

HIV/AIDS

SURVEILLANCE

U.S. AIDS cases reported through May 1990

Issued June 1990

Contents

Figure 1. AIDS annual rates per 100,000 population	3
Figure 2. Adult/adolescent and pediatric AIDS cases	4
Figure 3. Pediatric AIDS cases	4
Table 1. AIDS cases and annual rates per 100,000 population, by state	5
Table 2. AIDS cases and annual rates per 100,000 population, by metropolitan area with 500,000 or more population	6
Table 3. AIDS cases by age group, exposure category, sex, and year of report	8
Table 4. AIDS cases by age group, exposure category, and race/ethnicity	9
Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity	10
Table 6. AIDS cases in adolescents and adults under age 25, by exposure category and year of report	11
Table 7. AIDS cases by sex, age at diagnosis, and race/ethnicity	12
Table 8. AIDS cases, case-fatality rates, and deaths, by half-year and age group	13
Table 9. AIDS cases by year of diagnosis and definition category	14
Table 10. Adult/adolescent AIDS cases by single and multiple exposure categories	15
Figure 4. Results of investigations of AIDS cases with undetermined risk	16
Technical notes	17

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).

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES • Public Health Service
Centers for Disease Control • Center for Infectious Diseases • Division of HIV/AIDS

The *HIV/AIDS Surveillance Report* is published each month by the Division of HIV/AIDS, Center for Infectious Diseases, Centers for Disease Control, Atlanta, GA 30333. An expanded, year-end edition is published each January. All data contained in the *Report* are provisional.

Suggested Citation: Centers for Disease Control. HIV/AIDS Surveillance Report, June 1990:1-18

Centers for Disease Control.....William L. Roper, M.D., M.P.H.
Director
Gary R. Noble, M.D., M.P.H.
Deputy Director (HIV)

Center for Infectious DiseasesFrederick A. Murphy, D.V.M., Ph.D.
Director

Division of HIV/AIDS.....James W. Curran, M.D., M.P.H.
Director

Surveillance Branch.....Ruth L. Berkelman, M.D.
Chief

Reporting and Analysis Section.....Jeanette K. Stehr-Green, M.D.
Chief

Statistics and Data Management Branch.....W. Meade Morgan, Ph.D.
Chief
Xenophon M. Santas
Computer Specialist

Single copies of the *HIV/AIDS Surveillance Report* are available free from the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, MD 20850. Individuals or organizations can be added to the mailing list by writing to Centers for Disease Control, CID/DHA/TIA, Mailstop G-29, Atlanta, GA 30333. Confidential information, referrals, and educational material on AIDS are available from the National AIDS Hotline: 1-800-342-AIDS, 1-800-342-SIDA (Spanish access), and 1-800-AIDS-TTY (deaf access).

Errata: The May 1990 issue provided incorrect tabulations in Table 2, for Milwaukee, Wis., and in the subtotals for metropolitan areas and all other areas. Table 3 also provided incorrect tabulations for pediatric cases, under the exposure categories "Mother with/at risk for HIV infection: IV drug use" and "Sex with IV drug user." The errors have been corrected in this issue. Readers requiring corrected tables for data reported through April 1990 should write to CID/DHA/TIA—Errata, at the above address.

Figure 1. AIDS annual rates per 100,000 population, for cases reported June 1989 through May 1990, United States

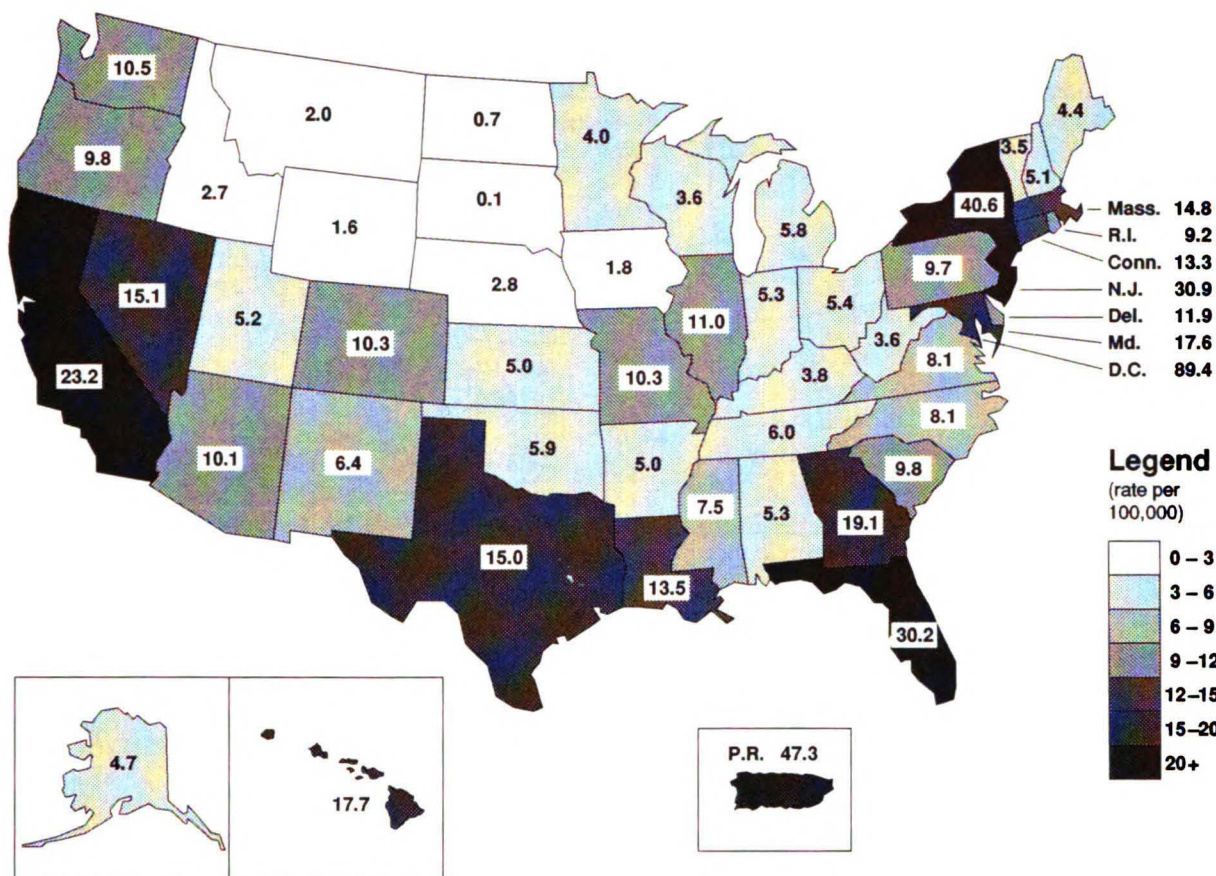


Figure 2. Adult/adolescent and pediatric AIDS cases, reported June 1989 through May 1990, United States

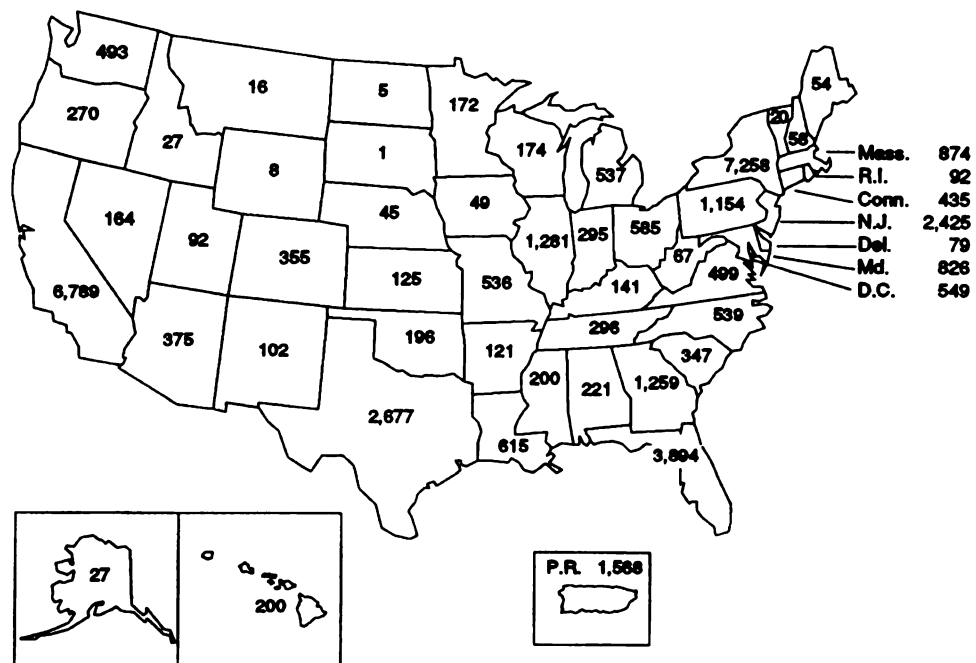


Figure 3. Pediatric AIDS cases, reported June 1989 through May 1990, United States

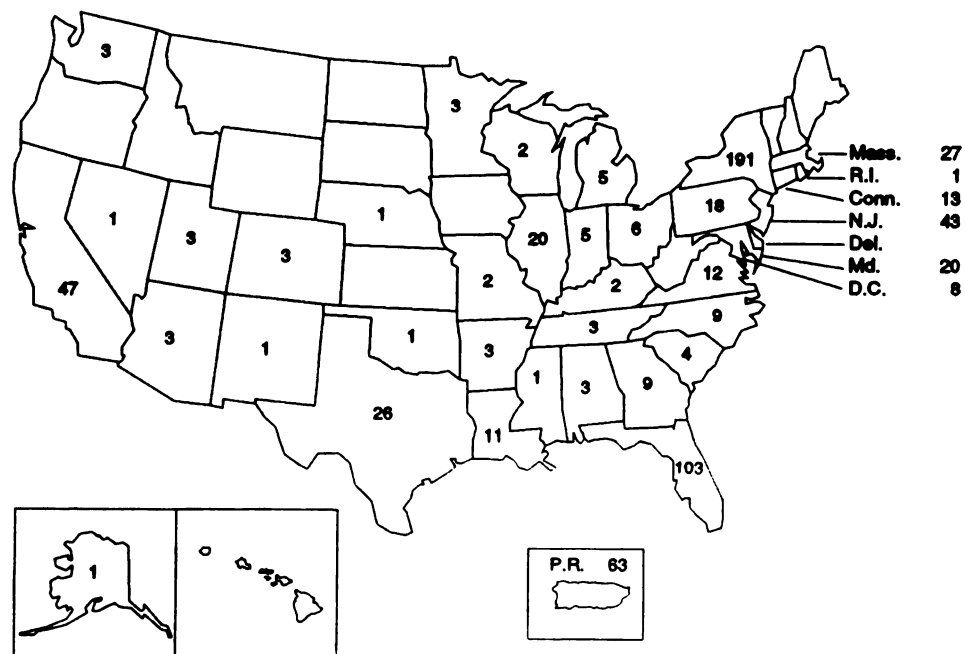


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported June 1988 through May 1989, June 1989 through May 1990; and cumulative totals, by state and age group, through May 1990¹

State of residence	June 1988- May 1989		June 1989- May 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	225	5.4	221	5.3	736	17	753
Alaska	14	2.5	27	4.7	87	2	89
Arizona	269	7.4	375	10.1	1,138	7	1,145
Arkansas	75	3.1	121	5.0	317	6	323
California	5,701	19.8	6,789	23.2	25,885	179	26,064
Colorado	344	10.1	355	10.3	1,356	8	1,364
Connecticut	435	13.4	435	13.3	1,591	53	1,644
Delaware	85	12.9	79	11.9	256	4	260
District of Columbia	547	88.7	549	89.4	2,253	29	2,282
Florida	3,240	25.7	3,894	30.2	11,391	314	11,705
Georgia	915	14.1	1,259	19.1	3,554	42	3,596
Hawaii	112	10.0	200	17.7	537	2	539
Idaho	18	1.8	27	2.7	63	2	65
Illinois	1,014	8.7	1,281	11.0	3,951	59	4,010
Indiana	192	3.5	295	5.3	815	9	824
Iowa	57	2.0	49	1.8	179	3	182
Kansas	97	3.9	125	5.0	360	3	363
Kentucky	101	2.7	141	3.8	387	5	392
Louisiana	427	9.5	615	13.5	1,856	32	1,888
Maine	44	3.7	54	4.4	173	2	175
Maryland	640	13.8	826	17.6	2,469	58	2,527
Massachusetts	707	12.0	874	14.8	2,817	60	2,877
Michigan	449	4.9	537	5.8	1,625	24	1,649
Minnesota	175	4.1	172	4.0	677	7	684
Mississippi	149	5.6	200	7.5	486	7	493
Missouri	403	7.8	536	10.3	1,484	10	1,494
Montana	12	1.5	16	2.0	46	—	46
Nebraska	46	2.9	45	2.8	150	2	152
Nevada	148	14.0	164	15.1	503	4	507
New Hampshire	39	3.5	58	5.1	162	4	166
New Jersey	2,380	30.5	2,425	30.9	8,833	237	9,070
New Mexico	68	4.3	102	6.4	277	2	279
New York	6,627	37.1	7,258	40.6	29,367	682	30,049
North Carolina	316	4.8	539	8.1	1,337	27	1,364
North Dakota	6	0.9	5	0.7	18	—	18
Ohio	495	4.6	585	5.4	1,890	27	1,917
Oklahoma	149	4.5	196	5.9	594	10	604
Oregon	194	7.0	270	9.8	823	3	826
Pennsylvania	992	8.3	1,154	9.7	3,746	65	3,811
Rhode Island	93	9.4	92	9.2	321	7	328
South Carolina	220	6.3	347	9.8	819	19	838
South Dakota	8	1.1	1	0.1	17	—	17
Tennessee	267	5.4	296	6.0	895	13	908
Texas	2,423	13.9	2,677	15.0	9,299	80	9,379
Utah	73	4.2	92	5.2	277	8	285
Vermont	14	2.5	20	3.5	62	1	63
Virginia	425	7.0	499	8.1	1,617	32	1,649
Washington	448	9.7	493	10.5	1,774	11	1,785
West Virginia	32	1.7	67	3.6	145	2	147
Wisconsin	123	2.5	174	3.6	510	3	513
Wyoming	14	2.8	8	1.6	32	—	32
U.S. total	32,047	12.9	37,619	15.0	129,957	2,183	132,140
Guam	2	1.5	1	0.7	7	—	7
Pacific Islands, U.S.	1	0.7	—	—	1	—	1
Puerto Rico	1,269	38.4	1,568	47.3	3,855	128	3,983
Virgin Islands, U.S.	42	36.5	15	12.9	69	4	73
Total	33,361	13.2	39,203	15.4	133,889	2,315	136,204

¹During May 1990, 3,637 cases and 2,319 deaths among adults/adolescents and 57 cases and 28 deaths among children were reported to CDC.

Table 2. AIDS cases and annual rates per 100,000 population, by metropolitan area with 500,000 or more population, reported June 1988 through May 1989, June 1989 through May 1990; and cumulative totals, by area and age group, through May 1990¹

Metropolitan area of residence	June 1988- May 1989		June 1989- May 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	32	5.0	22	3.4	89	—	89
Albany-Schenectady, N.Y.	60	7.1	84	9.9	277	3	280
Albuquerque, N.M.	38	7.4	49	9.4	145	1	146
Allentown, Pa.	36	5.3	53	7.8	132	4	136
Anaheim, Calif.	240	10.5	276	11.8	1,033	8	1,041
Atlanta, Ga.	703	24.8	960	33.0	2,709	25	2,734
Austin, Tex.	148	18.7	235	28.7	589	5	594
Bakersfield, Calif.	20	3.8	39	7.2	92	—	92
Baltimore, Md.	398	17.0	514	21.8	1,413	43	1,456
Baton Rouge, La.	49	9.0	58	10.5	166	1	167
Bergen-Passaic, N.J.	263	20.3	280	21.6	1,136	25	1,161
Birmingham, Ala.	80	8.6	68	7.3	234	6	240
Boston, Mass.	575	15.3	666	17.7	2,238	47	2,285
Bridgeport, Conn.	144	17.6	117	14.2	474	17	491
Buffalo, N.Y.	44	4.7	94	10.0	222	2	224
Charleston, S.C.	43	8.2	82	15.4	189	—	189
Charlotte, N.C.	68	6.0	101	8.8	277	5	282
Chicago, Ill.	857	13.8	1,070	17.1	3,346	44	3,390
Cincinnati, Ohio	60	4.1	109	7.5	285	3	288
Cleveland, Ohio	111	6.0	138	7.5	486	7	493
Columbus, Ohio	133	9.9	124	9.1	427	3	430
Dallas, Tex.	574	22.0	593	22.2	2,276	10	2,286
Dayton, Ohio	52	5.5	67	7.1	192	3	195
Denver, Colo.	284	16.7	284	16.5	1,103	5	1,108
Detroit, Mich.	317	7.3	375	8.6	1,146	17	1,163
El Paso, Tex.	13	2.2	40	6.5	84	1	85
Fort Lauderdale, Fla.	481	40.1	887	72.8	2,154	41	2,195
Fort Worth, Tex.	162	11.9	156	11.1	507	7	514
Fresno, Calif.	51	8.3	60	9.5	165	2	167
Gary, Ind.	14	2.4	29	4.9	73	—	73
Grand Rapids, Mich.	27	4.0	23	3.4	77	1	78
Greensboro, N.C.	49	5.2	86	9.1	203	4	207
Greenville, S.C.	22	3.5	38	6.0	98	—	98
Harrisburg, Pa.	47	8.0	46	7.8	146	4	150
Hartford, Conn.	129	11.5	157	14.0	470	10	480
Honolulu, Hawaii	95	11.2	124	14.4	405	2	407
Houston, Tex.	867	26.1	1,034	30.6	3,949	31	3,980
Indianapolis, Ind.	87	7.0	153	12.2	385	3	388
Jacksonville, Fla.	146	15.9	231	24.5	573	12	585
Jersey City, N.J.	423	77.9	319	58.9	1,487	34	1,521
Kansas City, Mo.	230	14.5	296	18.5	830	3	833
Knoxville, Tenn.	28	4.7	24	4.0	94	—	94
Lake County, Ill.	14	2.7	18	3.5	61	2	63
Las Vegas, Nev.	105	16.5	121	18.5	366	4	370
Little Rock, Ark.	29	5.5	57	10.8	137	3	140
Los Angeles, Calif.	1,899	21.6	2,241	25.1	8,965	78	9,043
Louisville, Ky.	45	4.6	59	6.1	167	2	169
Memphis, Tenn.	76	7.7	95	9.5	289	5	294
Miami, Fla.	947	51.9	1,080	58.8	3,477	140	3,617
Middlesex, N.J.	215	21.6	189	18.7	707	22	729
Milwaukee, Wis.	74	5.3	100	7.2	297	1	298
Minneapolis-Saint Paul, Minn.	155	6.5	157	6.5	606	6	612
Mobile, Ala.	44	8.9	37	7.4	157	—	157
Monmouth-Ocean City, N.J.	162	16.3	190	18.8	540	19	559
Nashville, Tenn.	97	9.8	92	9.1	292	6	298
Nassau-Suffolk, N.Y.	300	12.7	372	14.1	1,398	37	1,435
New Haven, Conn.	121	15.2	128	16.0	509	26	535
New Orleans, La.	262	19.6	365	27.2	1,198	18	1,216

Table 2. AIDS cases and annual rates per 100,000 population, by metropolitan area with 500,000 or more population, reported June 1988 through May 1989, June 1989 through May 1990; and cumulative totals, by area and age group, through May 1990¹ — Continued

Metropolitan area of residence	June 1988- May 1989		June 1989- May 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
New York, N.Y.	5,753	67.1	6,124	71.2	25,524	617	26,141
Newark, N.J.	995	52.4	1,026	53.9	3,748	103	3,851
Norfolk, Va.	92	6.6	114	8.0	343	7	350
Oakland, Calif.	344	17.0	450	22.0	1,603	10	1,613
Oklahoma City, Okla.	18	1.8	20	2.0	154	—	154
Omaha, Neb.	32	5.1	36	5.7	109	1	110
Orlando, Fla.	192	19.3	183	17.8	554	7	561
Oxnard-Ventura, Calif.	45	6.9	37	5.5	127	—	127
Philadelphia, Pa.	726	14.8	822	16.7	2,814	45	2,859
Phoenix, Ariz.	191	9.0	283	13.0	839	4	843
Pittsburgh, Pa.	119	5.8	158	7.7	486	2	488
Portland, Oreg.	153	12.9	208	17.4	648	1	649
Providence, R.I.	85	9.4	86	9.5	298	6	304
Raleigh-Durham, N.C.	70	10.0	131	18.4	301	8	309
Richmond, Va.	92	10.9	106	12.4	314	7	321
Riverside-San Bernardino, Calif.	201	8.8	274	11.6	846	14	860
Rochester, N.Y.	74	7.6	79	8.1	309	1	310
Sacramento, Calif.	177	12.6	135	9.4	541	5	546
Saint Louis, Mo.	182	7.3	203	8.1	630	6	636
Salt Lake City, Utah	62	5.6	78	7.0	243	5	248
San Antonio, Tex.	326	23.6	206	14.6	664	9	673
San Diego, Calif.	447	18.6	736	29.8	2,027	17	2,044
San Francisco, Calif.	1,684	104.5	1,888	116.2	8,256	15	8,271
San Jose, Calif.	155	10.8	135	9.3	596	6	602
San Juan, P.R.	826	52.9	969	61.8	2,393	87	2,480
Scranton, Pa.	19	2.6	37	5.1	98	3	101
Seattle, Wash.	333	18.0	372	19.8	1,355	9	1,364
Springfield, Mass.	37	6.3	65	11.1	148	7	155
Syracuse, N.Y.	21	3.2	49	7.6	134	4	138
Tacoma, Wash.	29	5.2	37	6.5	118	1	119
Tampa, Fla.	493	24.0	357	17.0	1,270	21	1,291
Toledo, Ohio	21	3.4	30	4.9	87	1	88
Tucson, Ariz.	52	8.0	59	8.9	210	2	212
Tulsa, Okla.	48	6.4	53	7.0	170	3	173
Washington, D.C.	895	23.8	961	25.1	3,767	53	3,820
West Palm Beach, Fla.	344	40.6	320	36.5	1,137	48	1,185
Wilmington, Del.	72	12.6	68	11.8	213	3	216
Worcester, Mass.	36	5.4	37	5.5	135	3	138
Metropolitan area subtotal²	28,219	19.3	32,394	21.9	114,751	1,949	116,700
All other areas	5,142	4.9	6,809	6.4	19,138	366	19,504
Total	33,361	13.2	39,203	15.4	133,889	2,315	136,204

¹ Beginning with this month's issue, 1989 and 1990 census estimates are used to calculate AIDS rates per 100,000 population. Because most of these estimates are slightly higher than the 1988 and 1989 estimates used previously, many rates are lower than those provided in previous issues. In addition, two metropolitan areas, Albuquerque, N.M., and Mobile, Ala., are now estimated to have more than 500,000 population, and have been added to table.

² Includes data from all metropolitan areas which have populations of 500,000 or more.

Table 3. AIDS cases by age group, exposure category, and sex, reported June 1988 through May 1989, June 1989 through May 1990; and cumulative totals, by age group and exposure category, through May 1990, United States

Adult/adolescent exposure category	Males		Females		Totals		
	June 1988-May 1989	June 1989-May 1990	June 1988-May 1989	June 1989-May 1990	June 1988-May 1989	June 1989-May 1990	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	18,830 (64)	21,726 (63)	—	—	18,830 (58)	21,726 (56)	80,281 (60)
Intravenous (IV) drug use (female and heterosexual male)	5,935 (20)	7,024 (20)	1,808 (53)	2,048 (49)	7,743 (24)	9,072 (24)	28,727 (21)
Male homosexual/bisexual contact and IV drug use	2,138 (7)	2,221 (6)	—	—	2,138 (7)	2,221 (6)	9,149 (7)
Hemophilia/coagulation disorder	293 (1)	296 (1)	5 (0)	7 (0)	298 (1)	303 (1)	1,206 (1)
Heterosexual contact:	676 (2)	908 (3)	1,090 (32)	1,371 (33)	1,766 (5)	2,279 (6)	6,724 (5)
Sex with IV drug user	327	406	699	869	1,026	1,275	3,490
Sex with bisexual male	—	—	92	105	92	105	401
Sex with person with hemophilia	1	3	10	23	11	26	62
Born in Pattern-II ² country	242	310	133	138	375	448	1,840
Sex with person born in Pattern-II country	14	14	8	17	22	31	93
Sex with transfusion recipient with HIV infection	8	17	22	25	30	42	105
Sex with HIV-infected person, risk not specified	84	158	126	194	210	352	733
Receipt of blood transfusion, blood components, or tissue ³	476 (2)	484 (1)	343 (10)	327 (8)	819 (3)	811 (2)	3,197 (2)
Other/undetermined ⁴	956 (3)	1,715 (5)	190 (6)	397 (10)	1,146 (4)	2,112 (5)	4,605 (3)
Adult/adolescent subtotal	29,304 (100)	34,374 (100)	3,436 (100)	4,150 (100)	32,740 (100)	38,524 (100)	133,889 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	34 (10)	25 (7)	1 (0)	—	35 (6)	25 (4)	116 (5)
Mother with/at risk for HIV infection:	259 (77)	299 (83)	261 (92)	291 (91)	520 (84)	590 (87)	1,914 (83)
IV drug use	138	145	122	129	260	274	971
Sex with IV drug user	51	77	53	66	104	143	402
Sex with bisexual male	6	5	5	9	11	14	45
Sex with person with hemophilia	—	—	1	1	1	1	8
Born in Pattern-II country	27	24	27	20	54	44	193
Sex with person born in Pattern-II country	1	1	2	1	3	2	8
Sex with transfusion recipient with HIV infection	3	—	4	2	7	2	10
Sex with HIV-infected person, risk not specified	10	13	13	19	23	32	82
Receipt of blood transfusion, blood components, or tissue	1	7	8	5	9	12	39
Has HIV infection, risk not specified	22	27	26	39	48	66	156
Receipt of blood transfusion, blood components, or tissue	34 (10)	25 (7)	16 (6)	13 (4)	50 (8)	38 (6)	228 (10)
Undetermined	9 (3)	11 (3)	7 (2)	15 (5)	16 (3)	26 (4)	57 (2)
Pediatric subtotal	336 (100)	360 (100)	285 (100)	319 (100)	621 (100)	679 (100)	2,315 (100)
Total	29,640	34,734	3,721	4,469	33,361	39,203	136,204

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 11 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 May 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. (%)	Total⁴ No. (%)
Male homosexual/bisexual contact	57,623 (77)	13,314 (36)	8,464 (41)	611 (74)	94 (52)	80,281 (60)
Intravenous (IV) drug use (female and heterosexual male)	5,790 (8)	14,387 (39)	8,406 (41)	35 (4)	30 (17)	28,727 (21)
Male homosexual/bisexual contact and IV drug use	5,361 (7)	2,417 (7)	1,320 (6)	15 (2)	24 (13)	9,149 (7)
Hemophilia/coagulation disorder	1,006 (1)	81 (0)	92 (0)	15 (2)	8 (4)	1,206 (1)
Heterosexual contact:	1,384 (2)	4,142 (11)	1,144 (6)	31 (4)	8 (4)	6,724 (5)
<i>Sex with IV drug user</i>	772	1,773	920	13	4	3,490
<i>Sex with bisexual male</i>	215	129	49	6	1	401
<i>Sex with person with hemophilia</i>	54	6	1	1	—	62
<i>Born in Pattern-II¹ country</i>	4	1,816	11	4	—	1,840
<i>Sex with person born in Pattern-II country</i>	29	59	5	—	—	93
<i>Sex with transfusion recipient with HIV infection</i>	74	17	12	1	—	105
<i>Sex with HIV-infected person, risk not specified</i>	236	342	146	6	3	733
Receipt of blood transfusion, blood components, or tissue ²	2,284 (3)	535 (1)	304 (1)	66 (8)	3 (2)	3,197 (2)
Other/undetermined ³	1,729 (2)	1,777 (5)	999 (5)	51 (6)	13 (7)	4,605 (3)
Adult/adolescent subtotal	75,177(100)	36,653 (100)	20,729(100)	824(100)	180(100)	133,889(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	81 (16)	15 (1)	16 (3)	3 (27)	—	116 (5)
Mother with/at risk for HIV infection:	292 (58)	1,103 (92)	506 (86)	4 (36)	5(100)	1,914 (83)
<i>IV drug use</i>	144	557	266	1	2	971
<i>Sex with IV drug user</i>	62	177	161	1	—	402
<i>Sex with bisexual male</i>	16	20	9	—	—	45
<i>Sex with person with hemophilia</i>	5	2	1	—	—	8
<i>Born in Pattern-II country</i>	2	190	1	—	—	193
<i>Sex with person born in Pattern-II country</i>	—	7	—	—	—	8
<i>Sex with transfusion recipient with HIV infection</i>	5	3	2	—	—	10
<i>Sex with HIV-infected person, risk not specified</i>	14	36	29	1	1	82
<i>Receipt of blood transfusion, blood components, or tissue</i>	14	15	10	—	—	39
<i>Has HIV infection, risk not specified</i>	30	96	27	1	2	156
Receipt of blood transfusion, blood components, or tissue	125 (25)	51 (4)	48 (8)	4 (36)	—	228 (10)
Undetermined	9 (2)	28 (2)	20 (3)	—	—	57 (2)
Pediatric subtotal	507(100)	1,197 (100)	590(100)	11(100)	5(100)	2,315(100)
Total	75,684	37,850	21,319	835	185	136,204

¹ See technical notes.

² Includes 11 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 331 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through May 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	57,623 (80)	13,314 (44)	8,464 (46)	611 (81)	94 (61)	80,281 (66)
Intravenous (IV) drug use (heterosexual)	4,410 (6)	10,605 (35)	7,099 (39)	23 (3)	15 (10)	22,218 (18)
Male homosexual/bisexual contact and IV drug use	5,361 (7)	2,417 (8)	1,320 (7)	15 (2)	24 (16)	9,149 (8)
Hemophilia/coagulation disorder	984 (1)	76 (0)	91 (0)	15 (2)	8 (5)	1,178 (1)
Heterosexual contact:	439 (1)	2,071 (7)	228 (1)	6 (1)	1 (1)	2,749 (2)
<i>Sex with IV drug user</i>	278	564	153	2	1	998
<i>Sex with person with hemophilia</i>	4	1	—	—	—	5
<i>Born in Pattern-II¹ country</i>	2	1,330	8	3	—	1,346
<i>Sex with person born in Pattern-II country</i>	26	24	4	—	—	54
<i>Sex with transfusion recipient with HIV infection</i>	21	9	1	—	—	32
<i>Sex with HIV-infected person, risk not specified</i>	108	143	62	1	—	314
Receipt of blood transfusion, blood components, or tissue ²	1,475 (2)	289 (1)	158 (1)	42 (6)	1 (1)	1,969 (2)
Other/undetermined ³	1,490 (2)	1,310 (4)	855 (5)	44 (6)	10 (7)	3,738 (3)
Male subtotal	71,782 (100)	30,082 (100)	18,215 (100)	756 (100)	153 (100)	121,282 (100)
Female exposure category						
IV drug use	1,380 (41)	3,782 (58)	1,307 (52)	12 (18)	15 (56)	6,509 (52)
Hemophilia/coagulation disorder	22 (1)	5 (0)	1 (0)	—	—	28 (0)
Heterosexual contact:	945 (28)	2,071 (32)	916 (36)	25 (37)	7 (26)	3,975 (32)
<i>Sex with IV drug user</i>	494	1,209	767	11	3	2,492
<i>Sex with bisexual male</i>	215	129	49	6	1	401
<i>Sex with person with hemophilia</i>	50	5	1	1	—	57
<i>Born in Pattern-II country</i>	2	486	3	1	—	494
<i>Sex with person born in Pattern-II country</i>	3	35	1	—	—	39
<i>Sex with transfusion recipient with HIV infection</i>	53	8	11	1	—	73
<i>Sex with HIV-infected person, risk not specified</i>	128	199	84	5	3	419
Receipt of blood transfusion, blood components, or tissue	809 (24)	246 (4)	146 (6)	24 (35)	2 (7)	1,228 (10)
Other/undetermined	239 (7)	467 (7)	144 (6)	7 (10)	3 (11)	867 (7)
Female subtotal	3,395 (100)	6,571 (100)	2,514 (100)	68 (100)	27 (100)	12,607 (100)
Total	75,177	36,653	20,729	824	180	133,889

¹ See technical notes.

² Includes 11 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 294 males and 32 females whose race/ethnicity is unknown.

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

Exposure category	13-19 years old			20-24 years old		
	June 1988- May 1989	June 1989- May 1990	Cumulative total	June 1988- May 1989	June 1989- May 1990	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	34 (31)	34 (23)	150 (28)	814 (58)	811 (52)	3,327 (57)
Intravenous (IV) drug use (female and heterosexual male)	15 (14)	15 (10)	60 (11)	234 (17)	291 (18)	923 (16)
Male homosexual/bisexual contact and IV drug use	3 (3)	4 (3)	24 (5)	117 (8)	134 (9)	548 (9)
Hemophilia/coagulation disorder	31 (28)	43 (29)	162 (31)	39 (3)	36 (2)	151 (3)
Heterosexual contact:	14 (13)	25 (17)	63 (12)	135 (10)	177 (11)	520 (9)
<i>Sex with IV drug user</i>	8	16	37	86	98	283
<i>Sex with bisexual male</i>	—	1	3	12	5	43
<i>Sex with person with hemophilia</i>	—	1	1	3	7	14
<i>Born in Pattern-II¹</i>	3	2	13	13	26	101
<i>Sex with person born in</i> <i>Pattern-II country</i>	—	—	—	1	3	6
<i>Sex with transfusion recipient</i> <i>with HIV infection</i>	—	—	—	—	4	5
<i>Sex with HIV-infected person,</i> <i>risk not specified</i>	3	5	9	20	34	68
Receipt of blood transfusion, blood components, or tissue	13 (12)	6 (4)	41 (8)	22 (2)	15 (1)	88 (2)
Undetermined ²	1 (1)	19 (13)	30 (6)	54 (4)	110 (7)	243 (4)
Total	111 (100)	146 (100)	530 (100)	1,415 (100)	1,574 (100)	5,800 (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 May 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	176 (0)	543 (2)	266 (1)	3 (0)	2 (1)	992 (1)
5-12	138 (0)	72 (0)	47 (0)	4 (1)	—	263 (0)
13-19	204 (0)	125 (0)	77 (0)	5 (1)	4 (3)	416 (0)
20-24	2,563 (4)	1,442 (5)	874 (5)	27 (4)	10 (6)	4,926 (4)
25-29	10,940 (15)	4,923 (16)	3,174 (17)	100 (13)	30 (19)	19,201 (16)
30-34	16,952 (24)	7,753 (25)	4,783 (26)	165 (22)	43 (28)	29,762 (24)
35-39	15,773 (22)	7,036 (23)	4,031 (22)	163 (21)	24 (15)	27,103 (22)
40-44	10,698 (15)	4,018 (13)	2,509 (14)	119 (16)	18 (12)	17,411 (14)
45-49	6,373 (9)	2,186 (7)	1,271 (7)	81 (11)	14 (9)	9,948 (8)
50-54	3,599 (5)	1,230 (4)	734 (4)	41 (5)	3 (2)	5,621 (5)
55-59	2,286 (3)	759 (2)	451 (2)	26 (3)	4 (3)	3,539 (3)
60-64	1,244 (2)	382 (1)	189 (1)	7 (1)	3 (2)	1,830 (1)
65 or older	1,150 (2)	228 (1)	122 (1)	22 (3)	—	1,525 (1)
Male subtotal	72,096 (100)	30,697 (100)	18,528 (100)	763 (100)	155 (100)	122,537 (100)
Females						
Age at diagnosis (years)						
Under 5	161 (4)	513 (7)	240 (9)	1 (1)	3 (10)	919 (7)
5-12	32 (1)	69 (1)	37 (1)	3 (4)	—	141 (1)
13-19	29 (1)	64 (1)	19 (1)	1 (1)	1 (3)	114 (1)
20-24	240 (7)	419 (6)	207 (7)	3 (4)	2 (7)	874 (6)
25-29	645 (18)	1,296 (18)	599 (21)	7 (10)	4 (13)	2,560 (19)
30-34	777 (22)	1,970 (28)	691 (25)	15 (21)	10 (33)	3,472 (25)
35-39	535 (15)	1,452 (20)	490 (18)	7 (10)	5 (17)	2,495 (18)
40-44	284 (8)	668 (9)	255 (9)	13 (18)	2 (7)	1,222 (9)
45-49	157 (4)	283 (4)	112 (4)	7 (10)	—	563 (4)
50-54	123 (3)	163 (2)	56 (2)	4 (6)	1 (3)	347 (3)
55-59	138 (4)	111 (2)	37 (1)	3 (4)	—	290 (2)
60-64	127 (4)	65 (1)	21 (1)	5 (7)	1 (3)	219 (2)
65 or older	340 (9)	80 (1)	27 (1)	3 (4)	1 (3)	451 (3)
Female subtotal	3,588 (100)	7,153 (100)	2,791 (100)	72 (100)	30 (100)	13,667 (100)
Total	75,684	37,850	21,319	835	185	136,204

¹ Includes 331 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through May 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	9	66.7	2
July-Dec.	198	91.9	84	5	100.0	6
1982 Jan.-June	388	90.5	153	12	75.0	8
July-Dec.	673	89.3	281	15	80.0	4
1983 Jan.-June	1,260	91.4	515	32	93.8	13
July-Dec.	1,626	91.1	915	41	75.6	16
1984 Jan.-June	2,531	88.1	1,361	47	83.0	24
July-Dec.	3,320	89.0	1,904	63	73.0	24
1985 Jan.-June	4,771	87.6	2,706	96	71.9	43
July-Dec.	6,157	86.1	3,707	127	74.0	68
1986 Jan.-June	8,085	83.8	4,866	127	71.7	64
July-Dec.	9,670	80.7	6,153	173	66.5	83
1987 Jan.-June	12,408	78.4	7,139	216	59.7	112
July-Dec.	13,754	69.8	7,514	244	56.6	155
1988 Jan.-June	15,331	60.8	8,658	227	46.3	126
July-Dec.	15,473	52.5	9,783	297	40.1	149
1989 Jan.-June	16,454	40.0	10,732	276	39.5	146
July-Dec.	14,830	28.8	10,756	219	31.5	137
1990 Jan.-May	6,791	16.2	4,455	83	22.9	55
Total¹	133,889	61.2	81,906	2,315	53.5	1,239

¹ Death totals include 156 adults/adolescents and 3 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 May 1990, United States

Definition category ¹	Year of diagnosis					Cumulative total
	Before June 1986	June 1986-May 1987	June 1987-May 1988	June 1988-May 1989	June 1989-May 1990	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	26,782 (95)	19,142 (88)	21,860 (75)	22,564 (70)	16,695 (67)	107,043 (79)
1987 definition: ²	1,401 (5)	2,636 (12)	7,175 (25)	9,783 (30)	8,166 (33)	29,161 (21)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	740	1,437	3,923	5,496	4,658	16,254
<i>Specific disease</i>						
<i>definitively diagnosed</i>	254	341	577	623	544	2,339
<i>HIV encephalopathy</i>	114	301	941	1,166	916	3,438
<i>HIV wasting syndrome</i>	293	557	1,734	2,498	2,048	7,130
Total	28,183 (100)	21,778 (100)	29,035 (100)	32,347 (100)	24,861 (100)	136,204 (100)

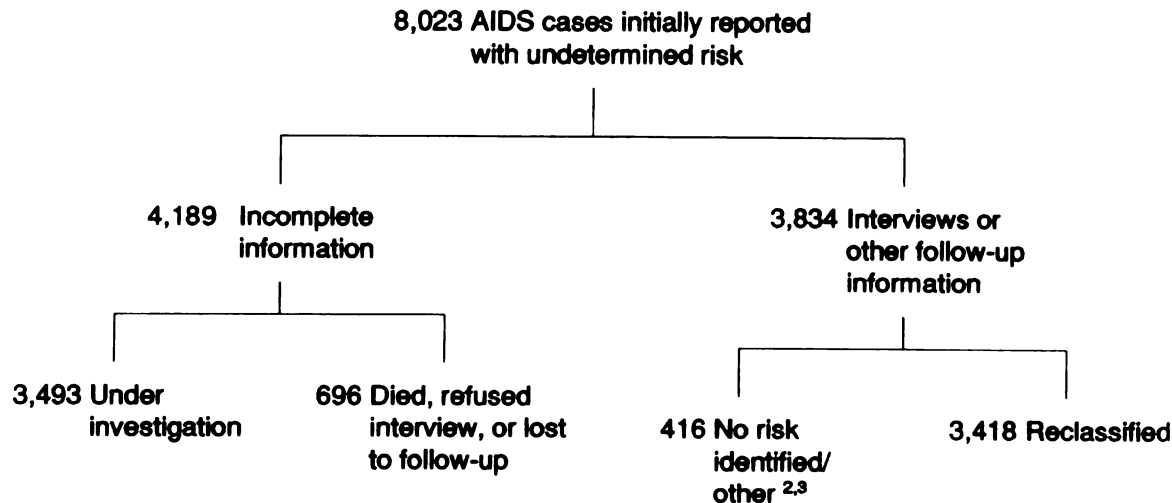
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 May 1990, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Male homosexual/bisexual contact	77,085	(58)
Intravenous (IV) drug use (female and heterosexual male)	24,645	(18)
Hemophilia/coagulation disorder	729	(1)
Heterosexual contact	6,405	(5)
Receipt of transfusion of blood, blood component, or tissue	3,197	(2)
Other/undetermined	4,605	(3)
Single mode of exposure subtotal	116,666	(87)
Multiple modes of exposure		
Male homosexual/bisexual contact; IV drug use	8,259	(6)
Male homosexual/bisexual contact; hemophilia	31	(0)
Male homosexual/bisexual contact; heterosexual contact	1,583	(1)
Male homosexual/bisexual contact; receipt of transfusion	1,484	(1)
IV drug use; hemophilia	31	(0)
IV drug use; heterosexual contact	3,206	(2)
IV drug use; receipt of transfusion	642	(0)
Hemophilia; heterosexual contact	6	(0)
Hemophilia; receipt of transfusion	461	(0)
Heterosexual contact; receipt of transfusion	319	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia	7	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact	600	(0)
Male homosexual/bisexual contact; IV drug use; receipt of transfusion	244	(0)
Male homosexual/bisexual contact; hemophilia; heterosexual contact	2	(0)
Male homosexual/bisexual contact; hemophilia; receipt of transfusion	15	(0)
Male homosexual/bisexual contact; heterosexual contact; receipt of transfusion	81	(0)
IV drug use; hemophilia; heterosexual contact	2	(0)
IV drug use; hemophilia; receipt of transfusion	15	(0)
IV drug use; heterosexual contact; receipt of transfusion	182	(0)
Hemophilia; heterosexual contact; receipt of transfusion	10	(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	32	(0)
IV drug use; hemophilia; heterosexual contact; receipt of transfusion	4	(0)
Multiple modes of exposure subtotal	17,223	(13)
Total	133,889	(100)

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



¹ Excludes 57 children under 13 years of age who have an undetermined risk: 50 children are under investigation and 7 have died, refused interview, or were lost to follow-up. An additional 95 children who were initially reported with an undetermined risk have been reclassified after investigation.

² **Health-care workers.** 3 of the 416 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 413, the mode of exposure to HIV remains undetermined after investigation. 67 of these are health-care workers, 60 of whom responded to a standardized questionnaire. 36 (60%) 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.

³ **Heterosexual transmission.** 351 of the 413 patients who had no risk identified after follow-up responded to a standardized questionnaire; 116 (37%) of 314 persons responding to questions related to sexually transmitted disease gave a history of such disease and 76 (35%) of 219 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

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.

city in the MSA or NECMA, may include several 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).

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

(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.