

HIV / AIDS

SURVEILLANCE

U.S. AIDS cases reported through August 1991

Issued September 1991

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Acquired immunodeficiency syndrome (AIDS) is a specific group of diseases or conditions which are indicative of severe immunosuppression related to infection with the human immunodeficiency virus (HIV).



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Figure 1. AIDS annual rates per 100,000 population, for cases reported September 1990 through August 1991, United States

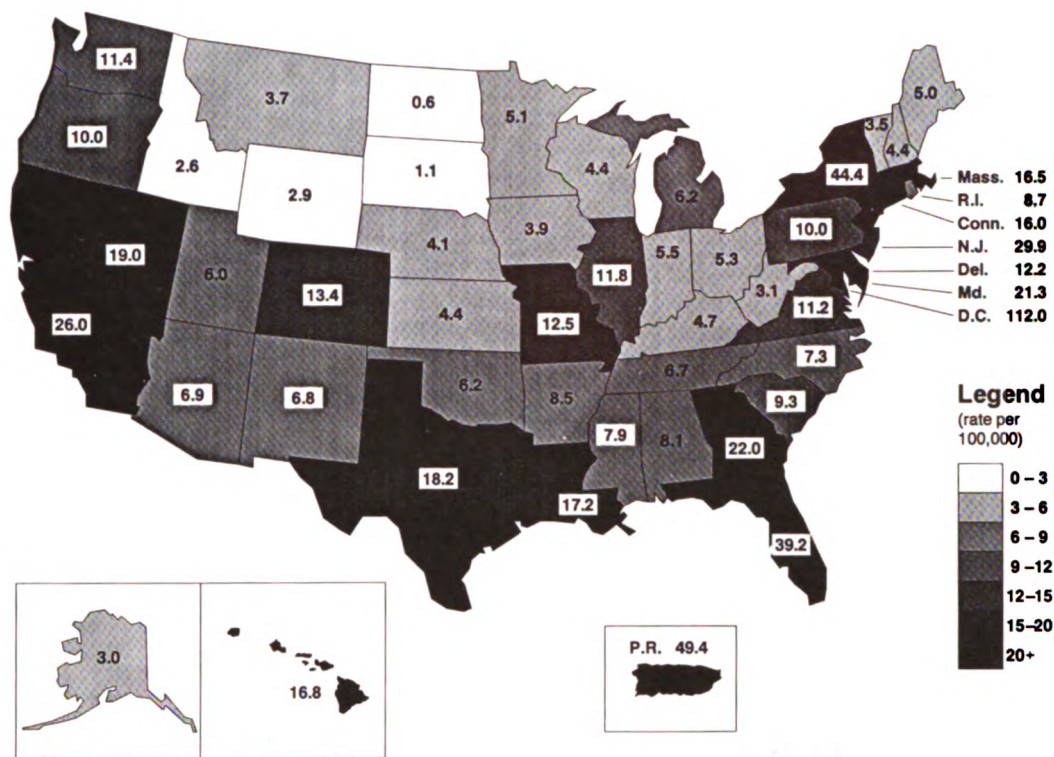


Figure 2. Adult/adolescent and pediatric AIDS cases, reported September 1990 through August 1991, United States

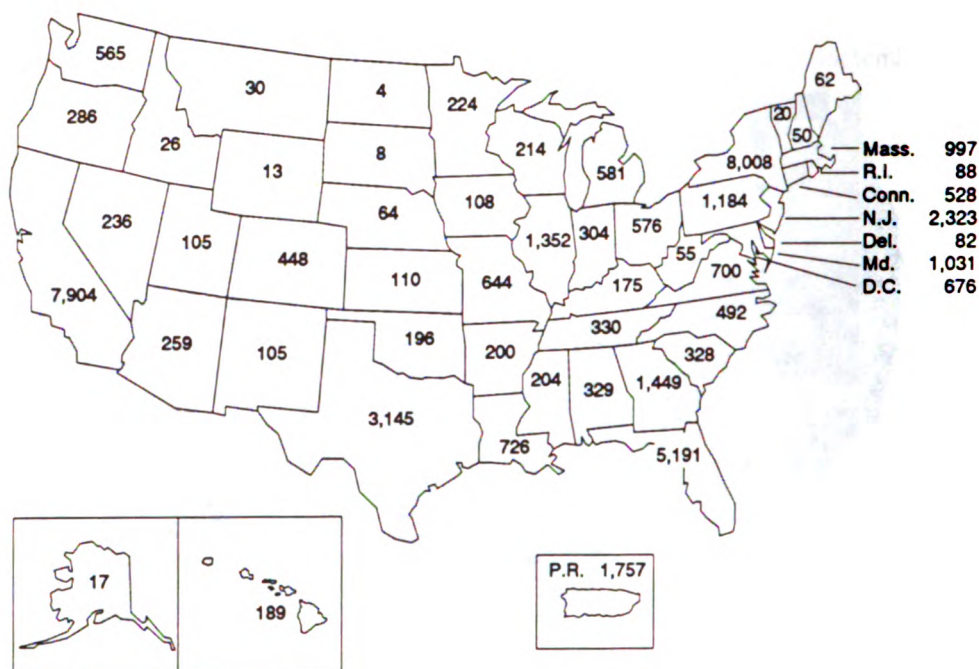


Figure 3. Pediatric AIDS cases, reported September 1990 through August 1991, United States

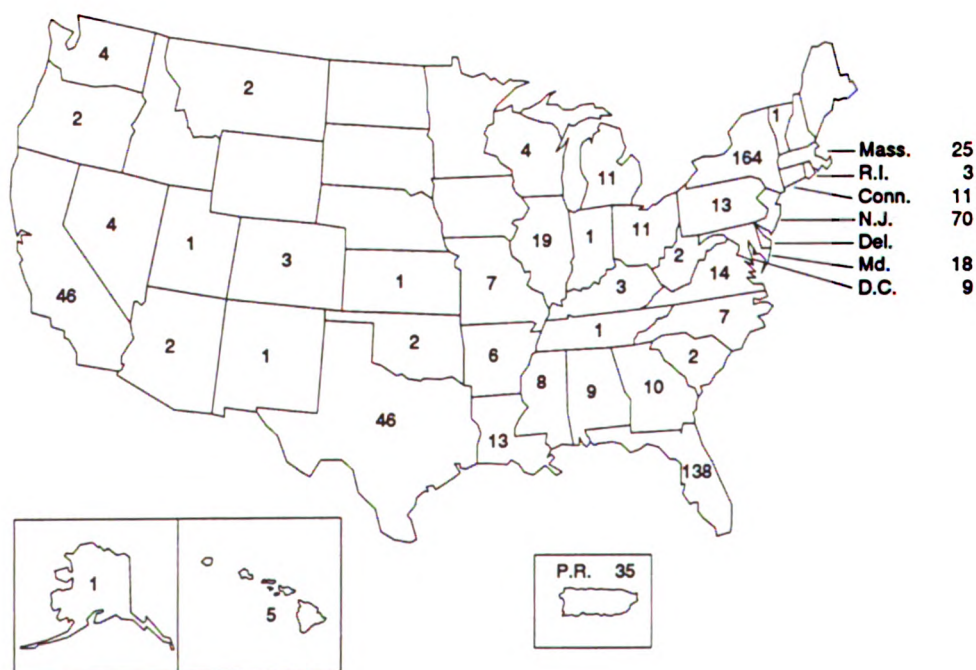


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported September 1989 through August 1990, September 1990 through August 1991; and cumulative totals, by state and age group, through August 1991¹

State of residence	Sept. 1989- Aug. 1990		Sept. 1990- Aug. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	208	5.1	329	8.1	1,102	26	1,128
Alaska	27	4.9	17	3.0	110	3	113
Arizona	392	10.7	259	6.9	1,464	9	1,473
Arkansas	160	6.8	200	8.5	572	13	585
California	6,740	22.6	7,904	26.0	35,566	242	35,808
Colorado	381	11.6	448	13.4	1,882	11	1,893
Connecticut	421	12.8	528	16.0	2,190	66	2,256
Delaware	85	12.8	82	12.2	361	4	365
District of Columbia	636	104.8	676	112.0	3,115	43	3,158
Florida	3,971	30.7	5,191	39.2	17,326	479	17,805
Georgia	1,141	17.6	1,449	22.0	5,205	53	5,258
Hawaii	161	14.5	189	16.8	746	7	753
Idaho	24	2.4	26	2.6	94	2	96
Illinois	1,129	9.9	1,352	11.8	5,560	78	5,638
Indiana	353	6.4	304	5.5	1,229	11	1,240
Iowa	43	1.5	108	3.9	292	3	295
Kansas	130	5.2	110	4.4	503	4	507
Kentucky	174	4.7	175	4.7	618	8	626
Louisiana	659	15.6	726	17.2	2,747	47	2,794
Maine	59	4.8	62	5.0	253	2	255
Maryland	888	18.6	1,031	21.3	3,725	81	3,806
Massachusetts	804	13.4	997	16.5	3,963	89	4,052
Michigan	525	5.6	581	6.2	2,338	37	2,375
Minnesota	179	4.1	224	5.1	963	8	971
Mississippi	275	10.7	204	7.9	782	18	800
Missouri	558	10.9	644	12.5	2,250	18	2,268
Montana	14	1.8	30	3.7	76	2	78
Nebraska	40	2.5	64	4.1	222	2	224
Nevada	167	13.9	236	19.0	783	9	792
New Hampshire	52	4.7	50	4.4	222	5	227
New Jersey	2,438	31.5	2,323	29.9	11,618	334	11,952
New Mexico	111	7.3	105	6.8	410	3	413
New York	8,071	44.9	8,008	44.4	39,223	904	40,127
North Carolina	562	8.5	492	7.3	1,980	37	2,017
North Dakota	4	0.6	4	0.6	24	—	24
Ohio	690	6.4	576	5.3	2,661	43	2,704
Oklahoma	216	6.9	196	6.2	841	12	853
Oregon	293	10.3	286	10.0	1,181	7	1,188
Pennsylvania	1,148	9.7	1,184	10.0	5,184	80	5,264
Rhode Island	88	8.8	88	8.7	428	9	437
South Carolina	392	11.2	328	9.3	1,276	23	1,299
South Dakota	2	0.3	8	1.1	26	—	26
Tennessee	345	7.1	330	6.7	1,316	15	1,331
Texas	3,127	18.4	3,145	18.2	13,383	143	13,526
Utah	100	5.8	105	6.0	412	9	421
Vermont	22	3.9	20	3.5	86	2	88
Virginia	616	10.0	700	11.2	2,509	46	2,555
Washington	642	13.2	565	11.4	2,581	15	2,596
West Virginia	75	4.2	55	3.1	219	4	223
Wisconsin	188	3.8	214	4.4	775	7	782
Wyoming	5	1.1	13	2.9	47	—	47
U.S. total	39,531	15.9	42,941	17.1	182,439	3,073	185,512
Guam	1	0.7	3	2.1	10	—	10
Pacific Islands, U.S.	1	0.5	—	—	2	—	2
Puerto Rico	1,600	45.4	1,757	49.4	5,810	176	5,986
Virgin Islands, U.S.	11	9.4	13	11.0	87	4	91
Total	41,144	16.3	44,714	17.5	188,348	3,253	191,601

¹During August 1991, 4,652 cases and 4,462 deaths among adults/adolescents and 54 cases and 32 deaths among children were reported to the CDC.

Table 2. AIDS cases and annual rates per 100,000 population, by metropolitan area with 500,000 or more population, reported September 1989 through August 1990, September 1990 through August 1991; and cumulative totals, by area and age group, through August 1991

Metropolitan area of residence	Sept. 1989- Aug. 1990		Sept. 1990- Aug. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	31	4.7	26	4.0	123	—	123
Albany-Schenectady, N.Y.	92	10.5	84	9.6	382	6	388
Allentown, Pa.	51	7.4	44	6.4	184	5	189
Anaheim, Calif.	345	14.3	321	13.1	1,510	10	1,520
Atlanta, Ga.	869	30.7	1,132	39.0	4,006	31	4,037
Austin, Tex.	227	29.0	200	24.8	846	8	854
Bakersfield, Calif.	33	6.1	50	9.0	147	2	149
Baltimore, Md.	588	24.7	631	26.3	2,244	60	2,304
Baton Rouge, La.	58	11.0	69	13.0	244	4	248
Bergen-Passaic, N.J.	312	24.4	250	19.6	1,478	30	1,508
Birmingham, Ala.	65	7.2	98	10.8	351	7	358
Boston, Mass.	611	16.1	664	17.5	3,021	63	3,084
Bridgeport, Conn.	115	13.9	137	16.5	638	21	659
Buffalo, N.Y.	94	9.7	88	9.1	320	3	323
Charleston, S.C.	79	15.6	68	13.2	282	1	283
Charlotte, N.C.	97	8.3	71	6.0	368	7	375
Chicago, Ill.	940	15.5	1,090	18.0	4,645	60	4,705
Cincinnati, Ohio	132	9.1	90	6.2	411	6	417
Cleveland, Ohio	138	7.5	163	8.9	686	12	698
Columbus, Ohio	155	11.3	111	8.0	579	4	583
Dallas, Tex.	732	28.7	732	28.0	3,262	20	3,282
Dayton, Ohio	63	6.6	61	6.4	263	6	269
Denver, Colo.	311	19.2	381	23.2	1,551	7	1,558
Detroit, Mich.	369	8.4	401	9.2	1,639	25	1,664
El Paso, Tex.	35	5.9	46	7.6	140	1	141
Fort Lauderdale, Fla.	848	67.5	885	69.2	3,108	62	3,170
Fort Worth, Tex.	168	12.6	211	15.4	769	12	781
Fresno, Calif.	56	8.4	61	8.9	232	2	234
Gary, Ind.	35	5.8	31	5.2	114	1	115
Grand Rapids, Mich.	27	3.9	31	4.4	119	1	120
Greensboro, N.C.	97	10.3	85	8.9	321	6	327
Greenville, S.C.	51	8.0	44	6.8	164	—	164
Harrisburg, Pa.	38	6.5	40	6.8	188	4	192
Hartford, Conn.	147	13.1	170	15.0	661	15	676
Honolulu, Hawaii	111	13.3	136	16.1	562	4	566
Houston, Tex.	1,245	37.7	1,280	38.1	5,573	58	5,631
Indianapolis, Ind.	178	14.2	141	11.2	583	3	586
Jacksonville, Fla.	241	26.6	274	29.6	887	28	915
Jersey City, N.J.	333	60.2	410	74.2	1,980	56	2,036
Kansas City, Mo.	339	21.6	211	13.4	1,132	4	1,136
Knoxville, Tenn.	29	4.8	31	5.1	132	1	133
Lake County, Ill.	14	2.7	36	6.9	103	3	106
Las Vegas, Nev.	126	17.0	179	23.3	581	9	590
Little Rock, Ark.	63	12.3	78	15.1	229	7	236
Los Angeles, Calif.	2,231	25.2	2,731	30.3	12,613	101	12,714
Louisville, Ky.	69	7.2	72	7.6	255	5	260
Memphis, Tenn.	113	11.5	100	10.1	418	6	424
Miami, Fla.	1,038	53.6	1,775	90.2	5,429	188	5,617
Middlesex, N.J.	177	17.4	202	19.6	943	26	969
Milwaukee, Wis.	110	7.7	99	6.9	429	3	432
Minneapolis-Saint Paul, Minn.	165	6.7	191	7.6	855	6	861
Monmouth-Ocean City, N.J.	197	20.0	186	18.6	771	27	798
Nashville, Tenn.	113	11.5	114	11.4	443	6	449
Nassau-Suffolk, N.Y.	419	16.1	338	13.0	1,833	46	1,879
New Bedford, Mass.	44	8.7	81	15.9	209	5	214
New Haven, Conn.	129	16.0	187	23.1	720	28	748
New Orleans, La.	386	31.2	424	34.3	1,719	27	1,746
New York, N.Y.	6,870	80.4	6,907	80.6	34,080	816	34,896

Table 2. AIDS cases and annual rates per 100,000 population, by metropolitan area with 500,000 or more population, reported September 1989 through August 1990, September 1990 through August 1991; and cumulative totals, by area and age group, through August 1991 — Continued

Metropolitan area of residence	Sept. 1989- Aug. 1990		Sept. 1990- Aug. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Newark, N.J.	1,027	56.3	897	49.3	4,805	154	4,959
Norfolk, Va.	154	11.0	170	12.0	561	12	573
Oakland, Calif.	538	25.8	501	23.7	2,311	17	2,328
Oklahoma City, Okla.	113	11.8	94	9.7	426	—	426
Omaha, Neb.	30	4.9	43	6.9	156	1	157
Orlando, Fla.	224	20.9	392	35.3	1,014	14	1,028
Oxnard-Ventura, Calif.	37	5.5	42	6.1	175	—	175
Philadelphia, Pa.	834	17.2	928	19.1	3,932	57	3,989
Phoenix, Ariz.	295	13.9	196	9.0	1,076	5	1,081
Pittsburgh, Pa.	139	6.8	101	4.9	617	2	619
Portland, Oreg.	227	18.3	227	18.1	930	4	934
Providence, R.I.	84	9.2	84	9.1	403	8	411
Raleigh-Durham, N.C.	129	17.5	100	13.3	431	10	441
Richmond, Va.	126	14.6	122	13.9	474	9	483
Riverside-San Bernardino, Calif.	243	9.4	326	12.1	1,224	17	1,241
Rochester, N.Y.	81	8.1	91	9.0	409	4	413
Sacramento, Calif.	145	9.8	210	13.8	785	11	796
Saint Louis, Mo.	202	8.3	380	15.5	1,055	12	1,067
Salt Lake City, Utah	90	8.4	92	8.5	363	6	369
San Antonio, Tex.	217	16.7	209	15.8	938	13	951
San Diego, Calif.	699	28.0	523	20.4	2,638	19	2,657
San Francisco, Calif.	1,782	111.1	2,361	146.2	10,827	18	10,845
San Jose, Calif.	160	10.7	176	11.6	825	8	833
San Juan, P.R.	1,016	60.2	1,138	66.7	3,656	115	3,771
Scranton, Pa.	40	5.4	42	5.7	151	3	154
Seattle, Wash.	495	25.1	388	19.3	1,932	10	1,942
Springfield, Mass.	65	10.8	120	19.8	277	13	290
Syracuse, N.Y.	51	7.7	37	5.6	180	6	186
Tacoma, Wash.	37	6.3	50	8.4	178	5	183
Tampa-Saint Petersburg, Fla.	404	19.5	485	22.9	1,879	37	1,916
Toledo, Ohio	52	8.5	36	5.9	146	3	149
Tucson, Ariz.	63	9.4	43	6.3	270	3	273
Tulsa, Okla.	57	8.0	60	8.4	241	4	245
Washington, D.C.	1,103	28.1	1,261	31.6	5,362	74	5,436
West Palm Beach, Fla.	326	37.8	407	45.6	1,619	64	1,683
Wilmington, Del.	73	12.6	64	11.0	296	3	299
Worcester, Mass.	32	4.5	78	10.9	219	4	223
Metropolitan area subtotal¹	34,139	23.2	37,223	25.0	160,256	2,710	162,966
All other areas	7,005	6.6	7,491	7.1	28,092	543	28,635
Total	41,144	16.3	44,714	17.5	188,348	3,253	191,601

¹ Includes data from metropolitan areas which have populations of 500,000 or more.

Table 3. AIDS cases by age group, exposure category, and sex, reported September 1989 through August 1990, September 1990 through August 1991; and cumulative totals, by age group and exposure category, through August 1991, United States

Adult/adolescent exposure category	Males		Females		Totals		
	Sept. 1989-Aug. 1990	Sept. 1990-Aug. 1991	Sept. 1989-Aug. 1990	Sept. 1990-Aug. 1991	Sept. 1989-Aug. 1990	Sept. 1990-Aug. 1991	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	22,850 (64)	24,008 (62)	—	—	22,850 (57)	24,008 (55)	110,678 (59)
Intravenous (IV) drug use	7,469 (21)	8,002 (21)	2,217 (49)	2,655 (49)	9,686 (24)	10,657 (24)	41,963 (22)
Men who have sex with men and use IV drugs	2,397 (7)	2,378 (6)	—	—	2,397 (6)	2,378 (5)	12,334 (7)
Hemophilia/coagulation disorder	299 (1)	301 (1)	5 (0)	13 (0)	304 (1)	314 (1)	1,597 (1)
Heterosexual contact:	974 (3)	1,167 (3)	1,588 (35)	1,921 (35)	2,562 (6)	3,088 (7)	10,636 (6)
<i>Sex with IV drug user</i>	435	509	1,004	1,136	1,439	1,645	5,635
<i>Sex with bisexual male</i>	—	—	142	153	142	153	614
<i>Sex with person with hemophilia</i>	1	3	28	25	29	28	97
<i>Born in Pattern-II² country</i>	300	309	130	155	430	464	2,348
<i>Sex with person born in Pattern-II country</i>	22	28	22	23	44	51	166
<i>Sex with transfusion recipient with HIV infection</i>	21	32	37	52	58	84	217
<i>Sex with HIV-infected person, risk not specified</i>	195	286	225	377	420	663	1,559
Receipt of blood transfusion, blood components, or tissue ³	490 (1)	472 (1)	338 (8)	277 (5)	828 (2)	749 (2)	4,147 (2)
Other/undetermined ⁴	1,425 (4)	2,194 (6)	346 (8)	591 (11)	1,771 (4)	2,785 (6)	6,993 (4)
Adult/adolescent subtotal	35,904 (100)	38,522 (100)	4,494 (100)	5,457 (100)	40,398 (100)	43,979 (100)	188,348 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	30 (8)	23 (6)	—	1 (0)	30 (4)	24 (3)	156 (5)
Mother with/at risk for HIV infection:	317 (82)	338 (85)	331 (92)	308 (91)	648 (87)	646 (88)	2,738 (84)
<i>IV drug use</i>	154	147	153	133	307	280	1,337
<i>Sex with IV drug user</i>	70	69	71	64	141	133	567
<i>Sex with bisexual male</i>	8	2	7	7	15	9	57
<i>Sex with person with hemophilia</i>	—	3	1	—	1	3	11
<i>Born in Pattern-II country</i>	25	20	24	10	49	30	232
<i>Sex with person born in Pattern-II country</i>	2	—	2	2	4	2	13
<i>Sex with transfusion recipient with HIV infection</i>	1	—	1	1	2	1	13
<i>Sex with HIV-infected person, risk not specified</i>	16	25	19	18	35	43	133
<i>Receipt of blood transfusion, blood components, or tissue</i>	5	7	4	7	9	14	55
<i>Has HIV infection, risk not specified</i>	36	65	49	66	85	131	320
Receipt of blood transfusion, blood components, or tissue	26 (7)	25 (6)	15 (4)	17 (5)	41 (5)	42 (6)	281 (9)
Undetermined	12 (3)	10 (3)	15 (4)	13 (4)	27 (4)	23 (3)	78 (2)
Pediatric subtotal	385 (100)	396 (100)	361 (100)	339 (100)	746 (100)	735 (100)	3,253 (100)
Total	36,289	38,918	4,855	5,796	41,144	44,714	191,601

¹ Includes 3 patients known to be infected with human immunodeficiency virus type 2 (HIV-2). See MMWR 1989;38:572-580

² See technical notes.

³ Eighteen adults/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult developed AIDS after receiving tissue from an HIV-infected donor who screened negative for HIV antibody.

⁴ "Other" refers to 4 persons who developed AIDS after exposure to HIV-infected blood within the health care setting, as documented by evidence of seroconversion or other laboratory studies. "Undetermined" refers to patients whose mode of exposure to HIV is unknown. This includes patients under investigation; patients who died, were lost to follow-up, or refused interview; and patients whose mode of exposure to HIV remains undetermined after investigation. See Figure 4.

Table 4. AIDS cases by age group, exposure category, and race/ethnicity, reported through August 1991, United States

Adult/adolescent exposure category	White, not Hispanic No. (%)	Black, not Hispanic No. (%)	Hispanic No. (%)	Asian/Pacific Islander No. (%)	American Indian/ Alaskan Native No. (%)	Total⁴ No. (%)
Men who have sex with men	78,150 (76)	19,034 (36)	12,202 (40)	876 (75)	159 (54)	110,678 (59)
Intravenous (IV) drug use	8,568 (8)	21,085 (39)	12,110 (40)	51 (4)	53 (18)	41,963 (22)
Men who have sex with men and use IV drugs	7,132 (7)	3,360 (6)	1,762 (6)	27 (2)	39 (13)	12,334 (7)
Hemophilia/coagulation disorder	1,317 (1)	116 (0)	133 (0)	17 (1)	8 (3)	1,597 (1)
Heterosexual contact:	2,254 (2)	6,365 (12)	1,929 (6)	43 (4)	14 (5)	10,636 (6)
<i>Sex with IV drug user</i>	1,195	2,935	1,459	18	10	5,635
<i>Sex with bisexual male</i>	324	203	74	10	1	614
<i>Sex with person with hemophilia</i>	82	9	5	1	—	97
<i>Born in Pattern-II¹ country</i>	10	2,315	14	3	—	2,348
<i>Sex with person born in Pattern-II country</i>	49	105	10	1	—	166
<i>Sex with transfusion recipient with HIV infection</i>	133	42	38	2	—	217
<i>Sex with HIV-infected person, risk not specified</i>	461	756	329	8	3	1,559
Receipt of blood transfusion, blood components, or tissue ²	2,893 (3)	725 (1)	436 (1)	77 (7)	6 (2)	4,147 (2)
Other/undetermined ³	2,486 (2)	2,782 (5)	1,586 (5)	79 (7)	13 (4)	6,993 (4)
Adult/adolescent subtotal	102,800(100)	53,467 (100)	30,158(100)	1,170 (100)	292(100)	188,348(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	108 (15)	21 (1)	24 (3)	3 (18)	—	156 (5)
Mother with/at risk for HIV infection:	434 (62)	1,581 (92)	701 (87)	8 (47)	7(100)	2,738 (84)
<i>IV drug use</i>	208	773	350	2	1	1,337
<i>Sex with IV drug user</i>	88	251	224	2	1	567
<i>Sex with bisexual male</i>	21	22	13	1	—	57
<i>Sex with person with hemophilia</i>	7	3	1	—	—	11
<i>Born in Pattern-II country</i>	1	229	2	—	—	232
<i>Sex with person born in Pattern-II country</i>	—	12	—	—	—	13
<i>Sex with transfusion recipient with HIV infection</i>	5	4	3	—	—	13
<i>Sex with HIV-infected person, risk not specified</i>	27	64	38	1	2	133
<i>Receipt of blood transfusion, blood components, or tissue</i>	20	23	12	—	—	55
<i>Has HIV infection, risk not specified</i>	57	200	58	2	3	320
Receipt of blood transfusion, blood components, or tissue	149 (21)	64 (4)	62 (8)	6 (35)	—	281 (9)
Undetermined	11 (2)	48 (3)	19 (2)	—	—	78 (2)
Pediatric subtotal	702(100)	1,714 (100)	806(100)	17 (100)	7(100)	3,253(100)
Total	103,502	55,181	30,964	1,187	299	191,601

¹ See technical notes.

² Eighteen adults/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult developed AIDS after receiving tissue from an HIV-infected donor who screened negative for HIV antibody.

³ "Other" refers to 4 persons who developed AIDS after exposure to HIV-infected blood within the health care setting, as documented by evidence of seroconversion or other laboratory studies. "Undetermined" refers to patients whose mode of exposure to HIV is unknown. This includes patients under investigation; patients who died, were lost to follow-up, or refused interview; and patients whose mode of exposure to HIV remains undetermined after investigation. See Figure 4.

⁴ Includes 468 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through August 1991, United States

Male exposure category	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native	Total ⁴
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	78,150 (80)	19,034 (44)	12,202 (47)	876 (81)	159 (63)	110,678 (65)
Intravenous (IV) drug use	6,467 (7)	15,438 (36)	10,116 (39)	36 (3)	31 (12)	32,165 (19)
Men who have sex with men and use IV drugs	7,132 (7)	3,360 (8)	1,762 (7)	27 (3)	39 (16)	12,334 (7)
Hemophilia/coagulation disorder	1,287 (1)	110 (0)	129 (0)	17 (2)	8 (3)	1,557 (1)
Heterosexual contact:	727 (1)	2,982 (7)	447 (2)	9 (1)	4 (2)	4,176 (2)
<i>Sex with IV drug user</i>	438	927	269	5	4	1,644
<i>Sex with person with hemophilia</i>	6	1	1	—	—	8
<i>Born in Pattern-II¹ country</i>	6	1,659	11	2	—	1,683
<i>Sex with person born in Pattern-II country</i>	39	48	8	1	—	96
<i>Sex with transfusion recipient with HIV infection</i>	38	19	14	—	—	72
<i>Sex with HIV-infected person, risk not specified</i>	200	328	144	1	—	673
Receipt of blood transfusion, blood components, or tissue ²	1,871 (2)	393 (1)	234 (1)	48 (4)	1 (0)	2,553 (2)
Other/undetermined ³	2,128 (2)	2,038 (5)	1,326 (5)	62 (6)	9 (4)	5,604 (3)
Male subtotal	97,762 (100)	43,355 (100)	26,216 (100)	1,075 (100)	251 (100)	169,067 (100)
Female						
exposure category						
IV drug use	2,101 (42)	5,647 (56)	1,994 (51)	15 (16)	22 (54)	9,798 (51)
Hemophilia/coagulation disorder	30 (1)	6 (0)	4 (0)	—	—	40 (0)
Heterosexual contact:	1,527 (30)	3,383 (33)	1,482 (38)	34 (36)	10 (24)	6,460 (34)
<i>Sex with IV drug user</i>	757	2,008	1,190	13	6	3,991
<i>Sex with bisexual male</i>	324	203	74	10	1	614
<i>Sex with person with hemophilia</i>	76	8	4	1	—	89
<i>Born in Pattern-II country</i>	4	656	3	1	—	665
<i>Sex with person born in Pattern-II country</i>	10	57	2	—	—	70
<i>Sex with transfusion recipient with HIV infection</i>	95	23	24	2	—	145
<i>Sex with HIV-infected person, risk not specified</i>	261	428	185	7	3	886
Receipt of blood transfusion, blood components, or tissue	1,022 (20)	332 (3)	202 (5)	29 (31)	5 (12)	1,594 (8)
Other/undetermined	358 (7)	744 (7)	260 (7)	17 (18)	4 (10)	1,389 (7)
Female subtotal	5,038 (100)	10,112 (100)	3,942 (100)	95 (100)	41 (100)	19,281 (100)
Total	102,800	53,467	30,158	1,170	292	188,348

¹ See technical notes.

² Eighteen adults/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult developed AIDS after receiving tissue from an HIV-infected donor who screened negative for HIV antibody.

³ "Other" refers to 4 persons who developed AIDS after exposure to HIV-infected blood within the health care setting, as documented by evidence of seroconversion or other laboratory studies. "Undetermined" refers to patients whose mode of exposure to HIV is unknown. This includes patients under investigation; patients who died, were lost to follow-up, or refused interview; and patients whose mode of exposure to HIV remains undetermined after investigation. See Figure 4.

⁴ Includes 408 males and 53 females whose race/ethnicity is unknown.

Table 6. AIDS cases in adolescents and adults under age 25, by exposure category, reported September 1989 through August 1990, September 1990 through August 1991, and cumulative totals through August 1991, United States

Exposure category	13-19 years old			20-24 years old		
	Sept. 1989- Aug. 1990	Sept. 1990- Aug. 1991	Cumulative total	Sept. 1989- Aug. 1990	Sept. 1990- Aug. 1991	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	30 (20)	29 (17)	186 (25)	823 (53)	722 (47)	4,262 (55)
Intravenous (IV) drug use	20 (13)	23 (14)	92 (12)	278 (18)	310 (20)	1,307 (17)
Men who have sex with men and use IV drugs	4 (3)	6 (4)	32 (4)	148 (9)	101 (7)	692 (9)
Hemophilia/coagulation disorder	47 (31)	44 (26)	220 (30)	31 (2)	39 (3)	195 (3)
Heterosexual contact:	31 (21)	30 (18)	102 (14)	188 (12)	221 (14)	793 (10)
<i>Sex with IV drug user</i>	21	23	69	116	134	457
<i>Sex with bisexual male</i>	1	—	3	9	8	54
<i>Sex with person with hemophilia</i>	1	2	3	5	3	17
<i>Born in Pattern-II¹ country</i>	2	2	15	23	15	121
<i>Sex with person born in Pattern-II country</i>	—	1	1	4	4	10
<i>Sex with transfusion recipient with HIV infection</i>	1	—	1	5	2	8
<i>Sex with HIV-infected person, risk not specified</i>	5	2	10	26	55	126
Receipt of blood transfusion, blood components, or tissue	7 (5)	9 (5)	52 (7)	18 (1)	19 (1)	109 (1)
Undetermined ²	12 (8)	27 (16)	53 (7)	79 (5)	134 (9)	346 (4)
Total	151 (100)	168 (100)	737 (100)	1,565 (100)	1,546 (100)	7,704 (100)

¹ See technical notes.

² "Undetermined" refers to patients whose mode of exposure to HIV is unknown. This includes patients under investigation; patients who died, were lost to follow-up, or refused interview; and patients whose mode of exposure to HIV remains undetermined after investigation. See Figure 4.

Table 7. AIDS cases by sex, age at diagnosis, and race/ethnicity, reported through August 1991, United States

Males	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native	Total¹
Age at diagnosis (years)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Under 5	235 (0)	761 (2)	354 (1)	6 (1)	4 (2)	1,363 (1)
5-12	186 (0)	118 (0)	82 (0)	5 (0)	—	393 (0)
13-19	256 (0)	162 (0)	110 (0)	7 (1)	5 (2)	540 (0)
20-24	3,225 (3)	1,947 (4)	1,184 (4)	37 (3)	14 (5)	6,424 (4)
25-29	14,762 (15)	6,859 (16)	4,449 (17)	148 (14)	55 (22)	26,327 (15)
30-34	22,848 (23)	10,870 (25)	6,726 (25)	217 (20)	63 (25)	40,807 (24)
35-39	21,626 (22)	10,248 (23)	5,897 (22)	244 (22)	51 (20)	38,166 (22)
40-44	14,982 (15)	6,113 (14)	3,673 (14)	181 (17)	32 (13)	25,046 (15)
45-49	8,907 (9)	3,284 (7)	1,918 (7)	108 (10)	16 (6)	14,274 (8)
50-54	4,828 (5)	1,827 (4)	1,079 (4)	58 (5)	5 (2)	7,820 (5)
55-59	3,042 (3)	1,093 (2)	659 (2)	38 (3)	5 (2)	4,853 (3)
60-64	1,756 (2)	579 (1)	315 (1)	11 (1)	4 (2)	2,669 (2)
65 or older	1,530 (2)	373 (1)	206 (1)	26 (2)	1 (0)	2,141 (1)
Male subtotal	98,183 (100)	44,234 (100)	26,652 (100)	1,086(100)	255 (100)	170,823 (100)
Females						
Age at diagnosis (years)						
Under 5	227 (4)	735 (7)	309 (7)	1 (1)	3 (7)	1,276 (6)
5-12	54 (1)	100 (1)	61 (1)	5 (5)	—	221 (1)
13-19	54 (1)	114 (1)	27 (1)	1 (1)	1 (2)	197 (1)
20-24	318 (6)	630 (6)	314 (7)	6 (6)	5 (11)	1,280 (6)
25-29	933 (18)	1,927 (18)	893 (21)	8 (8)	5 (11)	3,777 (18)
30-34	1,157 (22)	2,861 (26)	1,033 (24)	18 (18)	13 (30)	5,093 (25)
35-39	815 (15)	2,277 (21)	785 (18)	14 (14)	5 (11)	3,907 (19)
40-44	483 (9)	1,078 (10)	416 (10)	20 (20)	5 (11)	2,005 (10)
45-49	251 (5)	509 (5)	203 (5)	7 (7)	3 (7)	978 (5)
50-54	189 (4)	303 (3)	117 (3)	6 (6)	1 (2)	617 (3)
55-59	205 (4)	174 (2)	65 (2)	4 (4)	—	450 (2)
60-64	175 (3)	116 (1)	41 (1)	7 (7)	2 (5)	341 (2)
65 or older	458 (9)	123 (1)	48 (1)	4 (4)	1 (2)	636 (3)
Female subtotal	5,319 (100)	10,947 (100)	4,312 (100)	101(100)	44 (100)	20,778 (100)
Total	103,502	55,181	30,964	1,187	299	191,601

¹ Includes 468 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through August 1991, United States

Half-year	Adults/adolescents			Children <13 years old		
	Cases diagnosed during interval	Case-fatality rate	Deaths occurring during interval	Cases diagnosed during interval	Case-fatality rate	Deaths occurring during interval
Before 1981	79	84.8	30	6	66.7	1
1981 Jan.-June	92	91.3	38	9	77.8	2
July-Dec.	204	91.2	86	5	100.0	7
1982 Jan.-June	390	91.3	151	15	80.0	8
July-Dec.	690	89.3	284	15	80.0	5
1983 Jan.-June	1,279	92.7	521	34	97.1	13
July-Dec.	1,643	92.1	924	42	78.6	16
1984 Jan.-June	2,555	90.5	1,385	49	85.7	26
July-Dec.	3,377	91.3	1,941	62	75.8	24
1985 Jan.-June	4,841	90.2	2,788	96	75.0	45
July-Dec.	6,250	89.0	3,803	128	77.3	68
1986 Jan.-June	8,229	87.7	5,013	136	77.9	65
July-Dec.	9,872	84.7	6,387	186	66.7	89
1987 Jan.-June	12,797	84.5	7,400	220	66.8	115
July-Dec.	14,196	79.7	7,769	251	61.8	160
1988 Jan.-June	16,158	75.3	9,090	239	54.0	130
July-Dec.	16,577	71.6	10,315	323	52.0	160
1989 Jan.-June	18,536	63.1	11,819	328	47.3	163
July-Dec.	18,385	56.9	13,433	307	43.6	172
1990 Jan.-June	18,895	46.7	12,944	306	33.3	160
July-Dec.	17,161	35.2	13,037	296	26.0	159
1991 Jan.-June	14,848	20.1	10,873	190	24.2	109
July-Aug.	1,294	8.6	966	10	0.0	6
Total¹	188,348	64.3	121,196	3,253	52.5	1,709

¹ Death totals include 199 adults/adolescents and 6 children known to have died, but whose dates of death are unknown.

Table 9. AIDS cases by year of diagnosis and definition category, diagnosed through August 1991, United States

Definition category ¹	Year of diagnosis					Cumulative total
	Before Sept. 1987	Sept. 1987-Aug. 1988	Sept. 1988-Aug. 1989	Sept. 1989-Aug. 1990	Sept. 1990-Aug. 1991	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	52,362 (90)	23,351 (73)	25,470 (70)	25,256 (67)	17,347 (63)	143,786 (75)
1987 definition: ²	5,666 (10)	8,464 (27)	10,922 (30)	12,428 (33)	10,335 (37)	47,815 (25)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	3,024	4,734	6,238	7,524	6,433	27,953
<i>Specific disease</i>						
<i>definitively diagnosed</i>	762	582	718	832	619	3,513
<i>HIV encephalopathy</i>	645	1,092	1,299	1,342	943	5,321
<i>HIV wasting syndrome</i>	1,235	2,056	2,667	2,730	2,340	11,028
Total	58,028 (100)	31,815 (100)	36,392 (100)	37,684 (100)	27,682 (100)	191,601 (100)

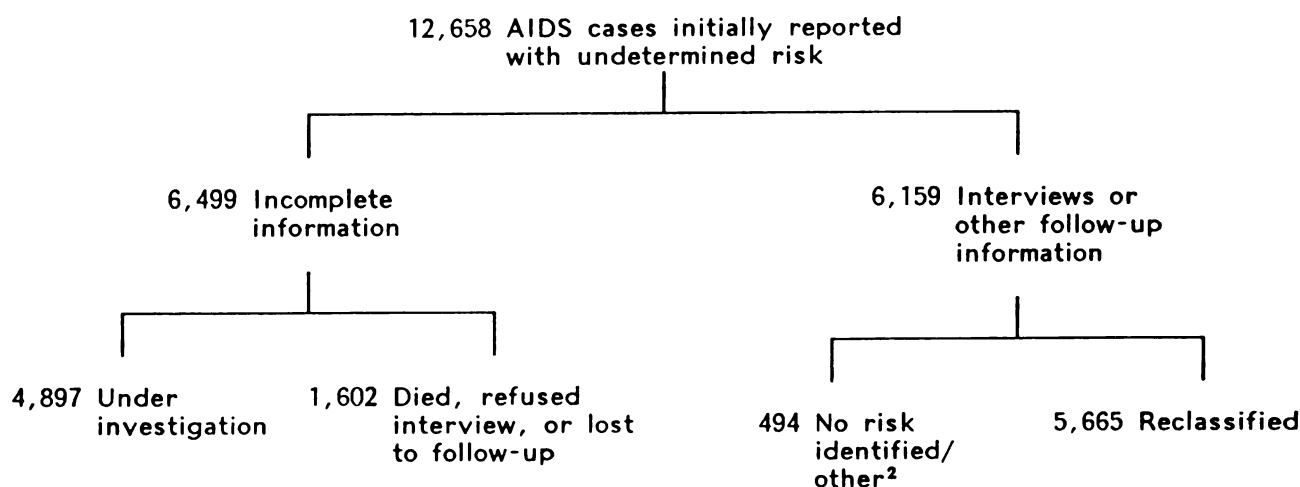
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

² Persons who meet only the 1987 AIDS case definition and whose date of diagnosis is before September 1987 were diagnosed retrospectively.

Table 10. Adult/adolescent AIDS cases by single and multiple exposure categories, reported through August 1991, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Men who have sex with men	106,422	(57)
Intravenous (IV) drug use	35,917	(19)
Hemophilia/coagulation disorder	1,015	(1)
Heterosexual contact	10,173	(5)
Receipt of transfusion of blood, blood component, or tissue	4,147	(2)
Other/undetermined	6,993	(4)
Single mode of exposure subtotal	164,667	(87)
Multiple modes of exposure		
Men who have sex with men; IV drug use	11,107	(6)
Men who have sex with men; hemophilia	38	(0)
Men who have sex with men; heterosexual contact	2,238	(1)
Men who have sex with men; receipt of transfusion	1,845	(1)
IV drug use; hemophilia	44	(0)
IV drug use; heterosexual contact	4,946	(3)
IV drug use; receipt of transfusion	789	(0)
Hemophilia; heterosexual contact	9	(0)
Hemophilia; receipt of transfusion	562	(0)
Heterosexual contact; receipt of transfusion	463	(0)
Men who have sex with men; IV drug use; hemophilia	8	(0)
Men who have sex with men; IV drug use; heterosexual contact	890	(0)
Men who have sex with men; IV drug use; receipt of transfusion	283	(0)
Men who have sex with men; hemophilia; heterosexual contact	3	(0)
Men who have sex with men; hemophilia; receipt of transfusion	21	(0)
Men who have sex with men; heterosexual contact; receipt of transfusion	111	(0)
IV drug use; hemophilia; heterosexual contact	5	(0)
IV drug use; hemophilia; receipt of transfusion	19	(0)
IV drug use; heterosexual contact; receipt of transfusion	237	(0)
Hemophilia; heterosexual contact; receipt of transfusion	11	(0)
Men who have sex with men; IV drug use; hemophilia; heterosexual contact	1	(0)
Men who have sex with men; IV drug use; hemophilia; receipt of transfusion	6	(0)
Men who have sex with men; IV drug use; heterosexual contact; receipt of transfusion	39	(0)
IV drug use; hemophilia; heterosexual contact; receipt of transfusion	6	(0)
Multiple modes of exposure subtotal	23,681	(13)
Total	188,348	(100)

Figure 4. Results of investigations of adult/adolescent AIDS cases with undetermined risk, reported through August 1991¹



¹ Excludes 78 children under 13 years of age who have an undetermined risk: 68 children are under investigation and 10 have died, refused interview, or were lost to follow-up. An additional 117 children who were initially reported with an undetermined risk have been reclassified after investigation.

² Of the 494 persons classified as "No risk identified/other," 4 are persons who developed AIDS after exposure to HIV-infected blood within the health-care setting, as documented by evidence of seroconversion or other laboratory studies. For the remaining 490, the mode of exposure to HIV remains undetermined after investigation.

Health-care workers. 82 of the 490 patients who had no risk identified after follow-up are health-care workers, 74 of whom responded to a standardized questionnaire. 43 (58%) reported needlesticks and/or mucous membrane exposures to blood and other body fluids of patients. None of the source patients was known to be infected with HIV at the time of exposure and none of the health-care workers was evaluated at the time of the exposure to document seroconversion to HIV antibody. See *MMWR*, "Update: Acquired Immunodeficiency Syndrome and Human Immunodeficiency Virus Infection Among Health-Care Workers," (April 22, 1988)37:229-234,239.

Heterosexual transmission. 433 of the 490 patients who had no risk identified after follow-up responded to a standardized questionnaire; 137 (34%) of 398 persons responding to questions related to sexually transmitted disease gave a history of such disease and 95 (35%) of 272 interviewed men reported sexual contact with a prostitute. Some of these persons may represent unreported or unrecognized heterosexual transmission of HIV. See *MMWR*, "Update: Heterosexual Transmission of AIDS and HIV Infection — U.S.," (June 23, 1989) 38:423-424,429-434.

Technical notes

Surveillance and reporting of AIDS

All 50 states, the District of Columbia, U.S. dependencies and possessions, and independent nations in free association with the U.S.¹ report AIDS cases to CDC using a uniform case definition and case report form. The original definition was modified in 1985 (*MMWR* 1985;34:373-5) and again in 1987 (*MMWR* 1987;36 [suppl. no. 1S]:1S-15S). The revisions incorporated a broader range of AIDS-indicator diseases and conditions and used human immunodeficiency virus (HIV) diagnostic tests to improve the sensitivity and specificity of the definition. For persons with laboratory-confirmed HIV infection, the 1987 revision incorporated HIV encephalopathy, wasting syndrome, and other indicator diseases that are diagnosed presumptively (i.e., without confirmatory laboratory evidence of the opportunistic disease). AIDS cases that meet the criteria of both the pre-1987 and 1987 definitions are classified in the pre-1987 definition category. Compared with patients who meet the pre-1987 case definition, a higher proportion of patients who meet only the 1987 case definition were female, black, or Hispanic, or were intravenous drug users (*MMWR* 1989;38:229-36).

Each issue of this update includes information received and tabulated by CDC through the last day of the previous month. Data are tabulated by date of report to CDC unless otherwise noted. Data for U.S. dependencies and possessions and for associated independent nations are included in the totals.

Age group tabulations are based on the person's age at diagnosis of AIDS: adult/adolescent cases include persons 13 years of age and older; pediatric cases include children under 13 years of age. Age group tabulations in Table 13 (only included in the year-end edition) are based on age at death.

Metropolitan areas are defined as the Metropolitan Statistical Areas (MSA) for all areas except the 6 New England states. For these states, the New England County Metropolitan Areas (NECMA) are used. Metropolitan areas are named for a central city in the MSA or NECMA, may include several cities and counties, and may cross state boundaries. For example, AIDS cases and annual rates pre-

¹Included among the dependencies, possessions, and independent nations are Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, the Republic of Palau, the Republic of the Marshall Islands, the Commonwealth of the Northern Mariana Islands, and the Federated States of Micronesia. The latter 5 comprise the category "Pacific Islands, U.S." listed in Table 1.

sented for the District of Columbia in Table 1 include only persons residing within the geographic boundaries of the District. AIDS cases and annual rates for Washington, D.C., in Table 2 include persons residing within several counties in the metropolitan area. State or metropolitan area data tabulations are based on the person's residence at diagnosis of the first AIDS-indicator disease(s). The cities and counties which comprise each metropolitan area in Table 2 are listed in the Bureau of Census publication, "State and Metropolitan Area Data Book, 1986."

Data in this report are provisional. Reporting delays (time between diagnosis and report to CDC) vary widely by geographic area and have been several years for some cases. The median reporting delay appears to have increased, from 2 months for cases diagnosed before 1987 to 3 months for cases diagnosed from 1987 to 1989.

Completeness of reporting of diagnosed cases to state and local health departments varies by geographic region and patient population; however, mortality studies suggest that 70 to 90 percent of HIV-related deaths in men 25 to 44 years old are identified through national surveillance of AIDS (*MMWR* 1989;38:561-3). In addition, multiple routes of exposure, opportunistic diseases diagnosed after the initial case report was submitted to CDC, and vital status may not be determined or reported for all cases. Caution should be used in interpreting case-fatality rates because reporting of deaths is known to be incomplete.

Exposure categories

For surveillance purposes, AIDS cases are counted only once in a hierarchy of exposure categories. Persons with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy, except for men with both a history of sexual contact with other men and intravenous drug use. They make up a separate exposure category.

"Men who have sex with men" cases include men who report sexual contact with other men (i.e., homosexual contact) and men who report sexual contact with both men and women (i.e., bisexual contact). "Heterosexual contact" cases include persons who report either specific heterosexual contact with a person with, or at increased risk for, HIV infection

(e.g., an intravenous drug user), or persons presumed to have acquired HIV infection through heterosexual contact because they were born in countries with a distinctive pattern of transmission termed "Pattern II" by the World Health Organization (*MMWR* 1988;37:286-8,293-5). Pattern II transmission is observed in areas of sub-Saharan Africa and in some Caribbean countries. In these countries, most of the reported cases occur in heterosexuals and the male-to-female ratio is approximately 1:1. Intravenous drug use and homosexual transmission either do not occur or occur at a low level.

"Undetermined" cases are persons with no reported history of exposure to HIV through any of the routes listed in the hierarchy of exposure categories. Undetermined cases include persons who are currently under investigation by local health department officials; persons whose exposure history is incomplete because of death, refusal to be interviewed, or loss to follow-up; and persons who were interviewed or for whom other follow-up information was available and no exposure mode was identified. Persons who have an exposure mode identified at the time of follow-up are reclassified into the appropriate exposure category.

Rates

Rates are on an annual basis per 100,000 population. The denominators for computing rates in Table 1 and Table 2 are based on U.S. Bureau of Census provisional data from the 1990 census and on extrapolations from the 1980 and 1990 census. Each 12-month rate is the number of cases for a 12-month period divided by the 1990 or 1991 population, multiplied by 100,000.

The denominators for computing race-specific rates (Table 9, included only in the year-end edition) are based on 1990 census projections published in U.S. Bureau of Census publications, "Projections of the Population of the United States, by Age, Sex, and Race, 1988 to 2080," and "Projections of the Hispanic Population, 1983 to 2080." Race-specific rates are the number of cases reported for a particular race/ethnicity during the preceding 12-month period divided by the 1990 census projection for that race/ethnicity, multiplied by 100,000.

Case-fatality rates are on a semiannual basis by date of diagnosis. Each 6-month case-fatality rate is the number of fatal cases reported, divided by the number of total cases diagnosed in that period, multiplied by 100.

Trends in AIDS incidence

Tabulations of AIDS cases by date of report give a general description of AIDS cases, but analyses by date of diagnosis give a more accurate description of trends. Delays in reporting, however, can have a substantial impact on tabulated numbers of cases diagnosed in recent time periods. About half of all cases are reported within 3 months of diagnosis, but about 15% are reported more than 1 year after diagnosis. Delays are substantially longer for pediatric cases and for transfusion-associated cases in adults.

Figure 5 (included only in the year-end report) shows trends in AIDS incidence by month of diagnosis. The points on the plot show the estimated numbers of cases diagnosed, after adjusting for estimated reporting delays. The smooth curve is computed using the Lowess procedure (J.M. Chamber, W.S. Cleveland, B. Kleiner, and P.A. Tukey. *Graphical Methods for Data Analysis*. Duxbury Press, Boston, 1983, Chapter 4).

Reporting delays were estimated by a maximum likelihood statistical procedure for each HIV exposure category (J.M. Karon, O.J. Devine, and W.M. Morgan "Predicting AIDS incidence by extrapolating from recent trends." In: C. Castillo-Chavex, ed. *Mathematical and Statistical Approaches to AIDS Epidemiology. Lecture Notes in Biomathematics*, vol. 83, Springer Verlag, Berlin, 1989). The adjusted incidence used in Figure 5 is the sum of the adjusted incidences for each HIV exposure group.

The Lowess procedure makes no assumption about the overall trends in the data. A fitted value is computed for each month by weighted least squares regression using only the adjusted number of cases diagnosed during an interval about the month (in Figure 5, the 30% of months closest to the chosen month); the weights decrease for times further from the chosen month. The procedure assumes that incidence during the interval about each month is approximately a linear function of time. Lowess tends to produce a curve that is linear at each end, as observed in the figure; predictions of future numbers of cases should not be made by extrapolating the Lowess curve.

The Lowess curve should be considered a description of the overall trend in AIDS cases. This curve emphasizes that the rate of increase in incidence slowed during the middle of 1987. See *MMWR* 1990;39:81-86.

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