

HIV/AIDS

SURVEILLANCE

U.S. AIDS cases reported through June 1990

Issued July 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 July 1989 through June 1990, United States

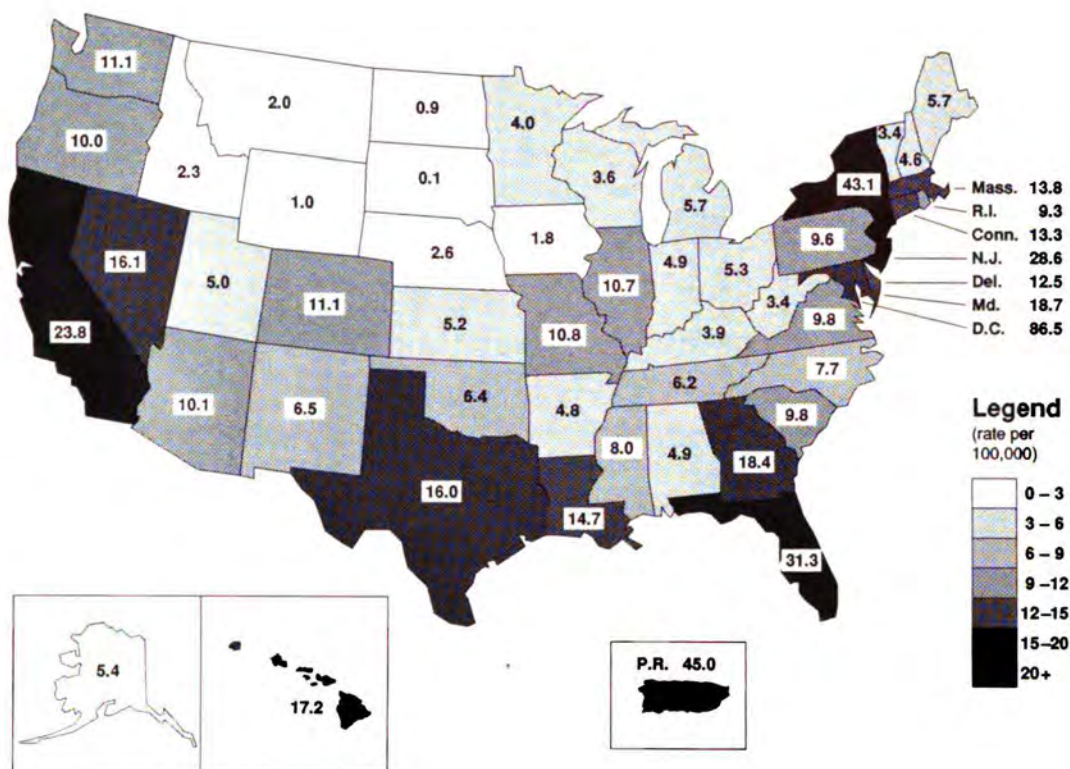


Figure 2. Adult/adolescent and pediatric AIDS cases, reported July 1989 through June 1990, United States

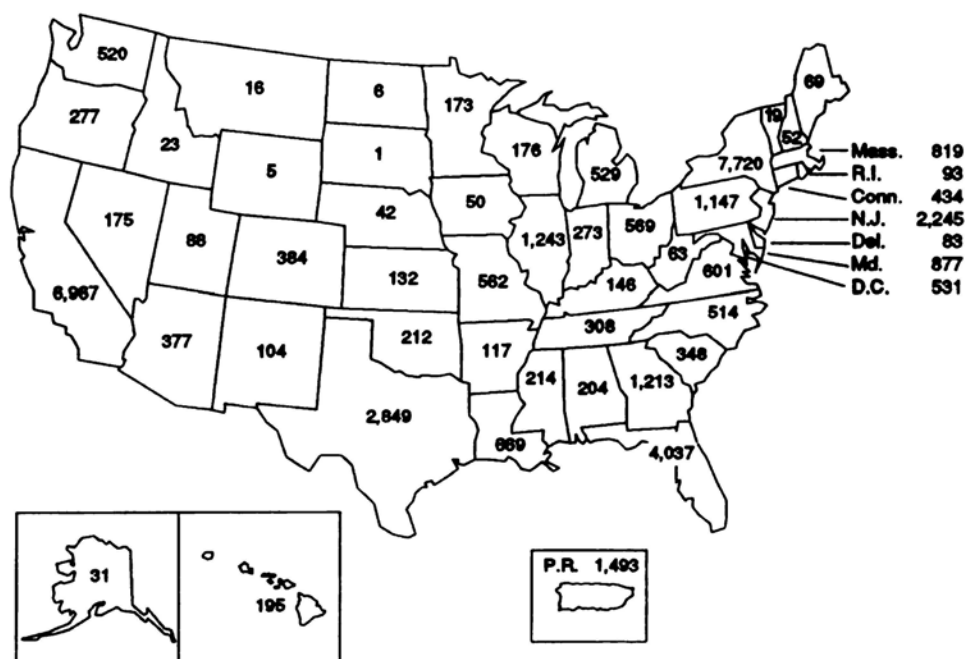


Figure 3. Pediatric AIDS cases, reported July 1989 through June 1990, United States

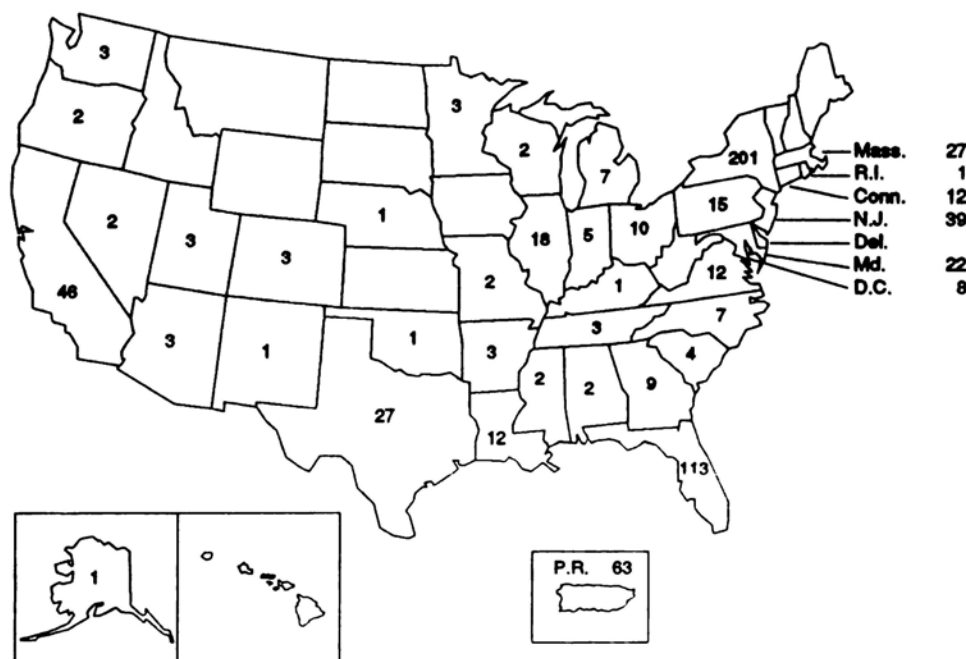


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported July 1988 through June 1989, July 1989 through June 1990; and cumulative totals, by state and age group, through June 1990¹

State of residence	July 1988- June 1989		July 1989- June 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	224	5.4	204	4.9	736	17	753
Alaska	14	2.5	31	5.4	91	2	93
Arizona	264	7.3	377	10.1	1,166	7	1,173
Arkansas	79	3.3	117	4.8	326	6	332
California	5,721	19.9	6,967	23.8	26,528	185	26,713
Colorado	344	10.1	384	11.1	1,385	8	1,393
Connecticut	424	13.0	434	13.3	1,624	53	1,677
Delaware	82	12.4	83	12.5	265	4	269
District of Columbia	541	87.7	531	86.5	2,276	29	2,305
Florida	3,170	25.2	4,037	31.3	11,714	327	12,041
Georgia	1,001	15.5	1,213	18.4	3,636	42	3,678
Hawaii	114	10.2	195	17.2	548	2	550
Idaho	20	2.0	23	2.3	63	2	65
Illinois	1,060	9.1	1,243	10.7	4,054	59	4,113
Indiana	239	4.3	273	4.9	840	10	850
Iowa	57	2.0	50	1.8	184	3	187
Kansas	94	3.8	132	5.2	376	3	379
Kentucky	109	2.9	146	3.9	404	5	409
Louisiana	430	9.5	669	14.7	1,939	34	1,973
Maine	43	3.6	69	5.7	188	2	190
Maryland	612	13.2	877	18.7	2,559	61	2,620
Massachusetts	757	12.8	819	13.8	2,876	61	2,937
Michigan	508	5.5	529	5.7	1,673	26	1,699
Minnesota	173	4.0	173	4.0	702	8	710
Mississippi	144	5.4	214	8.0	506	7	513
Missouri	381	7.4	562	10.8	1,538	10	1,548
Montana	12	1.5	16	2.0	46	—	46
Nebraska	40	2.5	42	2.6	150	2	152
Nevada	137	12.9	175	16.1	521	5	526
New Hampshire	47	4.2	52	4.6	165	4	169
New Jersey	2,376	30.5	2,245	28.6	8,906	237	9,143
New Mexico	76	4.8	104	6.5	288	2	290
New York	6,417	35.9	7,720	43.1	30,096	702	30,798
North Carolina	367	5.6	514	7.7	1,387	27	1,414
North Dakota	6	0.9	6	0.9	19	—	19
Ohio	532	4.9	569	5.3	1,946	32	1,978
Oklahoma	157	4.7	212	6.4	618	10	628
Oregon	197	7.2	277	10.0	843	5	848
Pennsylvania	1,026	8.6	1,147	9.6	3,854	67	3,921
Rhode Island	86	8.7	93	9.3	330	7	337
South Carolina	257	7.3	348	9.8	859	19	878
South Dakota	6	0.8	1	0.1	17	—	17
Tennessee	283	5.7	308	6.2	923	13	936
Texas	2,351	13.5	2,849	16.0	9,629	82	9,711
Utah	77	4.4	88	5.0	282	8	290
Vermont	14	2.5	19	3.4	62	1	63
Virginia	391	6.4	601	9.8	1,722	32	1,754
Washington	453	9.8	520	11.1	1,833	11	1,844
West Virginia	37	2.0	63	3.4	147	2	149
Wisconsin	113	2.3	176	3.6	528	3	531
Wyoming	15	3.0	5	1.0	32	—	32
U.S. total	32,078	12.9	38,502	15.4	133,400	2,244	135,644
Guam	1	0.7	1	0.7	7	—	7
Pacific Islands, U.S.	1	0.7	1	0.7	2	—	2
Puerto Rico	1,398	42.3	1,493	45.0	3,907	132	4,039
Virgin Islands, U.S.	34	29.5	9	7.7	69	4	73
Total	33,512	13.3	40,006	15.7	137,385	2,380	139,765

¹During June 1990, 3,496 cases and 2,256 deaths among adults/adolescents and 65 cases and 27 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 July 1988 through June 1989, July 1989 through June 1990; and cumulative totals, by area and age group, through June 1990

Metropolitan area of residence	July 1988- June 1989		July 1989- June 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	32	5.0	22	3.4	90	—	90
Albany-Schenectady, N.Y.	58	6.8	92	10.8	287	3	290
Albuquerque, N.M.	42	8.2	54	10.4	154	1	155
Allentown, Pa.	31	4.6	54	7.9	135	4	139
Anaheim, Calif.	264	11.5	332	14.2	1,151	8	1,159
Atlanta, Ga.	772	27.3	931	32.0	2,781	25	2,806
Austin, Tex.	151	19.1	224	27.3	601	5	606
Bakersfield, Calif.	17	3.2	44	8.1	98	—	98
Baltimore, Md.	397	16.9	580	24.6	1,524	46	1,570
Baton Rouge, La.	47	8.6	66	11.9	174	2	176
Bergen-Passaic, N.J.	243	18.7	280	21.6	1,166	25	1,191
Birmingham, Ala.	81	8.7	61	6.5	234	6	240
Boston, Mass.	613	16.3	613	16.3	2,278	48	2,326
Bridgeport, Conn.	135	16.5	115	14.0	485	17	502
Buffalo, N.Y.	42	4.5	99	10.6	227	2	229
Charleston, S.C.	56	10.7	83	15.6	204	—	204
Charlotte, N.C.	76	6.7	95	8.3	283	5	288
Chicago, Ill.	890	14.3	1,036	16.6	3,427	44	3,471
Cincinnati, Ohio	65	4.5	112	7.7	298	6	304
Cleveland, Ohio	137	7.4	117	6.4	499	7	506
Columbus, Ohio	128	9.5	122	9.0	431	3	434
Dallas, Tex.	546	21.0	635	23.7	2,349	11	2,360
Dayton, Ohio	61	6.5	54	5.7	192	3	195
Denver, Colo.	284	16.7	310	18.0	1,129	5	1,134
Detroit, Mich.	357	8.2	377	8.7	1,186	19	1,205
El Paso, Tex.	10	1.7	40	6.5	85	1	86
Fort Lauderdale, Fla.	473	39.4	883	72.5	2,175	42	2,217
Fort Worth, Tex.	139	10.2	167	11.9	527	7	534
Fresno, Calif.	51	8.3	56	8.9	165	2	167
Gary, Ind.	17	2.9	28	4.8	75	—	75
Grand Rapids, Mich.	31	4.6	19	2.8	77	1	78
Greensboro, N.C.	62	6.6	82	8.7	214	4	218
Greenville, S.C.	28	4.5	38	6.0	104	—	104
Harrisburg, Pa.	46	7.8	41	6.9	145	4	149
Hartford, Conn.	134	12.0	154	13.7	479	10	489
Honolulu, Hawaii	93	10.9	124	14.4	417	2	419
Houston, Tex.	852	25.7	1,149	34.0	4,106	31	4,137
Indianapolis, Ind.	117	9.4	137	10.9	399	3	402
Jacksonville, Fla.	149	16.2	242	25.7	592	12	604
Jersey City, N.J.	412	75.9	282	52.1	1,503	34	1,537
Kansas City, Mo.	204	12.9	322	20.1	862	3	865
Knoxville, Tenn.	28	4.7	28	4.6	98	—	98
Lake County, Ill.	16	3.1	18	3.5	64	2	66
Las Vegas, Nev.	98	15.4	132	20.2	380	5	385
Little Rock, Ark.	30	5.7	52	9.8	139	3	142
Los Angeles, Calif.	1,778	20.2	2,294	25.7	9,118	81	9,199
Louisville, Ky.	46	4.7	62	6.4	174	2	176
Memphis, Tenn.	78	7.9	109	10.9	305	5	310
Miami, Fla.	959	52.6	1,077	58.6	3,541	145	3,686
Middlesex, N.J.	198	19.9	173	17.1	709	22	731
Milwaukee, Wis.	68	4.9	96	6.9	308	1	309
Minneapolis-Saint Paul, Minn.	155	6.5	158	6.5	629	6	635
Mobile, Ala.	42	8.5	34	6.8	157	—	157
Monmouth-Ocean City, N.J.	165	16.6	170	16.8	543	20	563
Nashville, Tenn.	106	10.7	87	8.6	296	6	302
Nassau-Suffolk, N.Y.	329	12.5	413	15.7	1,438	37	1,475
New Haven, Conn.	116	14.5	130	16.2	519	26	545
New Orleans, La.	264	19.8	390	29.0	1,244	18	1,262

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

Metropolitan area of residence	July 1988- June 1989		July 1989- June 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
New York, N.Y.	5,571	65.0	6,474	75.3	26,140	635	26,775
Newark, N.J.	1,012	53.3	964	50.7	3,782	103	3,885
Norfolk, Va.	86	6.2	153	10.8	382	7	389
Oakland, Calif.	319	15.8	507	24.8	1,676	10	1,686
Oklahoma City, Okla.	78	7.8	113	11.2	318	—	318
Omaha, Neb.	29	4.6	34	5.4	109	1	110
Orlando, Fla.	186	18.7	187	18.2	562	7	569
Oxnard-Ventura, Calif.	38	5.8	39	5.8	129	—	129
Philadelphia, Pa.	760	15.5	830	16.8	2,914	46	2,960
Phoenix, Ariz.	183	8.7	285	13.1	859	4	863
Pittsburgh, Pa.	135	6.5	143	7.0	492	2	494
Portland, Oreg.	157	13.2	213	17.8	664	2	666
Providence, R.I.	77	8.5	88	9.7	307	6	313
Raleigh-Durham, N.C.	73	10.4	123	17.2	308	8	316
Richmond, Va.	83	9.8	128	15.0	336	7	343
Riverside-San Bernardino, Calif.	216	9.4	260	11.0	866	14	880
Rochester, N.Y.	71	7.3	88	9.0	317	2	319
Sacramento, Calif.	174	12.4	122	8.5	552	5	557
Saint Louis, Mo.	182	7.3	210	8.4	658	6	664
Salt Lake City, Utah	64	5.8	76	6.8	248	5	253
San Antonio, Tex.	352	25.5	202	14.3	689	9	698
San Diego, Calif.	453	18.8	724	29.3	2,067	17	2,084
San Francisco, Calif.	1,813	112.5	1,938	119.3	8,440	17	8,457
San Jose, Calif.	158	11.0	139	9.6	609	7	616
San Juan, P.R.	886	56.7	938	59.8	2,420	89	2,509
Scranton, Pa.	23	3.1	34	4.6	100	3	103
Seattle, Wash.	341	18.4	395	21.1	1,405	9	1,414
Springfield, Mass.	40	6.8	67	11.4	155	7	162
Syracuse, N.Y.	18	2.8	54	8.4	139	4	143
Tacoma, Wash.	29	5.2	37	6.5	119	1	120
Tampa, Fla.	445	21.7	387	18.4	1,326	22	1,348
Toledo, Ohio	21	3.4	40	6.6	96	3	99
Tucson, Ariz.	55	8.4	57	8.6	214	2	216
Tulsa, Okla.	52	7.0	55	7.3	176	3	179
Washington, D.C.	864	22.9	973	25.4	3,841	54	3,895
West Palm Beach, Fla.	324	38.2	348	39.7	1,174	50	1,224
Wilmington, Del.	70	12.3	74	12.8	221	3	224
Worcester, Mass.	37	5.5	37	5.5	138	3	141
Metropolitan area subtotal¹	28,294	19.3	33,231	22.5	117,918	2,003	119,921
All other areas	5,218	5.1	6,775	6.5	19,467	377	19,844
Total	33,512	13.3	40,006	15.7	137,385	2,380	139,765

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

Adult/adolescent exposure category	Males		Females		Totals		
	July 1988-June 1989	July 1989-June 1990	July 1988-June 1989	July 1989-June 1990	July 1988-June 1989	July 1989-June 1990	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	18,927 (64)	22,103 (63)	—	—	18,927 (58)	22,103 (56)	82,304 (60)
Intravenous (IV) drug use (female and heterosexual male)	6,003 (20)	7,116 (20)	1,793 (52)	2,111 (49)	7,796 (24)	9,227 (23)	29,487 (21)
Male homosexual/bisexual contact and IV drug use	2,121 (7)	2,271 (6)	—	—	2,121 (6)	2,271 (6)	9,370 (7)
Hemophilia/coagulation disorder	310 (1)	287 (1)	7 (0)	8 (0)	317 (1)	295 (1)	1,234 (1)
Heterosexual contact:	677 (2)	921 (3)	1,119 (32)	1,417 (33)	1,796 (5)	2,338 (6)	6,952 (5)
<i>Sex with IV drug user</i>	335	410	723	895	1,058	1,305	3,627
<i>Sex with bisexual male</i>	—	—	86	115	86	115	415
<i>Sex with person with hemophilia</i>	2	2	10	26	12	28	66
<i>Born in Pattern-II² country</i>	232	313	126	138	358	451	1,861
<i>Sex with person born in Pattern-II country</i>	12	17	9	20	21	37	101
<i>Sex with transfusion recipient with HIV infection</i>	10	15	23	28	33	43	109
<i>Sex with HIV-infected person, risk not specified</i>	86	164	142	195	228	359	773
Receipt of blood transfusion, blood components, or tissue ³	461 (2)	494 (1)	335 (10)	340 (8)	796 (2)	834 (2)	3,273 (2)
Other/undetermined ⁴	947 (3)	1,834 (5)	192 (6)	407 (10)	1,139 (3)	2,241 (6)	4,765 (3)
Adult/adolescent subtotal	29,446 (100)	35,026 (100)	3,446 (100)	4,283 (100)	32,892 (100)	39,309 (100)	137,385 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	33 (10)	26 (7)	1 (0)	—	34 (5)	26 (4)	119 (5)
Mother with/at risk for HIV infection:	262 (77)	294 (82)	256 (92)	307 (90)	518 (84)	601 (86)	1,966 (83)
<i>IV drug use</i>	137	139	114	138	251	277	991
<i>Sex with IV drug user</i>	52	75	56	70	108	145	415
<i>Sex with bisexual male</i>	5	6	4	9	9	15	46
<i>Sex with person with hemophilia</i>	—	—	1	1	1	1	8
<i>Born in Pattern-II country</i>	28	24	26	22	54	46	197
<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>	3	—	4	2	7	2	10
<i>Sex with HIV-infected person, risk not specified</i>	11	13	13	18	24	31	83
<i>Receipt of blood transfusion, blood components, or tissue</i>	3	6	9	4	12	10	40
<i>Has HIV infection, risk not specified</i>	22	29	27	41	49	70	166
Receipt of blood transfusion, blood components, or tissue	38 (11)	23 (6)	16 (6)	15 (4)	54 (9)	38 (5)	233 (10)
Undetermined	8 (2)	14 (4)	6 (2)	18 (5)	14 (2)	32 (5)	62 (3)
Pediatric subtotal	341 (100)	357 (100)	279 (100)	340 (100)	620 (100)	697 (100)	2,380 (100)
Total	29,787	35,383	3,725	4,623	33,512	40,006	139,765

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 12 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 June 1990, United States

Adult/adolescent 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	59,000 (77)	13,717 (36)	8,673 (41)	633 (75)	101 (53)	82,304 (60)
Intravenous (IV) drug use (female and heterosexual male)	5,964 (8)	14,777 (39)	8,598 (40)	35 (4)	33 (17)	29,487 (21)
Male homosexual/bisexual contact and IV drug use	5,494 (7)	2,475 (7)	1,347 (6)	16 (2)	24 (13)	9,370 (7)
Hemophilia/coagulation disorder	1,032 (1)	82 (0)	93 (0)	15 (2)	8 (4)	1,234 (1)
Heterosexual contact:	1,445 (2)	4,273 (11)	1,177 (6)	31 (4)	8 (4)	6,952 (5)
<i>Sex with IV drug user</i>	802	1,857	941	13	5	3,627
<i>Sex with bisexual male</i>	225	132	50	6	1	415
<i>Sex with person with hemophilia</i>	57	7	1	1	—	66
<i>Born in Pattern-II¹ country</i>	5	1,836	11	4	—	1,861
<i>Sex with person born in Pattern-II country</i>	33	62	5	—	—	101
<i>Sex with transfusion recipient with HIV infection</i>	76	18	12	1	—	109
<i>Sex with HIV-infected person, risk not specified</i>	247	361	157	6	2	773
Receipt of blood transfusion, blood components, or tissue ²	2,335 (3)	549 (1)	314 (1)	66 (8)	3 (2)	3,273 (2)
Other/undetermined ³	1,815 (2)	1,809 (5)	1,035 (5)	52 (6)	12 (6)	4,765 (3)
Adult/adolescent subtotal	77,085(100)	37,682 (100)	21,237(100)	848(100)	189(100)	137,385(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	83 (16)	16 (1)	16 (3)	3 (25)	—	119 (5)
Mother with/at risk for HIV infection:	303 (58)	1,128 (92)	521 (86)	4 (33)	5(100)	1,966 (83)
<i>IV drug use</i>	148	563	275	1	2	991
<i>Sex with IV drug user</i>	67	180	166	1	—	415
<i>Sex with bisexual male</i>	17	20	9	—	—	46
<i>Sex with person with hemophilia</i>	5	2	1	—	—	8
<i>Born in Pattern-II country</i>	2	194	1	—	—	197
<i>Sex with person born in Pattern-II country</i>	—	9	—	—	—	10
<i>Sex with transfusion recipient with HIV infection</i>	5	3	2	—	—	10
<i>Sex with HIV-infected person, risk not specified</i>	14	37	29	1	1	83
<i>Receipt of blood transfusion, blood components, or tissue</i>	14	15	11	—	—	40
<i>Has HIV infection, risk not specified</i>	31	105	27	1	2	166
Receipt of blood transfusion, blood components, or tissue	126 (24)	51 (4)	51 (8)	5 (42)	—	233 (10)
Undetermined	9 (2)	32 (3)	21 (3)	—	—	62 (3)
Pediatric subtotal	521(100)	1,227 (100)	609(100)	12(100)	5(100)	2,380(100)
Total	77,606	38,909	21,846	860	194	139,765

¹ See technical notes.

² Includes 12 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 350 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through June 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	59,000 (80)	13,717 (44)	8,673 (46)	633 (81)	101 (62)	82,304 (66)
Intravenous (IV) drug use (heterosexual)	4,551 (6)	10,889 (35)	7,250 (39)	23 (3)	18 (11)	22,798 (18)
Male homosexual/bisexual contact and IV drug use	5,494 (7)	2,475 (8)	1,347 (7)	16 (2)	24 (15)	9,370 (8)
Hemophilia/coagulation disorder	1,008 (1)	76 (0)	92 (0)	15 (2)	8 (5)	1,203 (1)
Heterosexual contact:	459 (1)	2,117 (7)	237 (1)	6 (1)	1 (1)	2,824 (2)
<i>Sex with IV drug user</i>	292	589	155	2	1	1,039
<i>Sex with person with hemophilia</i>	4	1	—	—	—	5
<i>Born in Pattern-II¹ country</i>	3	1,342	8	3	—	1,359
<i>Sex with person born in Pattern-II country</i>	29	25	4	—	—	58
<i>Sex with transfusion recipient with HIV infection</i>	21	9	1	—	—	32
<i>Sex with HIV-infected person, risk not specified</i>	110	151	69	1	—	331
Receipt of blood transfusion, blood components, or tissue ²	1,504 (2)	295 (1)	163 (1)	42 (5)	1 (1)	2,010 (2)
Other/undetermined ³	1,573 (2)	1,325 (4)	890 (5)	43 (6)	9 (6)	3,876 (3)
Male subtotal	73,589 (100)	30,894 (100)	18,652 (100)	778 (100)	162 (100)	124,385 (100)
Female exposure category						
IV drug use	1,413 (40)	3,888 (57)	1,348 (52)	12 (17)	15 (56)	6,689 (51)
Hemophilia/coagulation disorder	24 (1)	6 (0)	1 (0)	—	—	31 (0)
Heterosexual contact:	986 (28)	2,156 (32)	940 (36)	25 (36)	7 (26)	4,128 (32)
<i>Sex with IV drug user</i>	510	1,268	786	11	4	2,588
<i>Sex with bisexual male</i>	225	132	50	6	1	415
<i>Sex with person with hemophilia</i>	53	6	1	1	—	61
<i>Born in Pattern-II country</i>	2	494	3	1	—	502
<i>Sex with person born in Pattern-II country</i>	4	37	1	—	—	43
<i>Sex with transfusion recipient with HIV infection</i>	55	9	11	1	—	77
<i>Sex with HIV-infected person, risk not specified</i>	137	210	88	5	2	442
Receipt of blood transfusion, blood components, or tissue	831 (24)	254 (4)	151 (6)	24 (34)	2 (7)	1,263 (10)
Other/undetermined	242 (7)	484 (7)	145 (6)	9 (13)	3 (11)	889 (7)
Female subtotal	3,496 (100)	6,788 (100)	2,585 (100)	70 (100)	27 (100)	13,000 (100)
Total	77,085	37,682	21,237	848	189	137,385

¹ See technical notes.

² Includes 12 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 310 males and 34 females whose race/ethnicity is unknown.

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

Exposure category	13-19 years old			20-24 years old		
	July 1988- June 1989	July 1989- June 1990	Cumulative total	July 1988- June 1989	July 1989- June 1990	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	35 (30)	35 (24)	152 (28)	812 (58)	806 (51)	3,393 (57)
Intravenous (IV) drug use (female and heterosexual male)	16 (14)	14 (9)	61 (11)	231 (16)	301 (19)	957 (16)
Male homosexual/bisexual contact and IV drug use	3 (3)	4 (3)	24 (4)	116 (8)	137 (9)	560 (9)
Hemophilia/coagulation disorder	34 (29)	44 (30)	167 (31)	40 (3)	32 (2)	151 (3)
Heterosexual contact:	15 (13)	26 (18)	65 (12)	137 (10)	183 (12)	539 (9)
<i>Sex with IV drug user</i>	9	16	38	84	106	297
<i>Sex with bisexual male</i>	—	1	3	11	6	44
<i>Sex with person with hemophilia</i>	—	1	1	4	6	14
<i>Born in Pattern-II¹ country</i>	3	2	13	14	27	104
<i>Sex with person born in Pattern-II country</i>	—	—	—	1	3	6
<i>Sex with transfusion recipient with HIV infection</i>	—	—	—	—	5	6
<i>Sex with HIV-infected person, risk not specified</i>	3	6	10	23	30	68
Receipt of blood transfusion, blood components, or tissue	12 (10)	7 (5)	42 (8)	21 (1)	15 (1)	88 (1)
Undetermined ²	2 (2)	18 (12)	30 (6)	54 (4)	108 (7)	244 (4)
Total	117 (100)	148 (100)	541 (100)	1,411 (100)	1,582 (100)	5,932 (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 June 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	180 (0)	553 (2)	272 (1)	3 (0)	2 (1)	1,013 (1)
5-12	140 (0)	75 (0)	49 (0)	5 (1)	—	271 (0)
13-19	208 (0)	127 (0)	77 (0)	5 (1)	4 (2)	422 (0)
20-24	2,606 (4)	1,479 (5)	891 (5)	27 (3)	10 (6)	5,024 (4)
25-29	11,204 (15)	5,046 (16)	3,250 (17)	105 (13)	34 (21)	19,675 (16)
30-34	17,398 (24)	7,945 (25)	4,881 (26)	170 (22)	43 (26)	30,506 (24)
35-39	16,142 (22)	7,224 (23)	4,143 (22)	168 (21)	27 (16)	27,784 (22)
40-44	10,987 (15)	4,138 (13)	2,566 (14)	125 (16)	19 (12)	17,884 (14)
45-49	6,536 (9)	2,261 (7)	1,309 (7)	81 (10)	14 (9)	10,226 (8)
50-54	3,700 (5)	1,259 (4)	752 (4)	41 (5)	3 (2)	5,770 (5)
55-59	2,345 (3)	777 (2)	463 (2)	26 (3)	5 (3)	3,630 (3)
60-64	1,287 (2)	402 (1)	194 (1)	7 (1)	3 (2)	1,899 (2)
65 or older	1,176 (2)	236 (1)	126 (1)	23 (3)	—	1,565 (1)
Male subtotal	73,909 (100)	31,522 (100)	18,973 (100)	786 (100)	164 (100)	125,669 (100)
Females						
Age at diagnosis (years)						
Under 5	168 (5)	528 (7)	248 (9)	1 (1)	3 (10)	949 (7)
5-12	33 (1)	71 (1)	40 (1)	3 (4)	—	147 (1)
13-19	32 (1)	66 (1)	19 (1)	1 (1)	1 (3)	119 (1)
20-24	246 (7)	433 (6)	219 (8)	3 (4)	3 (10)	908 (6)
25-29	670 (18)	1,329 (18)	611 (21)	8 (11)	3 (10)	2,629 (19)
30-34	797 (22)	2,028 (27)	711 (25)	15 (20)	10 (33)	3,570 (25)
35-39	545 (15)	1,507 (20)	507 (18)	7 (9)	5 (17)	2,577 (18)
40-44	293 (8)	690 (9)	260 (9)	13 (18)	2 (7)	1,259 (9)
45-49	160 (4)	291 (4)	113 (4)	7 (9)	—	575 (4)
50-54	126 (3)	178 (2)	55 (2)	5 (7)	1 (3)	365 (3)
55-59	141 (4)	112 (2)	40 (1)	3 (4)	—	298 (2)
60-64	134 (4)	70 (1)	23 (1)	5 (7)	1 (3)	233 (2)
65 or older	352 (10)	84 (1)	27 (1)	3 (4)	1 (3)	467 (3)
Female subtotal	3,697 (100)	7,387 (100)	2,873 (100)	74 (100)	30 (100)	14,096 (100)
Total	77,606	38,909	21,846	860	194	139,765

¹ Includes 350 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through June 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	92	92.4	38	8	62.5	2
July-Dec.	196	91.8	84	6	100.0	6
1982 Jan.-June	387	90.7	153	13	76.9	9
July-Dec.	678	89.2	281	15	80.0	4
1983 Jan.-June	1,257	91.6	515	32	93.8	13
July-Dec.	1,628	91.3	917	42	76.2	16
1984 Jan.-June	2,531	88.3	1,370	47	83.0	25
July-Dec.	3,326	89.3	1,906	63	73.0	24
1985 Jan.-June	4,778	88.0	2,715	96	71.9	43
July-Dec.	6,164	86.3	3,708	127	74.0	68
1986 Jan.-June	8,095	84.1	4,881	129	72.1	65
July-Dec.	9,697	81.0	6,188	173	67.1	83
1987 Jan.-June	12,444	79.0	7,165	217	59.9	112
July-Dec.	13,796	70.8	7,541	244	57.0	157
1988 Jan.-June	15,434	62.1	8,721	231	46.8	126
July-Dec.	15,617	53.9	9,860	298	40.6	149
1989 Jan.-June	16,697	41.6	10,848	287	40.4	150
July-Dec.	15,339	30.7	11,068	239	31.0	142
1990 Jan.-June	9,151	17.5	6,023	107	20.6	70
Total¹	137,385	61.3	84,164	2,380	53.2	1,266

¹ Death totals include 152 adults/adolescents and 1 child known to have died, but whose date of death is unknown.

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

Definition category ¹	Year of diagnosis					Cumulative total
	Before July 1986	July 1986-June 1987	July 1987-June 1988	July 1988-June 1989	July 1989-June 1990	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	28,204 (95)	19,683 (87)	22,051 (74)	22,968 (70)	16,676 (67)	109,582 (78)
1987 definition: ²	1,590 (5)	2,848 (13)	7,654 (26)	9,931 (30)	8,160 (33)	30,183 (22)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	847	1,541	4,173	5,613	4,717	16,891
<i>Specific disease</i>						
<i>definitively diagnosed</i>	276	366	589	651	542	2,424
<i>HIV encephalopathy</i>	130	340	1,017	1,154	909	3,550
<i>HIV wasting syndrome</i>	337	601	1,875	2,513	1,992	7,318
Total	29,794(100)	22,531 (100)	29,705 (100)	32,899 (100)	24,836 (100)	139,765 (100)

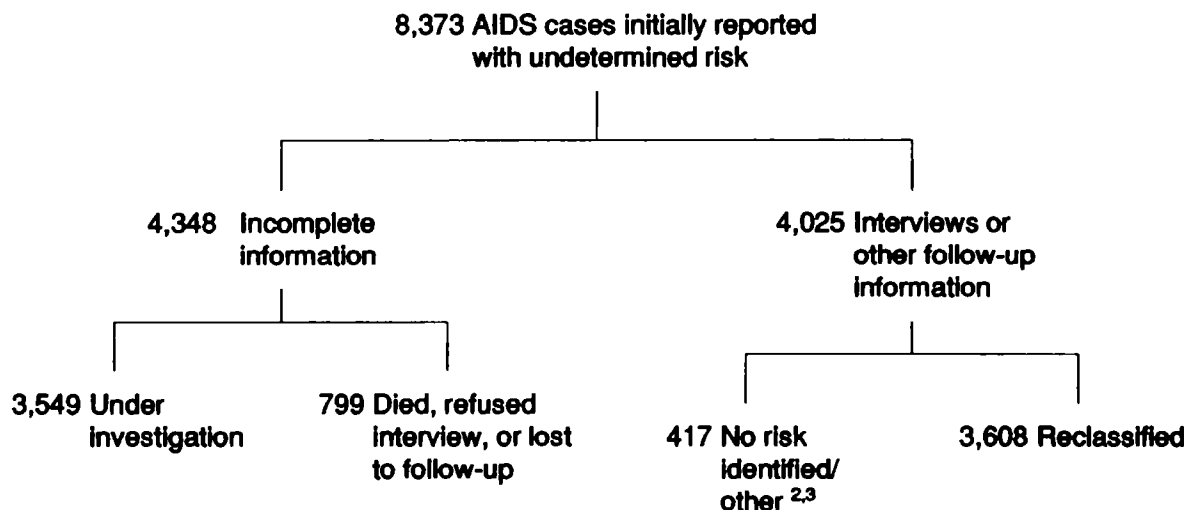
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 June 1990, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Male homosexual/bisexual contact	79,013	(58)
Intravenous (IV) drug use (female and heterosexual male)	25,298	(18)
Hemophilia/coagulation disorder	742	(1)
Heterosexual contact	6,623	(5)
Receipt of transfusion of blood, blood component, or tissue	3,273	(2)
Other/undetermined	4,765	(3)
Single mode of exposure subtotal	119,714	(87)
Multiple modes of exposure		
Male homosexual/bisexual contact; IV drug use	8,452	(6)
Male homosexual/bisexual contact; hemophilia	32	(0)
Male homosexual/bisexual contact; heterosexual contact	1,641	(1)
Male homosexual/bisexual contact; receipt of transfusion	1,513	(1)
IV drug use; hemophilia	32	(0)
IV drug use; heterosexual contact	3,297	(2)
IV drug use; receipt of transfusion	652	(0)
Hemophilia; heterosexual contact	7	(0)
Hemophilia; receipt of transfusion	474	(0)
Heterosexual contact; receipt of transfusion	329	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia	7	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact	624	(0)
Male homosexual/bisexual contact; IV drug use; receipt of transfusion	247	(0)
Male homosexual/bisexual contact; hemophilia; heterosexual contact	3	(0)
Male homosexual/bisexual contact; hemophilia; receipt of transfusion	16	(0)
Male homosexual/bisexual contact; heterosexual contact; receipt of transfusion	86	(0)
IV drug use; hemophilia; heterosexual contact	3	(0)
IV drug use; hemophilia; receipt of transfusion	15	(0)
IV drug use; heterosexual contact; receipt of transfusion	187	(0)
Hemophilia; heterosexual contact; receipt of transfusion	11	(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	33	(0)
IV drug use; hemophilia; heterosexual contact; receipt of transfusion	3	(0)
Multiple modes of exposure subtotal	17,671	(13)
Total	137,385	(100)

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



¹ Excludes 62 children under 13 years of age who have an undetermined risk: 55 children are under investigation and 7 have died, refused interview, or were lost to follow-up. An additional 96 children who were initially reported with an undetermined risk have been reclassified after investigation.

² **Health-care workers.** 3 of the 417 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 414, the mode of exposure to HIV remains undetermined after investigation. 65 of these are health-care workers, 58 of whom responded to a standardized questionnaire. 34 (59%) 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.** 350 of the 414 patients who had no risk identified after follow-up responded to a standardized questionnaire; 114 (36%) of 314 persons responding to questions related to sexually transmitted disease gave a history of such disease and 74 (35%) of 214 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 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

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-Chavez, 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.