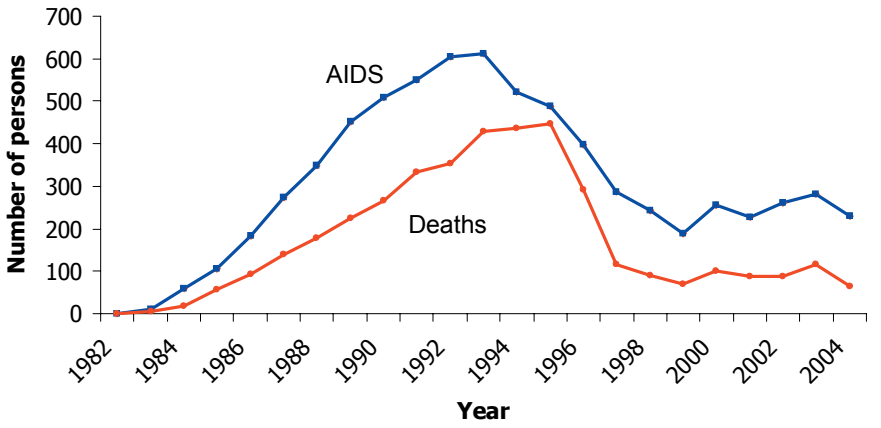
Between 1982 and June 30, 2005, a total of 7,160 residents have been diagnosed with AIDS and 3,937 (55%) have died. There were about 250 new AIDS diagnoses annually between 1998 and 2004. The number of AIDS deaths fluctuated between 70 and 120 annually from 1998 through 2004.

Table 2. Seattle-King County residents diagnosed with HIV 1995-2003. Selected trends over time among 3,349 cases diagnosed 1996-2004 and reported through 06/30/2005

	1996-1998		1999-2001		2002-2004		Trend 1996-2004
	No	%	No	%	No	%	
Total	**1,124**	**100%**	**1,148**	**100%**	**1,077**	**100%**	
HIV Exposure Category							
Men who have sex with men (MSM)	766	76%	757	71%	704	73%	
Injection drug user (IDU)	80	8%	79	7%	72	7%	
MSM-IDU	94	9%	81	8%	74	8%	
Heterosexual contact	65	6%	131	12%	113	12%	up
Subtotal with known exposure	1014		1060		966		
Sex & Race/Ethnicity							
Male	1015	90%	1013	88%	956	89%	
White Male	735	65%	696	61%	606	56%	down
Black Male	124	11%	158	14%	174	16%	Up
Hispanic Male	107	10%	106	9%	110	10%	
Female	109	10%	135	12%	121	11%	
White Female	51	5%	44	4%	34	3%	
Black Female	39	3%	71	6%	65	6%	up
Hispanic Female	5	0%	14	1%	8	1%	
Race/Ethnicity							
White, non Hispanic	786	70%	740	64%	640	59%	down
Black, non Hispanic	163	15%	229	20%	239	22%	up
Hispanic	112	10%	120	10%	118	11%	
Asian or Pacific Islander	34	3%	35	3%	37	3%	
American Indian/ Alaska Native	24	2%	13	1%	22	2%	
Age at diagnosis of HIV							
0-19 years	20	2%	21	2%	10	1%	
20-29	255	23%	263	23%	231	21%	
30-39	525	47%	524	46%	463	43%	
40-49	244	22%	265	23%	281	26%	up
50-59	65	6%	66	6%	76	7%	
60 +	15	1%	9	1%	16	1%	
Residence							
Seattle	987	88%	980	85.4%	849	79%	down
King Co. outside Seattle	199	18%	180	15.7%	215	20%	up
Place of birth, sex, race, and exposure							
Foreign-born	134	12%	195	17.0%	203	19%	up
Heterosexual Foreign-born	*21*	*2%*	*77*	*6.7%*	*49*	*5%*	*up*
Foreign-born Blacks	*42*	*4%*	*86*	*7.5%*	*98*	*9%*	*up*
Native-born	910	81%	892	77.7%	854	79%	
Heterosexual Native-born	*39*	*3%*	*53*	*4.6%*	*63*	*6%*	*up*
Native-born Blacks	*115*	*10%*	*134*	*11.7%*	*140*	*13%*	*up*

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 infections (such as Pneumocystis jiroveci pneumonia [PCP]), 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 HIV and AIDS diagnoses.

Figure 2: New AIDS cases and deaths, King County, 1982-2003, reported through June 30, 2005



Given the availability of effective antiretroviral therapy (or HAART) ongoing progressions to AIDS and deaths due to HIV are worrisome. Factors that contribute toward these progressions and deaths include that some people learn their HIV status too late in the course of their HIV disease to prevent AIDS; some have problems accessing treatment, and some may refuse treatment. Others may experience treatment failures due to problems with taking medications, adverse side effects, or development of HIV strains resistant to patient drug regimens.

Additional prevention efforts aimed at interrupting progression of HIV's effects are warranted. Such efforts might include increased HIV testing to promote earlier diagnosis and reduce simultaneous diagnosis with HIV and AIDS. Another strategy could be to promote simplified HAART regimens (e.g. from three times a day to once a day dosages) to improve adherence to HAART regimens.

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 by 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. Over 4,000 additional persons have died since 1982. The numbers of deaths and AIDS diagnoses were roughly level from 1998 to 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 because each year 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 and from 1996 through 2004, an increasing proportion of cases are among Blacks, 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*

References

1. World Health Organization. AIDS Epidemic Update: December 2004. Available at www.unaids.org
2. Glynn M, Rhodes P. Estimated HIV prevalence in the United States at the end of 2003 [Abstract T1-B1101]. Presented at the National HIV Prevention Conference, Atlanta, GA; June 2005.
3. Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report, 2003 (Vol. 15), Atlanta: US Department of Health and Human Services, CDC; 2004. Available at http://www.cdc.gov/hiv/stats/hasrlink.htm.
4. WA Department of Health. HIV Prevalence Estimation in Washington (working document)

HIV prevention for people infected with HIV/AIDS: Results from the HIV Infected Individual's Needs Assessment (HIINA)

Background

In April 2003, the "Advancing HIV Prevention: New Strategies for a Changing Epidemic" initiative was introduced by the Centers for Disease and Prevention (CDC). This initiative advanced four goals which included prevention of new infections by working with people diagnosed with HIV as well as their partners. That same year, the CDC revised the guidance for conducting the CDC-mandated community planning process for HIV prevention. Consistent with the "Advancing HIV Prevention" initiative, the revision included the requirement to give highest priority for HIV prevention services to people infected with HIV. Findings from HIV prevention needs assessments of prioritized populations provide community planning groups with information to identify barriers to HIV prevention services. The Washington State Department of Health (DOH), with guidance from members of the State HIV Prevention Planning Group (SPG), developed the guidelines and interview instrument for Washington's first statewide needs assessment of HIV-infected individuals.

In addition to assessing the risk behaviors of people living with HIV/AIDS, the objectives of the HIV Infected Individuals Needs Assessment (HIINA) include examining the attitudes and beliefs regarding recommended prevention methods, status disclosure, and HIV transmission as well as reasons and barriers that influence seeking or avoiding HIV prevention services.

Methods

A convenience sample of 195 HIV-infected Washington residents ages 18 and older were recruited from five counties: Clark, Pierce, Snohomish, Spokane, and Yakima. Approximately 40 eligible participants were recruited and interviewed from each county. In order to recruit participants, DOH staff worked with HIV care and service providers located in the designated counties. A mini-flyer providing general and contact information was distributed. Callers did not need to give their real name. If determined eligible, a date and time for the interview was scheduled. The setting of the interview was decided upon by the eligible caller. Informed consent was required prior to the interview, and no identifying information was requested or documented. Respondents were offered a $25 Fred Meyer gift card for participation. Interviews could be conducted in English or Spanish and were completed between October 2004 and January 2005.

Results

Characteristics of the HIV-infected respondents are displayed in Table 1. Most were male (71%) and White (68%). Fourteen percent were African American, 11% Hispanic and 7% American Indian or Alaskan Native. Most of the respondents were ages 35 and older (85%). Only 3% were ages 18-24. Thirty-eight percent indicated their risk as men having sex with men (MSM), 17% injection drug use (IDU), 18% MSM/IDU, and 25% heterosexual contact. Most respondents reported having been infected with HIV for more than five years (73%) including 44% infected more than ten years. Only 9% were infected for up to one year and 27% were infected for five years or less. According to data from the HIV/AIDS Reporting System, the demographics of the sample were similar to those currently living with HIV/AIDS in these counties.

Regarding the behavioral characteristics of the sample, 39% (n=76) were men indicating having sex with men in the past 12 months; 16% (n=32) reported being current injection drug users; 7% (n=13) reported both MSM and IDU behaviors. Twenty-eight percent (n=54) were heterosexuals having sex in the past 12 months, and 5% (n=10) reported recent heterosexual sex and IDU. Only four respondents indicated having had sex with both men and women in the past 12 months. Use of methamphetamines (meth) and its affect on risk taking has been a recent topic of interest in HIV prevention. In this sample, there were 42 current meth users (22%), and 24 MSM using meth.

Sexual behavior, including condom use and disclosure of serostatus

Thirty-five women reported having had sex with men in the past 12 months. The majority of these women (71%) had only one partner during that time. Nearly half (49%) had at least one new sex partner and 34% reported having sex with what they considered to be non-primary partners. Of those women with recent non-primary partners, 67% (8/12) always used condoms, and half (6/12) told all non-primary partners their HIV+ status.

There were 24 HIV+ men that reported having sex with women in the previous 12 months. Ten (42%) of these men reported two or more partners during that time, and six (25%) reported two or more new partners. Half of these men had sex with at least one partner they considered to be non-primary. Of these, 58% (7/12) always used condoms with non-primary partners, and only 42% (5/12) told their HIV+ status to all non-primary partners.

Out of the men having sex with men in the past 12 months (n=76), 63% reported two or more partners, and 45% reported two or more new partners. MSM reporting meth use were more likely to have two or more partners and new partners (75% and 63%, respectively). Seventy percent of sexually active MSM reported having had sex with what they considered non-primary partner(s) over the past 12 months, including 83% (20/24) of MSM who used meth. Of those men having sex with non-primary partners, 55% (29/53) informed all of their non-primary partners about their HIV+ status, 19% (10/53) told some, and 26% (14/53) did not disclose their HIV status to any.

Of the MSM having sex with non-primary partners, 43% (23/53) had insertive anal sex with them the previous 12 months. Of these, 52% (12/23) used condoms always, 26% (6/23) sometimes, and 22% (5/23) never used condoms during insertive anal sex. There were nine MSM meth users having insertive sex with non-primary partners, and of these, two always used condoms. Of the MSM having sex with non-primary partners, 55% (29/53) had receptive anal sex the previous 12 months. Of these, 45% (13/29) used condoms always, 28% (8/29) sometimes, and 28% (8/29) never used condoms.

Table 1. Demographics: HIV Infected Individuals Needs Assessment (HIINA) Washington State Department of Health 10/2004 – 1/2005

	No.	%
County		
Snohomish	37	19%
Spokane	41	21%
Pierce	49	25%
Clark	38	20%
Yakima	30	15%
Sex		
Male	138	71%
Female	53	27%
Transgender (M-F)	4	2%
Race & Ethnicity		
White (non-Hispanic)	132	68%
Black (non-Hispanic)	28	14%
Am Indian/Alaskan	13	7%
Hispanic	22	11%
Age		
18-24	6	3%
25-34	24	12%
35-44	95	49%
45 and up	70	36%
Reported Risk		
MSM (non-IDU)	74	38%
MSM/IDU	36	18%
IDU	34	17%
Heterosexual	48	25%
Other	3	2%
Length of Time HIV+		
One year or less	17	9%
2-5 years	36	18%
6-10 years	56	29%
More than 10 years	86	44%
Total	195	100%

Drug use

Overall, 49% reported having used illicit drugs over the past year. Nineteen percent indicated using cocaine or crack. Crack/cocaine use was higher in Snohomish and Pierce Counties (32% and 31% respectively), and lower in Spokane and Yakima Counties (5% and 7% respectively). Over half (53%) of current IDUs had used crack/cocaine the past 12 months. In regard to heroin use, 9% of the sample, 23% of those ages 18-34, and 53% of current IDUs reported using heroin in the past year.

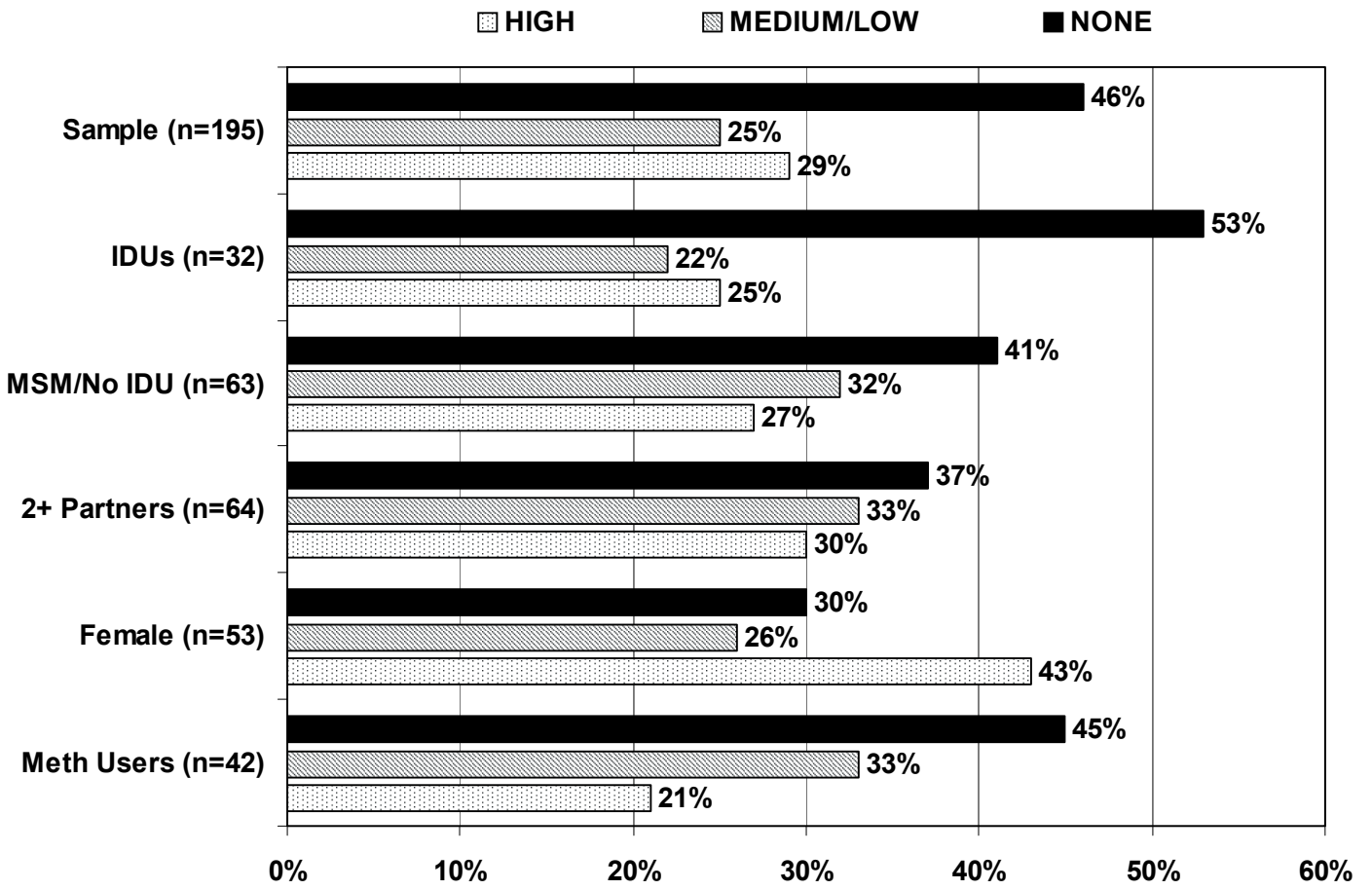
Twenty-two percent of the sample used methamphetamines over the past year. HIV-infected individuals surveyed in Snohomish County had the highest proportion of meth use at 32%; Yakima County had the lowest proportion at 10%. Seventy-five percent of current IDUs had used meth the past 12 months, as well as 17% of MSM non-IDU (n=63, limited to men who had a male sexual partner in the past year), and all 13 MSM/IDU (who had both injected and had a male sexual partner in the past year).

Of those using needles to inject over the previous 12 month period (n=32), 31% used a needle that had been used by someone else previously, 16% let others inject with their used needle, and 47% shared IDU equipment with others while shooting up.

Personal prevention strategies

Respondents were asked to rate what they thought their chances might be to transmit HIV to others. The results are illustrated in Figure 1. In the sample, 46% rated their chances as none, and 29% indicated their chances were high. Current IDUs and meth users were most likely to rate their chances as none (53% and 45%). Females were most likely to think they had an elevated chance of giving others HIV; 43% rated their chances as high.

Figure 1. Respondents perception of their chances of giving others HIV. HIV Infected Individuals Needs Assessment (HIINA) Washington State Department of Health 10/2004 – 1/2005



In order to determine how HIV-infected people interact with potential sex or needle sharing partners, respondents were asked to rate their level of agreement with a series of statements regarding status disclosure. When presented with the statement, "When I'm with a new sex partner, I make sure they know my HIV status before sex", 82% of the sample strongly agreed or agreed. Current IDUs were most likely to agree with that statement (97%), compared to 70% of MSM/non-IDU. Of those with two or more partners over the past 12 months (n=64) only 68% strongly agreed or agreed with that statement. When presented with the statement, "When I'm with a new sex partner, I make sure I know their HIV status before sex", 66% agreed. Respondents 18-34 years of age were less likely to agree (41%), as were MSM/non-IDU (53%), those with 2 or more sex partners the last year (52%), and meth users (53%).

Respondents were also given the statement, "When I share IDU needles/equipment I make sure they know my status". There were 42 respondents indicating that this statement may apply to them; 86% of these strongly agreed or agreed. The same individuals were given the statement "When I share IDU needles/ equipment I make sure I know their status", 76% agreed. Nearly all (93%) respondents indicated that if a potential sex partner would ask them about their HIV status, they would tell the truth.

Prevention services

Study participants rated their level of need for HIV prevention services on a scale including none, low, medium and high; 36% indicated their need at medium or high. African-American respondents (75%) and people infected with HIV for less than five years also (52%) were most likely to rate their need as medium or high. Current IDUs were least likely to report a medium to high need for prevention services (22%).

When asked if they wanted HIV prevention services in the past 12 months, 41% said yes. Again, the proportion was higher for Blacks at 68%. Of those not wanting services in the past year (n=114), 45% said it was because they already have lots of HIV prevention information, 35% because they were not engaging in any risk taking behaviors, and 15% never thought about it or did not want to deal with it. Of those wanting HIV prevention services in the past year

(n=81), 64% were able to get the services they were seeking. Blacks (74%, 14/19) and those HIV+ less than five years (83%, 20/24) were more likely to get the services they were looking for. The main reasons for not being able to get HIV prevention services include services not being available, not knowing where to go for services, worrying about confidentiality, or having no transportation.

Respondents were asked if they had talked to a health care provider, counselor, HIV/AIDS educator, or case manager about a series of HIV related topics within the previous year (see Table 2.). Approximately thirty to forty percent of the sample had talked about topics such as establishing an HIV prevention plan, HIV re-infection, and sex and drug use behaviors. In general, racial and ethnic minorities and those with HIV for less than 5 years were more likely than others to have talked to someone about these topics. For example, 36% had talked to a professional about establishing a plan to reduce their risk for giving others HIV; this included 52% of non-White respondents, and 48% of those diagnosed with HIV less than five years ago. Nearly half (46%) talked to someone about re-infection with other HIV strains; this proportion was higher in IDUs (59%). Overall, 36% talked to someone about their specific risk behaviors; Hispanics (52%), those HIV-infected less than 5 years (52%) and MSM meth users (54%) were more likely to have done so. Thirty-eight percent of IDUs had talked about their specific injecting behaviors, and 23% about how to clean syringes or access clean needles. Non-White IDUs (62%) were more likely than White IDUs (27%) to talk about their behaviors; 52% of non-White IDUs versus 10% of White IDUs talked about cleaning or accessing needles. Overall, 44% had talked to a professional about how alcohol or drugs affect risk taking. IDUs (56%) and meth users (59%) were more likely to have had these conversations, as were Hispanics (58%), Blacks (61%), and those diagnosed with HIV for less than five years (61%).

Table 2. Proportion discussing HIV prevention topics the past 12 months with a health care provider, counselor, HIV/AIDS educator, or case manager. HIV Infected Individuals Needs Assessment (HIINA) Washington State Department of Health 10/2004 – 1/2005

Topic	%	Sub-Populations
Establishing a plan to reduce your risk (n=190)	36%	Non-white -*52%* (32/62) White -*28%* (36/128) HIV+ <5yrs -*48%* (25/52)
Possible re-infection with other HIV strains (n=194)	46%	IDUs -*59%* (19/32)
Notifying your sex or needle sharing partners about their HIV risk (n=177)	37%	Black -*54%* (14/26) IDUs -*58%* (18/31)
Specific sexual risk behaviors (n=192)	36%	Hispanic -*52%* (11/21) MSM meth -*54%* (13/24) HIV+ <5yrs -*52%* (27/52)
Risk of other STDs (n=190)	36%	Black -*54%* (15/28) Hispanic -*54%* (12/22) HIV+ <5yrs -*49%* (26/53)
Specific injecting drug risk behaviors (n=69)	38%	White -*27%* (13/48) Non-White -*62%* (13/21)
How to clean a syringe or access clean needles (n=66)	23%	White -*10%* (4/41) Non-White -*52%* (11/21)
How alcohol or drugs affect risk taking (n=184)	44%	Hispanic -*58%* (11/19) Black -*61%* (17/28) IDUs -*56%* (18/32) Meth Users -*59%* (25/42) HIV+ <5 yrs -*61%* (32/52)

Half of those with HIV for more than five years, and 27% of those with HIV less than five years had ever participated in what they considered an HIV prevention program. Nineteen percent participated in a prevention program in the past year. MSM non-IDUs were slightly more likely to have participated in such a program (27%), while only 8% of MSM using meth had participated in an HIV prevention program.

Over one-third (38%) of HIV-infected individuals surveyed indicated that they would most want a doctor to assist them with their HIV prevention needs; 31% preferred the assistance of an HIV care case manager. Only 6% reported that they most preferred an HIV community based organization, and less than 5% each reported preferring to receive HIV prevention assistance form another person -- such as a nurse, HIV prevention case manager, mental health provider, AIDS outreach worker, substance use counselor, local health department, clergy, and family or friends. When asked what type of HIV prevention activity they most preferred, 45% said one-to-one sessions. Among those who reported having HIV for less than five years, 57% stated a preference for one-to one sessions. There were 32% overall that indicated a preference for group sessions, and 9% for independent or self-study. Other types mentioned included internet/chat rooms (4%), telephone (3%), and brochures (3%).

Conclusions

The majority (82%) of HIV+ individuals surveyed indicated that they tell their status to all new sex partners. However, it was found that only about half of those with non-primary partners reported having told all of their non-primary partners their status before sex. Nearly all respondents indicated that if asked about their HIV status by a potential sex or needle sharing partner, they would be honest. This supports promotion of "don't be afraid to ask" for people with a new sex or needle sharing partner.

Five out of the thirty-two HIV-infected IDUs surveyed indicated letting others inject with their used needle in the last year, and about half shared equipment with others while shooting up. Most, 86%, of IDUs said that they tell their status to all new needle/equipment sharing partners. Methamphetamine use was found to be associated with more risk taking behaviors. MSM using meth were more likely than other MSM to have more than two sex partners, new sex partners, and non-primary partners. MSM meth users also were less likely to always use condoms with non-primary partners. Overall, meth users did not see themselves at high risk for spreading HIV; 45% rated their chances at none, and only 21% rated their chances as high. On the positive side, 59% of meth users surveyed reported having recently talked to a health professional about how alcohol and drugs affect risk taking. Meth use should continue to be a focus of HIV prevention efforts.

Nearly half (41%) of respondents wanted HIV prevention services in the past 12 months and 64% of these were able to get the services they were seeking. African Americans, and those that indicated being HIV+ for less than five years, rated their need for prevention services the highest, and were also most likely to receive the services they were seeking. This implies a link between perceived need and services received. If HIV-infected individuals are better educated about the risks of spreading HIV and about available prevention resources, they may be more willing to seek out services.

A total of 44% of the HIINA sample had ever participated in an HIV prevention program, including 19% participating within the past year. Furthermore, about a third of respondents reported recently talking to a health professional about a variety of HIV prevention topics. A higher proportion of Persons of Color relative to Whites reported talking to someone about HIV prevention. Most HIV-infected individuals surveyed preferred that a doctor or HIV care case manager assist them with their HIV prevention needs rather than other auxiliary service providers. HIV care case managers should stay abreast of current HIV prevention education and offer information to clients. One-on-one and group sessions were the most popular types of HIV prevention interventions and should be made widely available, especially to newly diagnosed individuals.

• Contributed by Todd E. Rime, MA and John Valliant

New Washington State rules for HIV testing and for partner notification, effective 6/18/05

Three parallel processes resulted in reconsideration of and ultimately changes in some of the Washington Administrative Codes (WACs) which govern the delivery of HIV counseling and testing and partner counseling and referral services (PCRS, more popularly known as "partner notification") in Washington. The purposes of the changes adopted by the State Board of Health on 4/13/05 were: to facilitate more routine testing by primary care providers; to increase the proportion of HIV-infected persons who are aware of their infection; and, to increase the proportion of persons exposed to HIV who are informed of their exposure.

The three parallel processes which resulted in these changes consisted of:

1. An in-depth review of the WACs and the 1988 State AIDS Omnibus law by the State's AIDS Nets Council started in 2000. The results of the Council's review was shared with the Washington State Association of Local Public Health Officers, which endorsed recommended changes, and with the Governor's Advisory Council on HIV/AIDS (GACHA) which agreed with some proposed changes, but not others.
2. A State Department of Health-established Omnibus Review Committee which met in each of the state's six AIDS Net Regions between August 2001 and February 2002 and created a final report recommending some policy and procedural changes.
3. The second AIDS Policy Summit, held in Winthrop, Washington in November, 2001, which also recommended some changes to HIV testing procedures.

In 2004, the State Department of Health and the State Board of Health also convened a "Policy Collaborative Group" to facilitate the Board's further consideration of the WAC changes that were recommended as well as other policy issues. Under the leadership of Board Chairman, Tom Locke, MD, MPH, the Board took appropriate actions to initiate the review, and with the Department of Health held a series of meetings around the state to obtain public input. Both of us (coauthors RW & JP) were intimately involved in these rule changes.

The most important changes for providers occurred in three areas:

1. Consent for HIV testing was simplified. The old (1988) rules required a separate consent from patient (separate from the standard consent for care) prior to HIV testing. While this rule did not require that this separate consent be in writing, most risk managers recommended a separate written consent to document the patient's agreement to test. Some testified that a separate consent constituted a "red flag" to patients, indicating that this test might pose more risks than value.

   The new rule now states that patients must be explicitly told that HIV testing is recommended (as before), but that they may consent either verbally or in writing. Patient consent must be documented, as for example with a simple statement in the record, such as "I recommended HIV testing, and the patient agreed to test."

2. The rules for pre-test counseling were simplified. The Board's intention was to eliminate the highly prescriptive requirements for the information which the old rules required to be provided prior to testing, and to more clearly permit "client-centered counseling."[1] The patient should still be helped to understand: the benefits of learning HIV status and the potential dangers of HIV/AIDS; the ways in which HIV is transmitted and ways to prevent transmission; the meaning of HIV test results and the importance of receiving HIV test results; and as appropriate, the availability of anonymous HIV testing and its differences from confidential testing.

   The new rules no longer require providers to "red flag" anonymous testing options to patients, and patients can now decline pre-test counseling and still be tested. Of course, post-test counseling is still important, especially for persons who test HIV-seropositive and to follow up on client-centered strategies for risk reduction identified during pre-test counseling. As under the old rules, providers who can not locate patients who have tested HIV-seropositive to give them their results must provide patient identifying information to and notify their local health officer to try to make contact. The new rules also encourage providers to refer patients to other counselors (including case managers) especially when they lack the time or counseling skills to provide the best services.

3. The new rules more clearly require providers to **assure** provision of partner counseling and referral services (PCRS, partner notification) to persons with HIV infection. This can either be done by assuring referral to local public health professionals (the optimal strategy, as we're experienced in providing this service), or by performing their own partner elicitation interview and assuring that each partner over the past year has been carefully and

confidentially notified of their potential exposure and offered the opportunity to test for HIV. If performed by non-public health providers, these services must be conducted in consultation with the local health officer and in accord with CDC guidelines.[2]

The CDC estimates that 25% or more of persons living with HIV are yet unaware of their HIV infection;[3] they also believe that most new infections stem from persons with HIV who are yet unaware they carry this potentially lethal virus. Thus HIV testing needs to be more routinely and easily applied, both for HIV prevention and to enable monitoring of infected persons' immune systems and virus levels, so that effective treatment may be used to halt disease progression and its associated morbidity and mortality.

• Contributed by Robert W. Wood, MD, Director, HIV/AIDS Program, Public Health – Seattle & King County and John Peppert, Manager HIV Prevention, Washington State Department of Public Health

References

1. See the "Revised Guidelines for HIV Counseling" November 2001, by the US Centers for Disease Control and Prevention available at www.cdc.gov/mmwr/preview/mmwrhtml/rr5019a1.htm
2. CDC guidance for PCRS is available at www.cdc.gov/hiv/pubs/pcrs.htm
3. Glynn M, Rhodes P. Estimate HIV prevalence in the United States at the end of 2003 [abstract T1-B1101] Presented at the National HIV Prevention Conference, Atlanta, GA; June 2005.

Update on the Medical Monitoring Project

The Medical Morbidity Monitoring Project (MMP) is slated to start this summer. An overview of MMP was previously published in the 2004 2nd Half HIV/AIDS Epidemiology Report, so the following is a brief update. MMP is a matched interview and medical record abstraction project that is being conducted in 20 states and 6 urban areas across the country, including Washington State. This expanded surveillance project will provide data that is nationally representative of HIV-infected adults receiving care. This project has been funded by the Centers for Disease Control and Prevention (CDC) for a four year project period (2005-2008). Data collected will include information on behaviors, clinical outcomes, and type and quality of care received. Some of the goals of MMP are to: help health and prevention planners estimate how many people are receiving care for HIV; determine what the barriers to care are (as people currently receiving care may have delayed receiving care, and those in medical care may have barriers for other types of care, such as dental care); examine morbidity still experienced by HIV-infected persons in the HAART era; and measure adherence to, acceptance of, and adverse effects of therapy.

In April 2005 representatives from Washington State attended a National Community Consultation and a National Provider Advisory Board Meeting sponsored by CDC in Atlanta. The goals of these meetings were to allow providers and community members a chance to provide advice on the MMP data collection instruments, provide technical assistance in development of education materials for providers and participants, help investigators understand the impact of MMP activities on HIV-infected persons and their providers. In the coming months these representatives will guide the dissemination of information about MMP to the community and other providers and advise local and national investigators about the community's perception of MMP.

In May 2005 staff from the Washington State Department of Health (DOH) and Public Health-Seattle & King County (PHSKC) attended the CDC's interviewer and abstractor training in Atlanta. The meeting provided the staff a chance to practice the interview and abstraction form and provide feedback to the CDC.

In Washington, we recently finished compiling our list of HIV providers (defined as a provider or facility that prescribes antiretrovirals or orders a CD4 or HIV viral load test). This list will be de-identified and sent to CDC where a random selection of providers will be chosen to participate in the first year of MMP. PHSKC and DOH will then contact the selected providers and ask them to participate in the project. The goal is to have participation from all the selected facilities.

If you are a HIV care provider, please participate if your site is selected for MMP.

The King County Medical Society endorsed this project in April of 2004. The local, state, and national agencies gathering HIV surveillance data are all supporting and participating in this project. It is essential that all selected providers participate as providers will be selected to represent many other providers that have similar characteristics. Not participating means that neither the patients from the provider's practice nor from other similar practices will be represented.

After the provider selection is complete, patients from within each participating facility will be randomly sampled for participation. Once selected, patients will be contacted to request an interview and if they participate, will be compensated $25 for their time. Both DOH and PHSKC will work closely with providers, case managers and nurses at the selected facilities to determine the best recruitment strategy for each facility.

Maximum participation of providers and patients is essential for obtaining information that is truly representative of patients in care for HIV locally and nationally. Security and confidentiality of all personal and health care information will be strictly maintained throughout the course of this project. Facility, provider and patient names will not be disclosed to the CDC. If you have any questions about this project, please call Elizabeth Barash at 206-296-2907 (King County) or Maria Courogen at 360-236-3458 (Washington State).

• *Contributed by Elizabeth Barash, MPH*

Update from the Antiretroviral Drug Resistance Testing Surveillance (ARVDRT) in Seattle & King County

Introduction

The introduction of highly active antiretroviral therapy (HAART) in the last decade has increased longevity and quality of life for HIV-infected people in the United States.[1,2] However, the development of HIV drug resistance has also increased due to several factors -- including inadequate intracellular levels of antiretrovirals often due to poor adherence to therapy and transmission of resistance strains.[3,4] According to national studies, an estimated 8-14% of treatment-naïve new infections or diagnoses are resistant to at least one antiretroviral drug.[5,6] Patients with drug resistant HIV may be less likely to sustain long term benefits from therapies due to the decreased number of effective treatment options. A genotype test for new HIV infections may identify existing drug resistance before a patient begins HAART. Several studies have shown that genotype guided treatment has been more effective in adequately treating patients than using only standard HAART treatment guidelines.[7] Genotyping for treatment-naïve patients also identifies potential issues of public health concern, such as spread of multidrug resistance in a community, potential drug resistant strains with increased fitness as measured by rapid disease progression, and can help inform preventive therapy decisions and treatment guideline recommendations.

Methods

Public Health- Seattle and King County (PHSKC) began the CDC-sponsored Antiretroviral Drug Resistance Testing (ARVDRT) study in July 2003 to assess drug resistance among newly diagnosed HIV-infected people at Public Health sites in King County. The study was expanded in October 2004 to include a local clinic primarily serving men who have sex with men (MSM). The main objectives of ARVDRT are to 1) estimate the prevalence of, and monitor trends in, antiretroviral drug resistance among untreated persons newly diagnosed with HIV; 2) estimate the prevalence of non-B HIV subtypes and their relationship to mutations associated with HIV drug resistance; 3) evaluate the feasibility of conducting routine antiretroviral drug resistance and HIV subtype testing by using leftover serum samples drawn for diagnostic HIV testing by comparing amplification rates associated with various processing and handling factors; and, 4) evaluate the ability of ARVDRT to provide data useful for patient clinical care by returning ARVDRT results to medical providers once care is established.

Leftover sera from a positive HIV test (EIA and WB) from ARVDRT study sites are used for genotypic testing for antiretroviral drug resistance. Eligibility for genotyping includes testing for HIV at a participating facility, being newly diagnosed with HIV (no previous positive tests more than 90 days prior) and being antiretroviral-naïve. If the patient is eligible and there is an adequate volume of leftover sera for ARVDRT, one extra aliquot is sent to the University of Washington (UW) for genotypic testing. A second back-up aliquot may be sent to the CDC for comparative phenotype testing for specimens with unusual and/or resistant strains/subtypes of HIV. Results from UW are returned to PHSKC and de-identified data are sent to the CDC. PHSKC also sends the genotype results to the clinician ordering the HIV test so that each individual may have their genotype results to help guide future HAART therapy. When this clinician does not provide ongoing HIV primary care and there is multi-class resistance, we seek a primary provider to return the genotype results. Confidentiality of data is of the utmost importance and is protected with a level of security exceeding HIPAA standards.

ASD: ARVDRT results were also compared to antiretroviral resistance results captured by another PHSKC project, the Adult/Adolescent Spectrum of HIV-related Diseases Study, or ASD. In brief, ASD is a medical record review project that was conducted 1990 through 2003 in King County and 10 other metropolitan areas around the country. HIV-infected individuals were observed for presentation, care, and outcomes at nine participating facilities locally. Results of genotype tests were collected from ASD between 1998 and 2003. Genotype tests were mostly conducted due to individuals failing HAART, but a small number of antiretroviral-naïve individuals also had genotype tests, so we stratified the ASD results based on a history of antiretroviral use.

Results

As of 7/15/2005, 403 EIA+ specimens had been screened for eligibility, and 231 (57%) were found eligible. Demographic characteristics of these eligible participants are presented in Table 1. About half of the eligible participants were tested confidentially, the other half anonymously. Most were young (median age decade was 30 – 39 years; data not shown), male, White, US-born and were men who had sex with men.

Complete genotyping results were available for 202 (87%) of specimens. Approximately 11% of newly diagnosed patients tested in the Seattle ARVDRT project had high level drug resistance, including 6 (3%) with

Table 1. Characteristics of individuals eligible for Antiretroviral Drug Resistance Surveillance, Public Health – Seattle & King County 2003 – 2005

Registration status	Percent of cohort (n=213)
Confidential	56
Anonymous	44
Gender	
Male	93
Female	7
HIV Risk category	
Men who have sex with men(MSM)	67
Injection drug user (IDU)	4
MSM&IDU	7
Other, including no identified risk	21
Race/ethnicity	
White	59
Black	23
Latino/Hispanic	11
Asian/Pacific Islander	7
Country of origin (excluding 42% with missing data)	
US	80
Other	20
Viral load (excluding 67% with missing information)	
< 20,000	37
> 20,000	63

Table 2. Results of genotyping from Antiretroviral Drug Resistance Surveillance (2003 – 2005) and Adult/Adolescent Spectrum of HIV-related Diseases (1998 – 2003), Seattle, Washington

Testing Results	Antiretroviral naive		Antiretroviral Experienced
	ARVDRT	ASD	ASD
	N=202	N=54	N=392
Any high level resistance	11%	13%	65%
High level resistance to a protease inhibitor (PI)	3%	6%	30%
High level resistance to a nucleoside reverse transcriptase inhibitor (NRTI)	4%	4%	54%
High level resistance to a non-nucleoside reverse transcriptase inhibitor (NNRTI)	8%	6%	32%
Multi-class resistance	3%	2%	42%
Non-B subtypes	8%	Unavailable	Unavailable

multi-class resistance (Table 1). Non-nucleoside reverse transcriptase inhibitor (NNRTI) resistance was the most common form of resistance detected (8%) relative to 2% and 3% for protease inhibitors and nucleoside reverse transcriptase inhibitors, respectively. Trends of primary antiretroviral drug resistance over time, as evaluated by comparison of ASD antiretroviral naïve subject (1998-2003) with ARVDRT antiretroviral naïve persons (2003 – 2005) do not show any significant trends yet. In comparison, antiretroviral experienced persons had a six-fold higher level of overall drug resistance (65%), as measured by high level resistance to one or more antiretroviral drug.

A total of 15 (6%) of specimens were found to be non-B subtype, including 12 known to be from foreign-born patients.

Among specimens that did not have genotyping results, 18 (8%) did not amplify, 7 (3%) did not have a sufficient quantity of specimen to process, 1 (<1%) was pending results and 3 (1%) had not yet been sent to the UW lab for testing. Among the 8% that did not amplify, reasons may have included low viral load, non-B subtype, marginal quantity for testing, and/or poor quality of specimen, for example due to multiple freeze-thaw cycles or prolonged holding at room temperature.

Discussion

The proportion of newly diagnosed patients with any high level resistance at a PHSKC ARVDRT study sites is highly consistent with national trends. The majority of high level resistance being to a non-nucleoside reverse transcriptase inhibitor (NNRTI) is also consistent with findings at a national level. The higher prevalence of NNRTI mutation is thought to be because some mutations conferring resistance to NNRTI do not compromise viral replication capacity, and thus, theses persist without drug pressure.6

In sum, we have found that antiretroviral drug resistance surveillance among antiretroviral naïve individuals is feasible. Transmitted resistance is not uncommon, with 11% of people newly diagnosed with HIV in Seattle already showing high level resistance to one or more antiretroviral drug. Given the significant prevalence of resistant virus, testing of people newly diagnosed with HIV and previously untreated with antiretrovirals is likely to provide a clinical benefit.

• Contributed by: Erin Kahle, MPH, Lisa Frenkel, M.D. and Susan Buskin, PhD, MPH

1. Palella FJ Jr et al. Declining morbidity and mortality among patients with advanced human immunodeficiency virus infection. N Engl J Med 1998. 338:853-860.
2. Gulick RM, et al. Treatment with indinavir, zidovudine, and lamivudine in adults with human immunodeficiency virus infection and prior antiretroviral therapy. N Engl J Med 1997. 337:737-739.
3. Harrigan PR et al. Predictors of HIV drug-resistance mutations in a large antiretroviral-naïve cohort initiating triple antiretroviral therapy. J Infect Dis. 2005 Feb. 191(3):339-347.
4. Little SJ et al. Antiretroviral-drug resistance among patients recently infected with HIV. N Engl J Med. 8 2002 Aug. 347(6):385-394.
5. Weinstock HS et al. The epidemiology of antiretroviral drug resistance among drug-naive HIV-1-infected persons in 10 US cities. J Infect Dis. 2004;189:2174-80.
6. Bennett D. Project Officer of HIV Drug Resistance and Subtype Surveillance at Centers for Disease Control and Prevention. Personal Communication. July, 2005
7. Gallego O et al. Drug resistance in patients experiency early virological failure under a triple combination including indinavir. AIDS. 2001. 15:1701-1706.

HIV Incidence Surveillance update

HIV Incidence Surveillance (HIS) is an expanded HIV/AIDS surveillance activity whose objective is to provide regional and national population-based estimates of the number and rate of new HIV infections each year. This activity is funded by the CDC; to date, 34 states or metropolitan areas are participating including Public Health – Seattle & King County. The Washington State Department of Health is implementing HIS throughout the state outside of King County. Any person who is newly reported to HIV/AIDS case surveillance in Washington State will be eligible to be included in HIS. The serological testing algorithm for recent HIV seroconversion (STARHS) is the name of the method used to estimate HIV incidence.

Aliquots of leftover serum from diagnostic blood specimens that are HIV positive are tested with the STARHS assay, which detects the amount of HIV-specific antibody. If the antibody concentration is below a predetermined threshold, the assay is considered to have a "low" result, indicating the person may have been recently infected with HIV. In the past, a modified version of the HIV screening EIA assay called the less sensitive EIA (LS-EIA) was used as the STARHS assay. Because the LS-EIA was under a Food and Drug Administration Investigational New Device/Drug application, patient consent was required, which was a burden to clinicians and a barrier to the success of HIS.

Table 1: Characteristics of population enrolled during first year of HIV Incidence Surveillance at Public Health – Seattle & King County testing sites, 4/2004 – 3/2005

	Proportion of enrollees (n=54)	Proportion with STARHS result (n=53) indicating recent HIV infection
Sex		
Male	83	30
Female	17	0
Risk		
MSM or MSM-IDU	63	36
IDU	11	0
Other	26	7
Test site		
HIV C&T	35	17
STD Clinic	43	39
Jail	13	0
Family planning clinic	9	14
Age		
20-29 years	44	39
30-39 years	30	13
40+ years	26	14
Race		
White	57	33
Black	28	13
Other races	13	14
Unknown	2	0

Therefore the CDC worked with another laboratory to develop a STARHS assay that would be used solely for surveillance purposes with no diagnostic or clinical value and thereby eliminate the patient consent requirement. Thus, the BED assay was born. The BED assay was originally named so because it detected antibody to HIV subtypes B, E, and D, but it now is known to cross-react with all major subtypes. In April 2005, the local transition from the LS-EIA to the BED assay was made; STARHS consent is no longer a part of HIV Incidence Surveillance.

Information about the person's HIV testing history, including the date of their last negative test and their motivation for testing, will be used to apply a statistical weight in the HIV incidence calculation. The weight is determined by the probability that the person would be detected as a recent infection. Because the testing history data are so important to the incidence calculations, we have worked to create a flexible approach in collecting them. There is a very brief testing history questionnaire (THQ) that may be self-administered by the patient at any post-test visit with their clinician. Also, the THQ questions are being added to a new version of the Washington State HIV/AIDS Case Report form. If not collected by either of these methods, partner counseling and referral services staff will attempt to collect the THQ information during their interaction with the patient.

In order to truly be a population-based incidence estimate, all people who are newly reported to Washington HIV case surveillance should contribute a specimen and testing history data. HIS was implemented in King County public health testing sites in 2004. Expansion to other Washington State public health testing sites and the private sector was initiated in 2005. CDC is currently in contract negotiations with five large national commercial laboratories, several of which conduct HIV testing for various clinics and medical care providers in Washington State.

During the first year of implementation, 54 people with positive HIV tests at PHSKC testing sites were eligible to be included in HIS. Most were MSM (63%) and were tested either at the STD clinic or through the HIV/AIDS Program (78%) (Table 1). Of those tested with the LS-EIA (n=53), 25% overall had a "low" LS-EIA result indicating possible recent HIV infection. Groups with the highest proportion of LS-EIA results suggesting recent infection were MSM (36%), people testing at the STD Clinic (39%), and people ages 20-29 (39%).

For additional information about HIV Incidence Surveillance, please contact Christina Lynch at (206) 205-0997 or christina.lynch@metrokc.gov.

• *Contributed by Christina Lynch, MPH*

UW AIDS Clinical Trials Unit research update

The evolution of the next generation of ACTG trials for the initial treatment of HIV

Over the past 10 years, the AIDS Clinical Trials Group (ACTG) has conducted several large trials to evaluate antiretroviral (ARV) regimens and strategies for the initial treatment of HIV. ACTG 320 was a trial which demonstrated that treatment with indinavir (a protease inhibitor (PI)), zidovudine, and lamivudine, as compared with zidovudine and lamivudine alone, significantly slowed the progression of HIV-1 disease in people with fewer than 200 CD4+ T cells and prior exposure to zidovudine (1997). Subsequently, ACTG 384 compared a single four-drug regimen (a PI, a non-nucleoside reverse transcriptase inhibitor [NNRTI] and 2 nucleoside reverse transcriptase inhibitors [NRTI]) to two consecutive three-drug regimens (a PI or NNRTI, plus 2 NRTIs). Among these treatment strategies, initiating therapy with the three-drug regimen of zidovudine, lamivudine, and efavirenz (an NNRTI) was the optimal regimen (2003). ACTG 388 studied 2 different 4-drug ARV regimens versus a 3-drug regimen, in advanced HIV infection (CD4+ T cells below 200, or HIV RNA above 80,000 copies/ml) in 517 people. A 4-drug regimen containing efavirenz plus indinavir (a PI plus an NNRTI) resulted in better HIV suppression, whereas one containing nelfinavir plus indinavir (2 PIs) resulted in an inferior response and a greater likelihood of toxicity (2003). ACTG 5095 compared a triple NRTI regimen, a NNRTI-based 3-drug regimen, and a 4-drug combination strategy (NNRTI + 3 NRTI). This study involved almost 1200 subjects and took 3 ½ years to complete. The results showed that the triple nucleoside regimen was inferior to the other 2 regimens and had an immediate impact on the standard of care (2004).

Two ongoing ACTG studies are evaluating once-a-day dosing of lopinavir/ritonavir and directly observed therapy (ACTG 5073); and class-sparing treatment strategies (ACTG 5142). Due to the different toxicities of each class of ARV drugs, ACTG 5142 is studying a unique combination of an NNRTI plus a PI. Another strategy being evaluating in a small pilot study is a PI-only regimen (atazanavir/ritonavir), in people who have achieved good HIV suppression on 3-drug regimens (ACTG 5201). There have been 2 small pilot non-ACTG studies using only a PI (lopinavir/ritonavir) for the initial treatment of HIV.

The next large ACTG trial evaluating optimal initial treatment strategies for HIV has just begun. This trial, ACTG 5202, will compare two once-a-day treatment regimens, a NNRTI (efavirenz) versus a PI-based regimen (atazanavir/ritonavir), and also compare two once-a-day NRTI backbones, emtricitabine/tenofovir versus lamivudine/abacavir. This study will involve 1800 people and take about 3 1/2 years to complete. A substudy of 250 people will evaluate body fat changes and bone mineral density changes in the different treatment groups. The hallmark of all these large studies conducted by the ACTG has been the extensive data and samples collected and low lost to follow-up rates allowing for many secondary objectives to be addressed in the study, focused on immune reconstitution and the metabolic complications of ARVs and HIV.

Building on ACTG 5095 (which, again, showed that the three-drug NRTI regimen did not perform as well as the 2-class regimen -- NNRTI + 2 NRTI) another new study, ACTG 5231, will evaluate quadruple-nucleoside regimens, compared to a 3-drug NNRTI, efavirenz-based, regimen in 670 people. The 4-NRTI combination that will be used in this study is tenofovir, lamivudine, zidovudine, and abacavir. There remains a lot of interest and appeal in 2-class sparing regimens preserving more secondary and tertiary treatment options and potentially minimizing the side effects of the initial regimen.

The challenge in designing and conducting studies of the initial treatment of HIV is that the currently available treatment options are effective in producing durable viral suppression in 70–80% of people; thus these trials need to be very large to detect relatively small differences and also include assessments to detect differences in potential long-term metabolic effects of the various regimens. These trials are expensive and labor intensive, and can best be done with federal funding supporting multi-center trials networks, like the ACTG.

• Contributed by Jeffrey T. Schouten, MD, Staff Physician and Joaquin V. Perez

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); http://depts.washington.edu/actu (website)

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 206.731.3184 and ask for Margot or Lori for appointments or additional information.**

July 1, 2005

Antiretroviral Studies

Eligibility	Study Purpose	Study Drug or Treatment
• On current ARV regimen ≥ 4 weeks • Current HIV RNA <50 • Suppressed HIV RNA <500 for last 2 years • CD4 >500 • 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**
Eligibility	**Study Purpose**	**Study Drug or Treatment**
• Acute AIDS-defining opportunistic infection (OI) or serious bacterial infection (BI) • CD4 <200 for subject w/BI or bacterial pneumonia • No ARV treatment within last 8 weeks • No ARV treatment for ≥31 days within last 6 months • Not pregnant	**(Study # 5164)** **Immediate vs deferred** HIV treatment in patients presenting with acute OI's and BI's to see if it is better to start treatment right away or to wait until the OI or BI has resolved.	**Arm A**: ARV treatment within 2 weeks after starting treatment for OI or BI **Any FDA-approved ARV regimen will be allowed.** **Kaletra, D4T, and D4T XR will be provided if chosen as part of the regimen** **Arm B**: ARV treatment deferred until after OI or BI resolved (at least 4 weeks after entry, but no more than 32 weeks after entry)

Rescue Studies

Eligibility	Study Purpose	Study Drug or Treatment
• 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
Eligibility	**Study Purpose**	**Study Drug or Treatment**
• HIV RNA ≥5000 • Current ARV regimen must contain RTV for ≥ 8 weeks • Failure of ≥ one other antiretroviral regimen containing ≥3 drugs • No detectable hep B surface antigen • No history of seizures	**(Study # 5211)** To evaluate the safety and effectiveness of three different dose levels of **SCH 417690** (an investigational medication to treat HIV-1), in HIV-infected individuals who are failing their current antiretroviral regimen (current regimen must contain ritonavir).	Randomized to receive one of three SCH 417690 doses: 5 mg, 10 mg, or 15 mg or placebo For the first 14 days, subjects will stay on their current failing regimen with the SCH 417690 or placebo added on. After 14 days, can change background medications to an optimized regimen, which must contain ritonavir (not provided).

Complications of HIV and Other Conditions		
Neuropathy		
Eligibility	**Study Purpose**	**Study Drug or Treatment**
• Peripheral neuropathy related to either d4T, ddI, or ddC • Current regimen must contain d4T, ddI, or ddC • Must be on current regimen for ≥ 8 weeks • HIV RNA < 10,000 • Not pregnant	**(Study # 5157)** To see if acetyl-L-carnitine (ALC) reduces neuropathy symptoms in patients taking d4T, ddI, or ddC. This study will also assess the safety and tolerability of this investigational treatment for peripheral neuropathy	**Day 1-7:** Acetyl-L-carnitine (ALC) 500mg (1 tablet) twice a day **Day 8-14: ALC 1000mg (2 tablets) twice a day** Day 15-Week 24: ALC 1500mg (3 tablets) or maximum tolerated dose twice a day
Other Studies		
Eligibility	**Study Purpose**	**Study Drug or Treatment**
• 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	**(Study # 080)** To see if alveolar macrophages is a reservoir for HIV	No study drug or treatment The macrophage cells will be collected by a bronchoalveolar lavage procedure (BAL) in the pulmonary lab
Studies for HIV 'Negative' participants		
Eligibility	**Study Purpose**	**Study Drug or Treatment**
• Male age 18-55 • HIV negative • Healthy • No hx of GIB, ulcer or heart problems • Not on any prescription medications • Within 33% of ideal body weight	**(Study # 5191)** To determine the safety and tolerability of an investigational anti-HIV medication and to measure the level of the drug in the blood	One dose of AMD11070 on days 1, 3, and 17 RTV 100mg twice a day on days 3-18

Visit our new website at http://depts.washington.edu/actu and find out about our latest studies, meet our staff, and find out about our outreach and ***Positivamente Latino*** programs. You can send your questions, comments, and suggestions to us via email at actu@u.washington.edu.

For information in Spanish call us at 206.731.3497

Key to Terms:

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

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

Update from the Seattle HIV Vaccine Trials

The Seattle HIV Vaccine Trials Unit brings us a step closer to an HIV preventive vaccine with the launch of their new HIV vaccine study called Step. The study is a phase II proof-of-concept study using one of Merck's investigational HIV/AIDS vaccine candidates. The trial is considered a proof-of-concept study because it will enable researchers to test the concept that the vaccine candidate prevents HIV infection, or results in lower HIV levels in the blood of those who become infected with HIV. If the concept is proven, this information will guide future research.

The vaccine will be tested in five countries and in 13 U.S. cities including Seattle. Dr. Larry Corey, the lead scientist for the HIV Vaccine Trials Network, based at the Fred Hutchinson Cancer Research Center in Seattle, says "This is an important step closer to a vaccine that could be widely used. In smaller studies, the vaccine has produced the strongest immune response ever against the AIDS virus".

In this study, volunteers will receive three injections over a period of six months. About half will receive the vaccine and half will receive a placebo (a dummy vaccine) and no one will know who got what until the end of the study. It is impossible for either group to get HIV infection from the study injections because they DO NOT contain actual HIV. The Seattle site seeks to enroll approximately 50 - 100 male volunteers aged 18 to 45 of diverse racial groups who are at high risk for contracting HIV. For more information contact the Seattle HIV Vaccine Trials Unit at 206-667-2300.

• *Contributed by Gary Chovnick, MPH*

HIV AIDS Projects Development and Evaluation Unit update

In 2005, the HIV/AIDS Projects Development and Evaluation Unit (HAPDEU) from the School of Social Work at the University of Washington continued to implement two innovative prevention programs serving the Seattle King County community. The two programs, PowerON, and HIV Stops with Me, are summarized below.

PowerON

The internet continues to be an increasingly popular meeting place for gay and bisexual men who are seeking sexual partners, and a subculture where HIV and STI's are spread. Prevention Organizations With Empowerment Resources On the Net (PowerON) is the development of a comprehensive HIV prevention web site that targets men who have sex with men (MSM). PowerON provides an innovative way for MSM to access current HIV/STD prevention information, service and prevention resources and community events -- all in one place. The PowerON web site (http://depts.washington.edu/poweron/) is an HIV/AIDS education center using an entertaining format to provide education, referral information, instruction, and prevention support for MSM in King County 24 hours a day.

Beyond just providing information through a web site, the PowerON intervention includes prevention outreach conducted by staff, through popular local online chat and profile web sites. Because of the breadth of information and tools available in the PowerON site, outreach staff members use these resources while interacting with other online chatters. These resources include; email-able postcards that refer to specific risk and health information within the PowerON site, a HIV risk assessment quiz, and over 200 regional HIV service and prevention resources and contacts. The multimedia tools described above are utilized to promote an online culture where safer sex becomes a community norm.

HIV Stops With Me

This intervention is a social marketing campaign which aims to reduce the stigma associated with HIV and to acknowledge the powerful role that people who are HIV-infected have in ending the epidemic. The campaign celebrates the contributions that are made every day by those most affected by the disease and promotes safer sex messages though the use of images of and statements by four regional spokesmodels. Campaign media include posters, postcards, display and transit advertising, internet banner ads, and community forums, all of which are placed in locations with the high visibility for the target audience.

The HIV Stops with Me campaign features four HIV positive men from the Seattle area, who are real people talking about real issues. The campaign messages deal directly with sexual decisions and condom use, while also raising important issues like responsibility, communication, and disclosure of status. Each spokesmodel has a personalized campaign message, which is hopeful and supportive, and promotes awareness about HIV prevention. As well, the Seattle campaign has a section within the national HIV Stops with Me website (http://hivstopswithme.org), where each spokesmodel has a page where they tell their own story and can engage in online dialogue with other members of the community. The website also contains articles of interest, lists of local resources and a calendar of related events in the Seattle King County area.

• *Contributed by Keith Barland*