

HIV / AIDS

SURVEILLANCE

U.S. AIDS cases reported through September 1990

Issued October 1990

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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 October 1989 through September 1990, United States

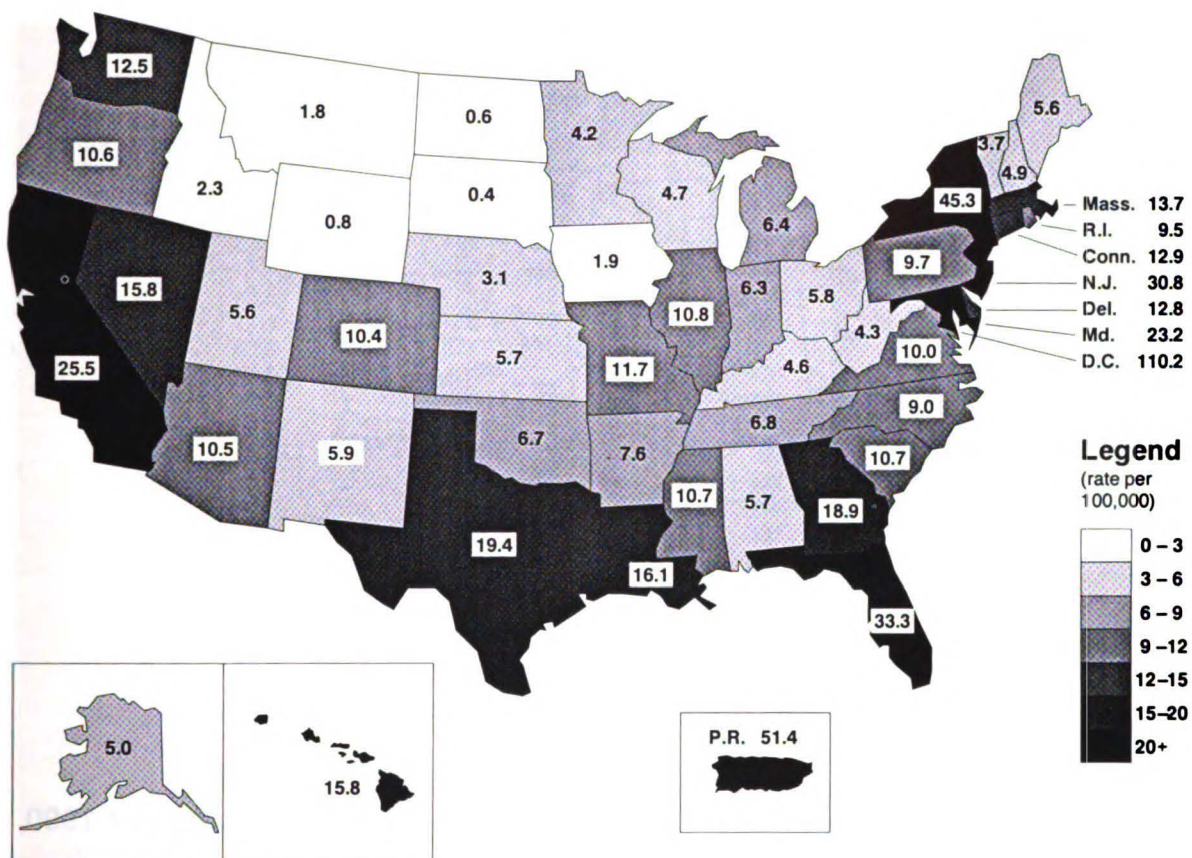


Figure 2. Adult/adolescent and pediatric AIDS cases, reported October 1989 through September 1990, United States

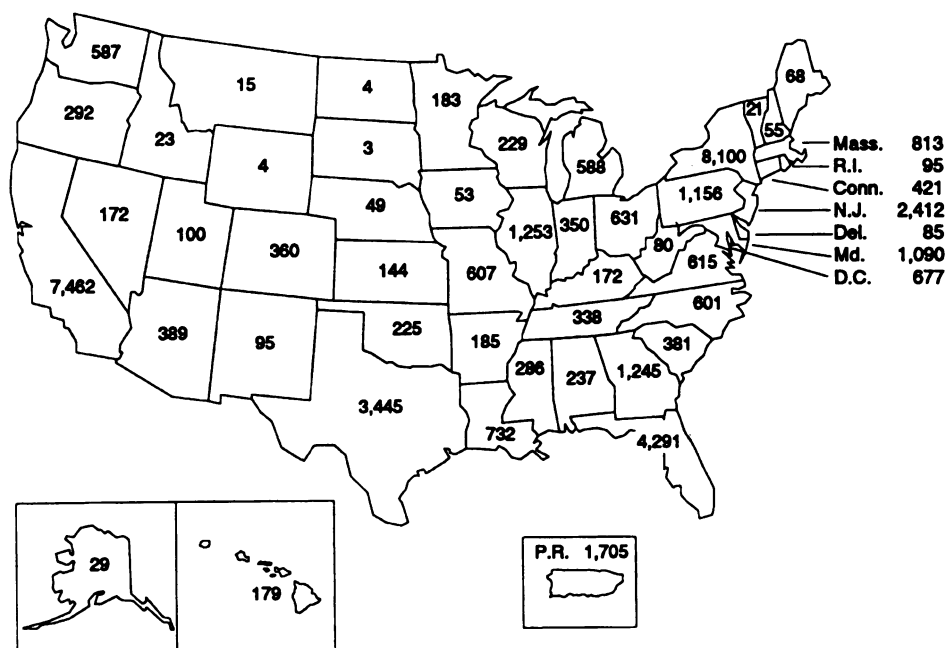


Figure 3. Pediatric AIDS cases, reported October 1989 through September 1990, United States

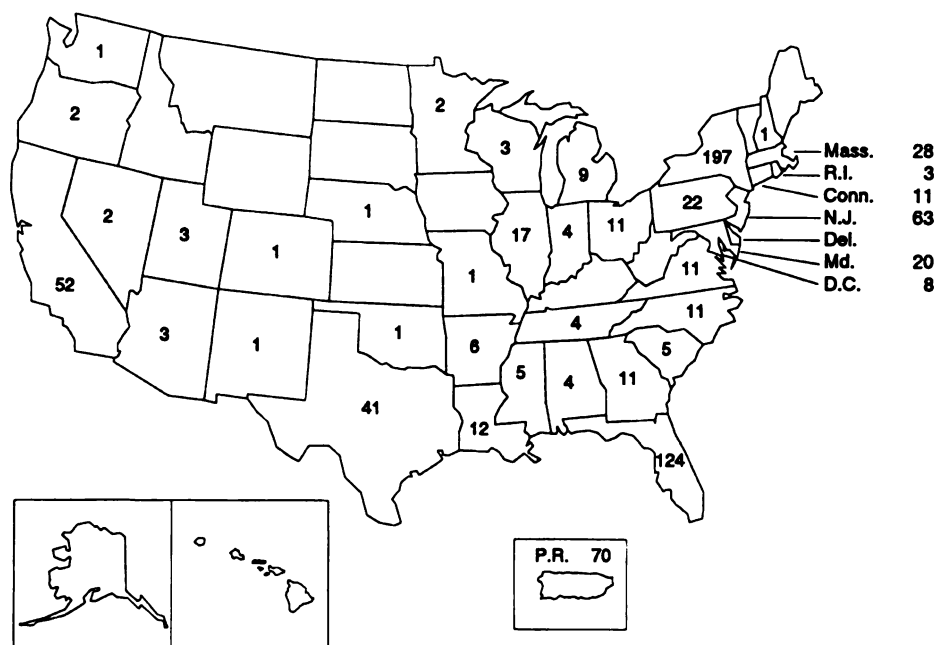


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported October 1988 through September 1989, October 1989 through September 1990; and cumulative totals, by state and age group, through September 1990¹

State of residence	Oct. 1988- Sept. 1989		Oct. 1989- Sept. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	220	5.3	237	5.7	818	19	837
Alaska	15	2.7	29	5.0	96	2	98
Arizona	267	7.4	389	10.5	1,240	7	1,247
Arkansas	71	2.9	185	7.6	406	9	415
California	6,148	21.4	7,462	25.5	28,834	199	29,033
Colorado	386	11.4	360	10.4	1,505	8	1,513
Connecticut	436	13.4	421	12.9	1,716	58	1,774
Delaware	73	11.1	85	12.8	288	4	292
District of Columbia	517	83.9	677	110.2	2,516	34	2,550
Florida	3,333	26.5	4,291	33.3	12,978	363	13,341
Georgia	1,123	17.3	1,245	18.9	3,981	44	4,025
Hawaii	159	14.2	179	15.8	598	2	600
Idaho	22	2.2	23	2.3	69	2	71
Illinois	1,105	9.5	1,253	10.8	4,354	63	4,417
Indiana	266	4.8	350	6.3	944	10	954
Iowa	57	2.0	53	1.9	201	3	204
Kansas	103	4.1	144	5.7	421	3	424
Kentucky	109	2.9	172	4.6	457	5	462
Louisiana	476	10.5	732	16.1	2,142	35	2,177
Maine	47	3.9	68	5.6	200	2	202
Maryland	603	13.0	1,090	23.2	2,917	64	2,981
Massachusetts	760	12.9	813	13.7	3,068	68	3,136
Michigan	476	5.1	588	6.4	1,858	29	1,887
Minnesota	184	4.3	183	4.2	766	8	774
Mississippi	150	5.6	286	10.7	609	10	619
Missouri	431	8.3	607	11.7	1,725	11	1,736
Montana	13	1.6	15	1.8	49	—	49
Nebraska	44	2.8	49	3.1	169	2	171
Nevada	170	16.1	172	15.8	573	5	578
New Hampshire	43	3.9	55	4.9	175	5	180
New Jersey	2,213	28.4	2,412	30.8	9,559	270	9,829
New Mexico	96	6.1	95	5.9	313	2	315
New York	6,391	35.8	8,100	45.3	32,111	763	32,874
North Carolina	370	5.6	601	9.0	1,536	32	1,568
North Dakota	6	0.9	4	0.6	20	—	20
Ohio	485	4.5	631	5.8	2,126	34	2,160
Oklahoma	151	4.6	225	6.7	656	10	666
Oregon	216	7.8	292	10.6	923	5	928
Pennsylvania	1,096	9.2	1,156	9.7	4,111	74	4,185
Rhode Island	83	8.4	95	9.5	351	9	360
South Carolina	278	7.9	381	10.7	969	21	990
South Dakota	6	0.8	3	0.4	19	—	19
Tennessee	251	5.1	338	6.8	1,023	14	1,037
Texas	2,161	12.4	3,445	19.4	10,624	102	10,726
Utah	86	4.9	100	5.6	315	8	323
Vermont	12	2.1	21	3.7	67	1	68
Virginia	416	6.9	615	10.0	1,864	33	1,897
Washington	462	10.0	587	12.5	1,985	11	1,996
West Virginia	38	2.0	80	4.3	173	2	175
Wisconsin	126	2.6	229	4.7	605	4	609
Wyoming	14	2.8	4	0.8	33	—	33
U.S. total	32,764	13.2	41,627	16.6	145,056	2,469	147,525
Guam	1	0.7	2	1.4	8	—	8
Pacific Islands, U.S.	1	0.7	1	0.7	2	—	2
Puerto Rico	1,471	44.5	1,705	51.4	4,358	155	4,513
Virgin Islands, U.S.	28	24.3	11	9.4	74	4	78
Total	34,265	13.6	43,346	17.1	149,498	2,628	152,126

¹ During September 1990, 5,277 cases and 3,968 deaths among adults/adolescents and 103 cases and 46 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 October 1988 through September 1989, October 1989 through September 1990; and cumulative totals, by area and age group, through September 1990

Metropolitan area of residence	Oct. 1988- Sept. 1989		Oct. 1989- Sept. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	26	4.0	29	4.5	102	—	102
Albany-Schenectady, N.Y.	66	7.8	85	10.0	306	3	309
Albuquerque, N.M.	54	10.6	46	8.8	164	1	165
Allentown, Pa.	31	4.6	55	8.1	146	4	150
Anaheim, Calif.	293	12.8	394	16.9	1,268	9	1,277
Atlanta, Ga.	887	31.3	959	33.0	3,050	25	3,075
Austin, Tex.	174	22.0	246	30.0	672	5	677
Bakersfield, Calif.	27	5.1	36	6.6	101	—	101
Baltimore, Md.	403	17.2	709	30.1	1,746	46	1,792
Baton Rouge, La.	49	9.0	61	11.0	183	2	185
Bergen-Passaic, N.J.	209	16.1	320	24.7	1,256	27	1,283
Birmingham, Ala.	89	9.6	73	7.8	267	6	273
Boston, Mass.	604	16.1	604	16.0	2,420	51	2,471
Bridgeport, Conn.	139	16.9	110	13.4	510	19	529
Buffalo, N.Y.	50	5.3	97	10.4	242	2	244
Charleston, S.C.	56	10.7	83	15.6	221	—	221
Charlotte, N.C.	80	7.1	101	8.8	305	5	310
Chicago, Ill.	910	14.6	1,039	16.6	3,674	48	3,722
Cincinnati, Ohio	59	4.1	125	8.6	323	6	329
Cleveland, Ohio	125	6.8	130	7.1	536	9	545
Columbus, Ohio	106	7.9	142	10.5	473	3	476
Dallas, Tex.	520	20.0	820	30.7	2,631	12	2,643
Dayton, Ohio	65	6.9	56	5.9	212	3	215
Denver, Colo.	315	18.6	296	17.2	1,229	5	1,234
Detroit, Mich.	336	7.7	408	9.4	1,305	21	1,326
El Paso, Tex.	23	3.8	37	6.0	97	1	98
Fort Lauderdale, Fla.	580	48.4	876	71.9	2,356	46	2,402
Fort Worth, Tex.	148	10.9	194	13.9	584	7	591
Fresno, Calif.	47	7.6	60	9.5	179	2	181
Gary, Ind.	21	3.5	31	5.3	82	—	82
Grand Rapids, Mich.	27	4.0	30	4.4	92	1	93
Greensboro, N.C.	64	6.8	104	11.0	242	6	248
Greenville, S.C.	35	5.6	46	7.3	123	—	123
Harrisburg, Pa.	52	8.8	37	6.2	149	4	153
Hartford, Conn.	153	13.7	142	12.6	513	12	525
Honolulu, Hawaii	121	14.2	120	14.0	457	1	458
Houston, Tex.	794	23.9	1,361	40.3	4,437	44	4,481
Indianapolis, Ind.	128	10.3	175	13.9	447	3	450
Jacksonville, Fla.	151	16.4	305	32.4	694	19	713
Jersey City, N.J.	341	62.8	344	63.5	1,618	38	1,656
Kansas City, Mo.	248	15.7	311	19.4	943	3	946
Knoxville, Tenn.	23	3.8	27	4.5	105	—	105
Lake County, Ill.	20	3.9	19	3.6	72	2	74
Las Vegas, Nev.	125	19.7	134	20.5	425	5	430
Little Rock, Ark.	29	5.5	73	13.8	165	5	170
Los Angeles, Calif.	2,164	24.6	2,420	27.1	10,106	88	10,194
Louisville, Ky.	45	4.6	70	7.2	193	2	195
Memphis, Tenn.	79	8.0	105	10.5	326	6	332
Miami, Fla.	998	54.7	1,135	61.8	3,893	156	4,049
Middlesex, N.J.	203	20.4	163	16.2	752	24	776
Milwaukee, Wis.	72	5.2	128	9.2	349	2	351
Minneapolis-Saint Paul, Minn.	162	6.8	170	7.0	690	6	696
Mobile, Ala.	48	9.7	32	6.4	166	—	166
Monmouth-Ocean City, N.J.	175	17.6	193	19.1	607	23	630
Nashville, Tenn.	78	7.9	111	11.0	339	6	345
Nassau-Suffolk, N.Y.	336	12.8	418	15.9	1,537	37	1,574
New Haven, Conn.	105	13.2	140	17.5	551	27	578
New Orleans, La.	283	21.2	427	31.8	1,362	18	1,380

Table 2. AIDS cases and annual rates per 100,000 population, by metropolitan area with 500,000 or more population, reported October 1988 through September 1989, October 1989 through September 1990; and cumulative totals, by area and age group, through September 1990 — Continued

Metropolitan area of residence	Oct. 1988- Sept. 1989		Oct. 1989- Sept. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
New York, N.Y.	5,456	63.7	6,911	80.3	27,902	693	28,595
Newark, N.J.	899	47.3	1,008	53.0	4,013	123	4,136
Norfolk, Va.	76	5.4	151	10.6	404	7	411
Oakland, Calif.	366	18.1	625	30.5	1,937	13	1,950
Oklahoma City, Okla.	78	7.8	117	11.6	336	—	336
Omaha, Neb.	33	5.3	31	4.9	116	1	117
Orlando, Fla.	163	16.4	264	25.7	691	7	698
Oxnard-Ventura, Calif.	40	6.1	41	6.1	138	—	138
Philadelphia, Pa.	807	16.4	832	16.9	3,104	52	3,156
Phoenix, Ariz.	185	8.8	288	13.2	906	4	910
Pittsburgh, Pa.	154	7.5	140	6.8	525	2	527
Portland, Oreg.	166	14.0	226	18.9	722	2	724
Providence, R.I.	76	8.4	91	10.0	328	8	336
Raleigh-Durham, N.C.	78	11.2	135	18.9	340	9	349
Richmond, Va.	97	11.5	119	13.9	356	7	363
Riverside-San Bernardino, Calif.	243	10.6	249	10.5	920	15	935
Rochester, N.Y.	63	6.4	86	8.8	330	2	332
Sacramento, Calif.	182	13.0	143	10.0	606	5	611
Saint Louis, Mo.	182	7.3	276	11.0	768	7	775
Salt Lake City, Utah	71	6.5	90	8.1	278	5	283
San Antonio, Tex.	200	14.5	239	16.9	755	11	766
San Diego, Calif.	477	19.8	739	29.9	2,218	19	2,237
San Francisco, Calif.	1,683	104.4	2,100	129.3	8,917	16	8,933
San Jose, Calif.	148	10.3	180	12.4	678	8	686
San Juan, P.R.	928	59.4	1,086	69.3	2,721	102	2,823
Scranton, Pa.	22	3.0	42	5.7	112	3	115
Seattle, Wash.	350	18.9	462	24.6	1,531	10	1,541
Springfield, Mass.	45	7.7	75	12.8	173	9	182
Syracuse, N.Y.	31	4.8	41	6.3	146	5	151
Tacoma, Wash.	37	6.6	29	5.1	124	1	125
Tampa-Saint Petersburg, Fla.	391	19.0	427	20.3	1,457	24	1,481
Toledo, Ohio	26	4.3	40	6.6	110	3	113
Tucson, Ariz.	51	7.8	70	10.5	236	2	238
Tulsa, Okla.	48	6.4	63	8.3	187	3	190
Washington, D.C.	848	22.5	1,205	31.5	4,261	62	4,323
West Palm Beach, Fla.	352	41.5	366	41.8	1,304	54	1,358
Wilmington, Del.	62	10.9	73	12.7	239	3	242
Worcester, Mass.	36	5.4	36	5.3	146	4	150
Metropolitan area subtotal¹	28,701	19.6	36,058	24.4	128,028	2,207	130,235
All other areas	5,564	5.3	7,288	6.9	21,470	421	21,891
Total	34,265	13.6	43,346	17.1	149,498	2,628	152,126

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 October 1988 through September 1989, October 1989 through September 1990; and cumulative totals, by age group and exposure category, through September 1990, United States

Adult/adolescent exposure category	Males		Females		Totals		
	Oct. 1988-Sept. 1989	Oct. 1989-Sept. 1990	Oct. 1988-Sept. 1989	Oct. 1989-Sept. 1990	Oct. 1988-Sept. 1989	Oct. 1989-Sept. 1990	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	19,231 (64)	23,853 (63)	—	—	19,231 (57)	23,853 (56)	89,155 (60)
Intravenous (IV) drug use (female and heterosexual male)	6,094 (20)	7,647 (20)	1,885 (52)	2,273 (48)	7,979 (24)	9,920 (23)	32,257 (22)
Male homosexual/bisexual contact and IV drug use	2,183 (7)	2,387 (6)	—	—	2,183 (6)	2,387 (6)	10,058 (7)
Hemophilia/coagulation disorder	296 (1)	316 (1)	6 (0)	11 (0)	302 (1)	327 (1)	1,323 (1)
Heterosexual contact:	738 (2)	1,011 (3)	1,165 (32)	1,606 (34)	1,903 (6)	2,617 (6)	7,785 (5)
<i>Sex with IV drug user</i>	365	448	750	1,010	1,115	1,458	4,090
<i>Sex with bisexual male</i>	—	—	93	137	93	137	465
<i>Sex with person with hemophilia</i>	1	1	14	32	15	33	75
<i>Born in Pattern-II² country</i>	244	318	122	135	366	453	1,968
<i>Sex with person born in Pattern-II country</i>	13	26	10	22	23	48	123
<i>Sex with transfusion recipient with HIV infection</i>	13	22	24	36	37	58	135
<i>Sex with HIV-infected person, risk not specified</i>	102	196	152	234	254	430	929
Receipt of blood transfusion, blood components, or tissue ³	454 (2)	522 (1)	328 (9)	361 (8)	782 (2)	883 (2)	3,512 (2)
Other/undetermined ⁴	1,013 (3)	2,090 (6)	213 (6)	497 (10)	1,226 (4)	2,587 (6)	5,408 (4)
Adult/adolescent subtotal	30,009 (100)	37,826 (100)	3,597 (100)	4,748 (100)	33,606 (100)	42,574 (100)	149,498 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	31 (9)	31 (8)	1 (0)	—	32 (5)	31 (4)	132 (5)
Mother with/at risk for HIV infection:	285 (80)	327 (81)	280 (92)	336 (91)	565 (86)	663 (86)	2,184 (83)
<i>IV drug use</i>	147	152	120	154	267	306	1,091
<i>Sex with IV drug user</i>	63	77	63	68	126	145	454
<i>Sex with bisexual male</i>	7	5	7	7	14	12	49
<i>Sex with person with hemophilia</i>	—	1	1	1	1	2	9
<i>Born in Pattern-II country</i>	27	22	28	24	55	46	209
<i>Sex with person born in Pattern-II country</i>	1	2	2	2	3	4	10
<i>Sex with transfusion recipient with HIV infection</i>	2	1	6	1	8	2	12
<i>Sex with HIV-infected person, risk not specified</i>	11	18	15	20	26	38	95
<i>Receipt of blood transfusion, blood components, or tissue</i>	4	5	7	6	11	11	44
<i>Has HIV infection, risk not specified</i>	23	44	31	53	54	97	211
Receipt of blood transfusion, blood components, or tissue	32 (9)	27 (7)	15 (5)	14 (4)	47 (7)	41 (5)	243 (9)
Undetermined	7 (2)	18 (4)	8 (3)	19 (5)	15 (2)	37 (5)	69 (3)
Pediatric subtotal	355 (100)	403 (100)	304 (100)	369 (100)	659 (100)	772 (100)	2,628 (100)
Total	30,364	38,229	3,901	5,117	34,265	43,346	152,126

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 Includes 13 transfusion recipients who received blood screened for HIV antibody, and 1 tissue recipient.

⁴ "Other" refers to 3 health-care workers who seroconverted to HIV and developed AIDS after occupational exposure to HIV-infected blood. "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 September 1990, 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. (%)	Total ⁴ No. (%)
Male homosexual/bisexual contact	63,669 (76)	15,043 (36)	9,445 (41)	692 (74)	116 (54)	89,155 (60)
Intravenous (IV) drug use (female and heterosexual male)	6,541 (8)	16,180 (39)	9,375 (40)	39 (4)	36 (17)	32,257 (22)
Male homosexual/bisexual contact and IV drug use	5,848 (7)	2,713 (7)	1,437 (6)	19 (2)	28 (13)	10,058 (7)
Hemophilia/coagulation disorder	1,106 (1)	87 (0)	102 (0)	16 (2)	8 (4)	1,323 (1)
Heterosexual contact:	1,652 (2)	4,712 (11)	1,357 (6)	34 (4)	10 (5)	7,785 (5)
<i>Sex with IV drug user</i>	909	2,083	1,067	14	7	4,090
<i>Sex with bisexual male</i>	254	148	53	8	1	465
<i>Sex with person with hemophilia</i>	66	6	2	1	—	75
<i>Born in Pattern-II¹ country</i>	6	1,941	11	4	—	1,968
<i>Sex with person born in Pattern-II country</i>	39	75	8	—	—	123
<i>Sex with transfusion recipient with HIV infection</i>	90	21	21	1	—	135
<i>Sex with HIV-infected person, risk not specified</i>	288	438	195	6	2	929
Receipt of blood transfusion, blood components, or tissue ²	2,480 (3)	591 (1)	357 (2)	70 (8)	3 (1)	3,512 (2)
Other/undetermined ³	2,009 (2)	2,080 (5)	1,195 (5)	61 (7)	12 (6)	5,408 (4)
Adult/adolescent subtotal	83,305(100)	41,406 (100)	23,268(100)	931(100)	213(100)	149,498(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	89 (16)	17 (1)	23 (3)	3 (25)	—	132 (5)
Mother with/at risk for HIV infection:	338 (60)	1,248 (92)	582 (85)	4 (33)	5(100)	2,184 (83)
<i>IV drug use</i>	167	616	302	1	2	1,091
<i>Sex with IV drug user</i>	72	197	183	1	—	454
<i>Sex with bisexual male</i>	18	21	10	—	—	49
<i>Sex with person with hemophilia</i>	6	2	1	—	—	9
<i>Born in Pattern-II country</i>	2	205	2	—	—	209
<i>Sex with person born in Pattern-II country</i>	—	9	—	—	—	10
<i>Sex with transfusion recipient with HIV infection</i>	5	3	3	—	—	12
<i>Sex with HIV-infected person, risk not specified</i>	19	44	29	1	1	95
<i>Receipt of blood transfusion, blood components, or tissue</i>	15	17	12	—	—	44
<i>Has HIV infection, risk not specified</i>	34	134	40	1	2	211
Receipt of blood transfusion, blood components, or tissue	129 (23)	53 (4)	56 (8)	5 (42)	—	243 (9)
Undetermined	9 (2)	37 (3)	23 (3)	—	—	69 (3)
Pediatric subtotal	565(100)	1,355 (100)	684(100)	12(100)	5(100)	2,628(100)
Total	83,870	42,761	23,952	943	218	152,126

¹ See technical notes.

² Includes 13 transfusion recipients who received blood screened for HIV antibody, and 1 tissue recipient.

³ "Other" refers to 3 health-care workers who seroconverted to HIV and developed AIDS after occupational exposure to HIV-infected blood. "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 382 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through September 1990, 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. (%)
Male homosexual/bisexual contact	63,669 (80)	15,043 (44)	9,445 (46)	692 (81)	116 (63)	89,155 (66)
Intravenous (IV) drug use (heterosexual)	5,004 (6)	11,884 (35)	7,882 (39)	26 (3)	20 (11)	24,890 (18)
Male homosexual/bisexual contact and IV drug use	5,848 (7)	2,713 (8)	1,437 (7)	19 (2)	28 (15)	10,058 (7)
Hemophilia/coagulation disorder	1,078 (1)	82 (0)	101 (0)	16 (2)	8 (4)	1,289 (1)
Heterosexual contact:	525 (1)	2,311 (7)	284 (1)	7 (1)	2 (1)	3,134 (2)
<i>Sex with IV drug user</i>	327	662	184	3	2	1,178
<i>Sex with person with hemophilia</i>	4	—	—	—	—	4
<i>Born in Pattern-II¹ country</i>	4	1,417	8	3	—	1,436
<i>Sex with person born in Pattern-II country</i>	33	33	7	—	—	73
<i>Sex with transfusion recipient with HIV infection</i>	26	11	5	—	—	43
<i>Sex with HIV-infected person, risk not specified</i>	131	188	80	1	—	400
Receipt of blood transfusion, blood components, or tissue ²	1,596 (2)	314 (1)	184 (1)	44 (5)	1 (1)	2,149 (2)
Other/undetermined ³	1,731 (2)	1,522 (4)	1,015 (5)	50 (6)	9 (5)	4,371 (3)
Male subtotal	79,451 (100)	33,869 (100)	20,348 (100)	854 (100)	184 (100)	135,046 (100)
Female exposure category						
IV drug use	1,537 (40)	4,296 (57)	1,493 (51)	13 (17)	16 (55)	7,367 (51)
Hemophilia/coagulation disorder	28 (1)	5 (0)	1 (0)	—	—	34 (0)
Heterosexual contact:	1,127 (29)	2,401 (32)	1,073 (37)	27 (35)	8 (28)	4,651 (32)
<i>Sex with IV drug user</i>	582	1,421	883	11	5	2,912
<i>Sex with bisexual male</i>	254	148	53	8	1	465
<i>Sex with person with hemophilia</i>	62	6	2	1	—	71
<i>Born in Pattern-II country</i>	2	524	3	1	—	532
<i>Sex with person born in Pattern-II country</i>	6	42	1	—	—	50
<i>Sex with transfusion recipient with HIV infection</i>	64	10	16	1	—	92
<i>Sex with HIV-infected person, risk not specified</i>	157	250	115	5	2	529
Receipt of blood transfusion, blood components, or tissue	884 (23)	277 (4)	173 (6)	26 (34)	2 (7)	1,363 (9)
Other/undetermined	278 (7)	558 (7)	180 (6)	11 (14)	3 (10)	1,037 (7)
Female subtotal	3,854 (100)	7,537 (100)	2,920 (100)	77 (100)	29 (100)	14,452 (100)
Total	83,305	41,406	23,268	931	213	149,498

¹ See technical notes.

² Includes 13 transfusion recipients who received blood screened for HIV antibody, and 1 tissue recipient.

³ "Other" refers to 3 health-care workers who seroconverted to HIV and developed AIDS after occupational exposure to HIV-infected blood. "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 340 males and 35 females whose race/ethnicity is unknown.

Table 6. AIDS cases in adolescents and adults under age 25, by exposure category, reported October 1988 through September 1989, October 1989 through September 1990, and cumulative totals through September 1990, United States

Exposure category	13-19 years old			20-24 years old		
	Oct. 1988- Sept. 1989	Oct. 1989- Sept. 1990	Cumulative total	Oct. 1988- Sept. 1989	Oct. 1989- Sept. 1990	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	36 (30)	29 (18)	157 (27)	799 (55)	841 (51)	3,623 (57)
Intravenous (IV) drug use (female and heterosexual male)	16 (13)	18 (11)	67 (11)	264 (18)	288 (17)	1,028 (16)
Male homosexual/bisexual contact and IV drug use	4 (3)	2 (1)	24 (4)	120 (8)	146 (9)	598 (9)
Hemophilia/coagulation disorder	39 (33)	46 (29)	179 (31)	40 (3)	35 (2)	160 (3)
Heterosexual contact:	14 (12)	32 (20)	74 (13)	146 (10)	199 (12)	595 (9)
<i>Sex with IV drug user</i>	10	22	46	86	119	333
<i>Sex with bisexual male</i>	1	-	3	8	9	47
<i>Sex with person with hemophilia</i>	-	1	1	6	4	14
<i>Born in Pattern-II¹ country</i>	1	2	13	16	23	106
<i>Sex with person born in Pattern-II country</i>	-	-	-	2	5	9
<i>Sex with transfusion recipient with HIV infection</i>	-	1	1	1	4	6
<i>Sex with HIV-infected person, risk not specified</i>	2	6	10	27	35	80
Receipt of blood transfusion, blood components, or tissue	7 (6)	11 (7)	47 (8)	16 (1)	22 (1)	95 (1)
Undetermined ²	4 (3)	23 (14)	37 (6)	60 (4)	119 (7)	272 (4)
Total	120 (100)	161 (100)	585 (100)	1,445 (100)	1,650 (100)	6,371 (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 September 1990, 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	191 (0)	608 (2)	293 (1)	3 (0)	2 (1)	1,100 (1)
5-12	152 (0)	90 (0)	65 (0)	5 (1)	—	314 (0)
13-19	213 (0)	135 (0)	85 (0)	6 (1)	5 (3)	445 (0)
20-24	2,771 (3)	1,606 (5)	955 (5)	28 (3)	12 (6)	5,382 (4)
25-29	12,112 (15)	5,485 (16)	3,562 (17)	112 (13)	42 (23)	21,352 (16)
30-34	18,716 (23)	8,692 (25)	5,260 (25)	187 (22)	46 (25)	32,978 (24)
35-39	17,487 (22)	7,927 (23)	4,535 (22)	192 (22)	31 (17)	30,262 (22)
40-44	11,903 (15)	4,600 (13)	2,816 (14)	141 (16)	21 (11)	19,538 (14)
45-49	7,103 (9)	2,512 (7)	1,439 (7)	86 (10)	15 (8)	11,182 (8)
50-54	3,993 (5)	1,368 (4)	826 (4)	43 (5)	3 (2)	6,251 (5)
55-59	2,499 (3)	844 (2)	504 (2)	27 (3)	6 (3)	3,893 (3)
60-64	1,393 (2)	439 (1)	222 (1)	7 (1)	3 (2)	2,068 (2)
65 or older	1,262 (2)	261 (1)	144 (1)	25 (3)	—	1,696 (1)
Male subtotal	79,795 (100)	34,567 (100)	20,706 (100)	862 (100)	186 (100)	136,461 (100)
Females						
Age at diagnosis (years)						
Under 5	181 (4)	580 (7)	278 (9)	1 (1)	3 (9)	1,044 (7)
5-12	40 (1)	77 (1)	48 (1)	3 (4)	—	169 (1)
13-19	38 (1)	78 (1)	22 (1)	1 (1)	1 (3)	140 (1)
20-24	263 (6)	476 (6)	239 (7)	3 (4)	4 (13)	989 (6)
25-29	733 (18)	1,486 (18)	679 (21)	8 (10)	4 (13)	2,918 (19)
30-34	878 (22)	2,202 (27)	792 (24)	16 (20)	10 (31)	3,907 (25)
35-39	607 (15)	1,682 (21)	574 (18)	10 (12)	5 (16)	2,884 (18)
40-44	331 (8)	778 (9)	297 (9)	15 (19)	2 (6)	1,425 (9)
45-49	182 (4)	337 (4)	132 (4)	7 (9)	—	662 (4)
50-54	137 (3)	200 (2)	79 (2)	5 (6)	1 (3)	422 (3)
55-59	161 (4)	130 (2)	46 (1)	3 (4)	—	342 (2)
60-64	145 (4)	76 (1)	26 (1)	6 (7)	1 (3)	254 (2)
65 or older	379 (9)	92 (1)	34 (1)	3 (4)	1 (3)	509 (3)
Female subtotal	4,075 (100)	8,194 (100)	3,246 (100)	81 (100)	32 (100)	15,665 (100)
Total	83,870	42,761	23,952	943	218	152,126

¹ Includes 382 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through September 1990, United States

Half-year of diagnosis	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	78	82.1	30	6	66.7	1
1981 Jan.-June	91	92.3	38	8	62.5	2
July-Dec.	200	91.0	85	6	100.0	6
1982 Jan.-June	391	90.5	152	14	78.6	9
July-Dec.	686	88.6	282	15	80.0	5
1983 Jan.-June	1,261	91.9	516	32	93.8	13
July-Dec.	1,631	91.4	917	42	78.6	16
1984 Jan.-June	2,537	88.9	1,371	49	83.7	25
July-Dec.	3,334	89.7	1,915	62	72.6	24
1985 Jan.-June	4,809	88.5	2,735	95	72.6	44
July-Dec.	6,181	86.9	3,720	127	74.8	68
1986 Jan.-June	8,113	84.9	4,902	128	71.1	64
July-Dec.	9,751	82.1	6,220	176	67.0	83
1987 Jan.-June	12,525	80.9	7,228	219	60.7	113
July-Dec.	13,928	73.9	7,596	246	58.5	158
1988 Jan.-June	15,685	65.8	8,792	237	48.5	129
July-Dec.	15,959	58.6	9,973	313	43.8	149
1989 Jan.-June	17,381	47.7	11,071	307	41.4	154
July-Dec.	16,619	37.9	12,119	278	35.3	157
1990 Jan.-June	14,997	24.1	10,129	225	22.7	126
July-Sept.	3,341	11.5	2,451	43	18.6	26
Total¹	149,498	61.8	92,401	2,628	52.2	1,374

¹ Death totals include 159 adults/adolescents and 2 children known to have died, but whose date of death is unknown.

Table 9. AIDS cases by year of diagnosis and definition category, diagnosed through September 1990, United States

Definition category ¹	Year of diagnosis					Cumulative total
	Before Oct. 1986	Oct. 1986-Sept. 1987	Oct. 1987-Sept. 1988	Oct. 1988-Sept. 1989	Oct. 1989-Sept. 1990	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	32,586 (94)	20,962 (84)	22,734 (73)	23,868 (69)	17,867 (67)	118,017 (78)
1987 definition: ²	2,139 (6)	3,893 (16)	8,486 (27)	10,699 (31)	8,892 (33)	34,109 (22)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	1,147	2,043	4,763	6,029	5,296	19,278
<i>Specific disease</i>						
<i>definitively diagnosed</i>	335	457	580	735	578	2,685
<i>HIV encephalopathy</i>	186	509	1,090	1,269	930	3,984
<i>HIV wasting syndrome</i>	471	884	2,053	2,666	2,088	8,162
Total	34,725(100)	24,855 (100)	31,220 (100)	34,567 (100)	26,759 (100)	152,126 (100)

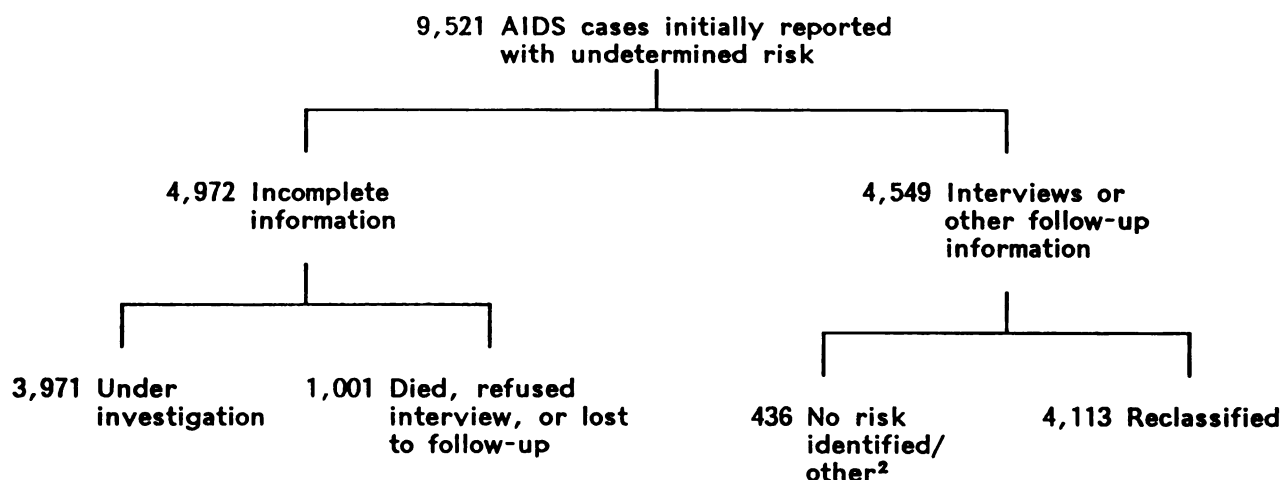
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 September 1990, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Male homosexual/bisexual contact	85,613	(57)
Intravenous (IV) drug use (female and heterosexual male)	27,662	(19)
Hemophilia/coagulation disorder	814	(1)
Heterosexual contact	7,414	(5)
Receipt of transfusion of blood, blood component, or tissue	3,512	(2)
Other/undetermined	5,408	(4)
Single mode of exposure subtotal	130,423	(87)
Multiple modes of exposure		
Male homosexual/bisexual contact; IV drug use	9,063	(6)
Male homosexual/bisexual contact; hemophilia	30	(0)
Male homosexual/bisexual contact; heterosexual contact	1,800	(1)
Male homosexual/bisexual contact; receipt of transfusion	1,603	(1)
IV drug use; hemophilia	35	(0)
IV drug use; heterosexual contact	3,657	(2)
IV drug use; receipt of transfusion	682	(0)
Hemophilia; heterosexual contact	8	(0)
Hemophilia; receipt of transfusion	488	(0)
Heterosexual contact; receipt of transfusion	371	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia	8	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact	688	(0)
Male homosexual/bisexual contact; IV drug use; receipt of transfusion	258	(0)
Male homosexual/bisexual contact; hemophilia; heterosexual contact	4	(0)
Male homosexual/bisexual contact; hemophilia; receipt of transfusion	16	(0)
Male homosexual/bisexual contact; heterosexual contact; receipt of transfusion	89	(0)
IV drug use; hemophilia; heterosexual contact	2	(0)
IV drug use; hemophilia; receipt of transfusion	18	(0)
IV drug use; heterosexual contact; receipt of transfusion	198	(0)
Hemophilia; heterosexual contact; receipt of transfusion	13	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia; receipt of transfusion	7	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact; receipt of transfusion	34	(0)
IV drug use; hemophilia; heterosexual contact; receipt of transfusion	3	(0)
Multiple modes of exposure subtotal	19,075	(13)
Total	149,498	(100)

Figure 4. Results of investigations of adult/adolescent AIDS cases with undetermined risk, reported through September 1990¹



¹ Excludes 69 children under 13 years of age who have an undetermined risk: 63 children are under investigation and 7 have died, refused interview, or were lost to follow-up. An additional 78 children who were initially reported with an undetermined risk have been reclassified after investigation.

² **Health-care workers.** 3 of the 436 adults/adolescents are classified as "other" and are health-care workers who seroconverted to HIV and developed AIDS after occupational exposure to HIV-infected blood. For the remaining 433, the mode of exposure to HIV remains undetermined after investigation. 69 of these are health-care workers, 62 of whom responded to a standardized questionnaire. 35 (56%) 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 the 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. 381 of the 433 patients who had no risk identified after follow-up responded to a standardized questionnaire; 123 (36%) of 346 persons responding to questions related to sexually transmitted disease gave a history of such disease and 81 (34%) of 238 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.

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 presented 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. Fifty percent of patients are reported to CDC within 3 months of diagnosis. However, reporting delays vary widely and have been as long as several years for some cases. The median delay in reporting appears to have increased, from about 2 months in 1982 to about 3 months in 1988; however, recent analyses suggests that reporting delay may be decreasing.

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 persons with a history of both homosexual/bisexual contact and intravenous drug use. They make up a separate exposure category.

"Heterosexual contact" cases include persons who report either specific heterosexual contact with a person with, or at increased risk for, HIV infection

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.

(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 central, eastern, and southern 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 denominator for computing the rates is based on population estimates derived from 1980 census data and post-census population estimates. Each 12-month rate is the number of cases for a 12-month period divided by the estimated midyear 1989 or 1990 population multiplied by 100,000.

The denominators for computing race-specific rates (Table 9, included only in the year-end edition) are based on 1988 census estimates, the latest which contain racial breakdowns. Race-specific rates are the number of cases reported for a particular race/ethnicity during the preceding 12-month period, divided by the 1988 census population 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 20% 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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