

HIV/AIDS

SURVEILLANCE

U.S. AIDS cases reported through October 1990

Issued November 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).



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service
Centers for Disease Control
Center for Infectious Diseases
Division of HIV/AIDS

CDC
CENTERS FOR DISEASE CONTROL

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, November 1990:1-18

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

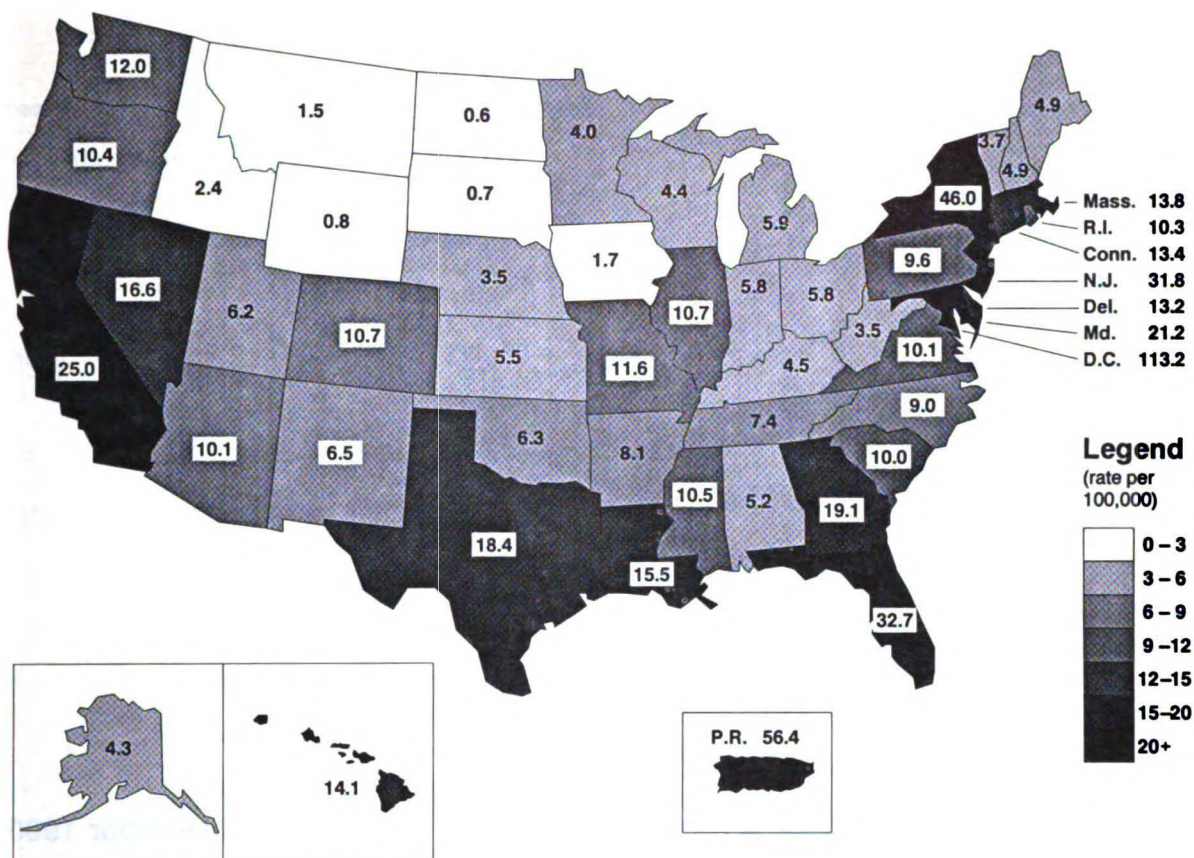


Figure 2. Adult/adolescent and pediatric AIDS cases, reported November 1989 through October 1990, United States

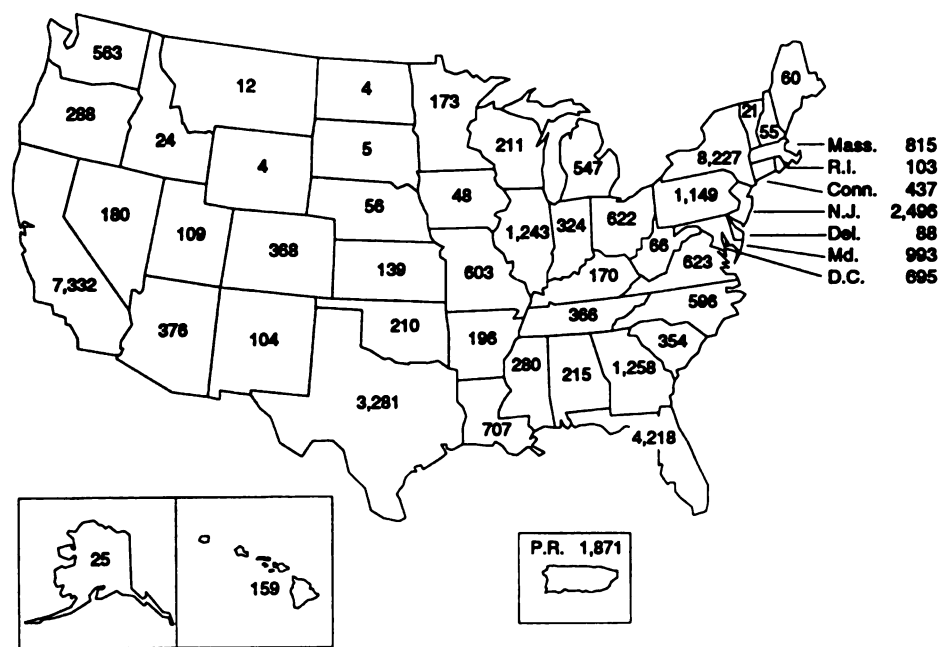


Figure 3. Pediatric AIDS cases reported November 1989 through October 1990, United States

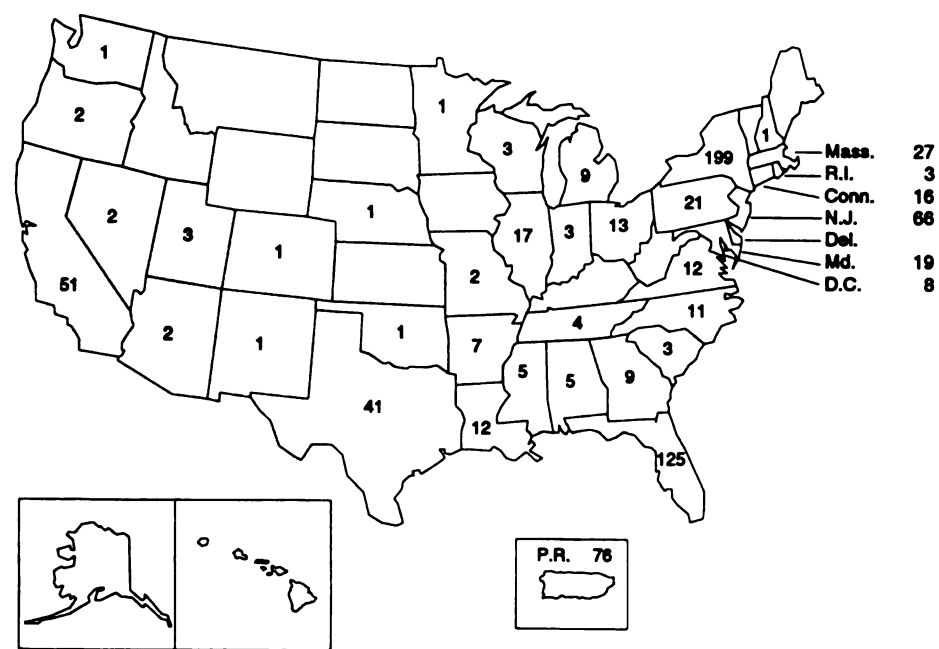


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported November 1988 through October 1989, November 1989 through October 1990; and cumulative totals, by state and age group, through October 1990¹

State of residence	Nov. 1988- Oct. 1989		Nov. 1989- Oct. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	236	5.7	215	5.2	829	20	849
Alaska	19	3.4	25	4.3	96	2	98
Arizona	279	7.7	376	10.1	1,250	7	1,257
Arkansas	72	3.0	196	8.1	418	10	428
California	6,372	22.2	7,332	25.0	29,263	204	29,467
Colorado	378	11.1	368	10.7	1,534	8	1,542
Connecticut	427	13.1	437	13.4	1,733	63	1,796
Delaware	78	11.8	88	13.2	299	4	303
District of Columbia	500	81.1	695	113.2	2,535	34	2,569
Florida	3,452	27.4	4,218	32.7	13,199	369	13,568
Georgia	1,192	18.4	1,258	19.1	4,089	44	4,133
Hawaii	164	14.7	159	14.1	601	2	603
Idaho	22	2.2	24	2.4	70	2	72
Illinois	1,129	9.7	1,243	10.7	4,440	64	4,504
Indiana	300	5.4	324	5.8	952	10	962
Iowa	59	2.1	48	1.7	203	3	206
Kansas	101	4.0	139	5.5	422	3	425
Kentucky	117	3.1	170	4.5	473	5	478
Louisiana	487	10.8	707	15.5	2,162	36	2,198
Maine	59	4.9	60	4.9	204	2	206
Maryland	678	14.6	993	21.2	2,938	65	3,003
Massachusetts	752	12.8	815	13.8	3,114	69	3,183
Michigan	522	5.6	547	5.9	1,881	30	1,911
Minnesota	187	4.3	173	4.0	770	8	778
Mississippi	171	6.4	280	10.5	624	10	634
Missouri	420	8.1	603	11.6	1,745	12	1,757
Montana	17	2.1	12	1.5	50	—	50
Nebraska	44	2.8	56	3.5	176	2	178
Nevada	163	15.4	180	16.6	592	5	597
New Hampshire	42	3.8	55	4.9	178	5	183
New Jersey	2,250	28.9	2,496	31.8	9,765	275	10,040
New Mexico	99	6.3	104	6.5	325	2	327
New York	6,450	36.1	8,227	46.0	32,764	777	33,541
North Carolina	392	6.0	596	9.0	1,569	33	1,602
North Dakota	6	0.9	4	0.6	20	—	20
Ohio	502	4.6	622	5.8	2,153	36	2,189
Oklahoma	176	5.3	210	6.3	667	10	677
Oregon	239	8.7	288	10.4	944	5	949
Pennsylvania	1,099	9.2	1,149	9.6	4,204	74	4,278
Rhode Island	82	8.3	103	10.3	364	9	373
South Carolina	312	8.9	354	10.0	993	21	1,014
South Dakota	6	0.8	5	0.7	21	—	21
Tennessee	243	4.9	366	7.4	1,051	14	1,065
Texas	2,527	14.5	3,281	18.4	10,822	106	10,928
Utah	87	5.0	109	6.2	328	8	336
Vermont	14	2.5	21	3.7	69	1	70
Virginia	398	6.6	623	10.1	1,885	34	1,919
Washington	478	10.3	563	12.0	2,033	12	2,045
West Virginia	52	2.8	66	3.5	173	2	175
Wisconsin	130	2.7	211	4.4	605	4	609
Wyoming	14	2.8	4	0.8	33	—	33
U.S. total	33,995	13.7	41,198	16.4	147,628	2,521	150,149
Guam	1	0.7	2	1.4	8	—	8
Pacific Islands, U.S.	1	0.7	1	0.7	2	—	2
Puerto Rico	1,174	35.5	1,871	56.4	4,518	161	4,679
Virgin Islands, U.S.	28	24.3	12	10.3	75	4	79
Total	35,199	14.0	43,084	16.9	152,231	2,686	154,917

¹ During October 1990, 2,733 cases and 1,974 deaths among adults/adolescents and 58 cases and 25 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 November 1988 through October 1989, November 1989 through October 1990; and cumulative totals, by area and age group, through October 1990

Metropolitan area of residence	Nov. 1988- Oct. 1989		Nov. 1989- Oct. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	27	4.2	27	4.2	102	—	102
Albany-Schenectady, N.Y.	63	7.4	95	11.2	320	3	323
Albuquerque, N.M.	55	10.8	48	9.2	167	1	168
Allentown, Pa.	31	4.6	59	8.7	151	4	155
Anaheim, Calif.	283	12.3	372	15.9	1,267	9	1,276
Atlanta, Ga.	940	33.2	972	33.5	3,134	25	3,159
Austin, Tex.	202	25.5	230	28.1	683	6	689
Bakersfield, Calif.	32	6.0	28	5.2	103	—	103
Baltimore, Md.	457	19.5	655	27.8	1,767	47	1,814
Baton Rouge, La.	50	9.1	57	10.3	184	2	186
Bergen-Passaic, N.J.	212	16.4	334	25.8	1,277	27	1,304
Birmingham, Ala.	90	9.7	69	7.4	270	6	276
Boston, Mass.	597	15.9	591	15.7	2,443	51	2,494
Bridgeport, Conn.	141	17.2	115	14.0	519	20	539
Buffalo, N.Y.	51	5.4	102	10.9	246	2	248
Charleston, S.C.	59	11.3	78	14.7	224	—	224
Charlotte, N.C.	82	7.3	100	8.7	312	6	318
Chicago, Ill.	928	14.9	1,036	16.6	3,752	49	3,801
Cincinnati, Ohio	62	4.3	132	9.0	336	6	342
Cleveland, Ohio	131	7.1	124	6.8	539	9	548
Columbus, Ohio	110	8.2	135	9.9	476	3	479
Dallas, Tex.	572	22.0	813	30.4	2,674	14	2,688
Dayton, Ohio	66	7.0	57	6.1	215	5	220
Denver, Colo.	306	18.0	306	17.7	1,254	5	1,259
Detroit, Mich.	368	8.4	376	8.6	1,321	21	1,342
El Paso, Tex.	30	5.0	32	5.2	99	1	100
Fort Lauderdale, Fla.	587	49.0	895	73.5	2,416	46	2,462
Fort Worth, Tex.	168	12.4	182	13.0	592	7	599
Fresno, Calif.	49	7.9	53	8.4	179	2	181
Gary, Ind.	27	4.6	26	4.4	83	—	83
Grand Rapids, Mich.	31	4.6	27	3.9	93	1	94
Greensboro, N.C.	64	6.8	104	11.0	245	6	251
Greenville, S.C.	34	5.5	43	6.8	122	—	122
Harrisburg, Pa.	52	8.8	36	6.1	154	4	158
Hartford, Conn.	150	13.4	150	13.3	518	15	533
Honolulu, Hawaii	116	13.6	110	12.8	459	1	460
Houston, Tex.	965	29.1	1,283	38.0	4,529	45	4,574
Indianapolis, Ind.	144	11.5	160	12.7	448	3	451
Jacksonville, Fla.	183	19.9	301	31.9	730	23	753
Jersey City, N.J.	332	61.1	358	66.1	1,649	40	1,689
Kansas City, Mo.	232	14.7	300	18.8	949	4	953
Knoxville, Tenn.	22	3.7	28	4.6	106	—	106
Lake County, Ill.	20	3.9	18	3.5	72	2	74
Las Vegas, Nev.	118	18.6	144	22.0	442	5	447
Little Rock, Ark.	29	5.5	77	14.6	170	5	175
Los Angeles, Calif.	2,190	24.9	2,501	28.0	10,310	90	10,400
Louisville, Ky.	48	4.9	67	6.9	196	2	198
Memphis, Tenn.	76	7.7	115	11.5	336	6	342
Miami, Fla.	1,000	54.8	1,102	60.0	3,916	157	4,073
Middlesex, N.J.	205	20.6	163	16.2	761	25	786
Milwaukee, Wis.	76	5.5	119	8.6	349	2	351
Minneapolis-Saint Paul, Minn.	166	6.9	158	6.5	692	6	698
Mobile, Ala.	48	9.7	27	5.4	167	—	167
Monmouth-Ocean City, N.J.	182	18.3	198	19.6	626	23	649
Nashville, Tenn.	77	7.8	121	12.0	349	6	355
Nassau-Suffolk, N.Y.	366	13.9	393	14.9	1,552	38	1,590
New Haven, Conn.	100	12.5	141	17.6	553	27	580
New Orleans, La.	297	22.2	406	30.2	1,375	18	1,393

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

Metropolitan area of residence	Nov. 1988- Oct. 1989		Nov. 1989- Oct. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
New York, N.Y.	5,481	64.0	7,038	81.8	28,475	706	29,181
Newark, N.J.	933	49.1	1,044	54.9	4,104	124	4,228
Norfolk, Va.	75	5.4	155	10.9	411	7	418
Oakland, Calif.	394	19.5	609	29.8	1,975	14	1,989
Oklahoma City, Okla.	93	9.4	108	10.7	342	—	342
Omaha, Neb.	31	5.0	36	5.7	114	1	115
Orlando, Fla.	169	17.0	271	26.4	711	7	718
Oxnard-Ventura, Calif.	34	5.2	42	6.3	142	—	142
Philadelphia, Pa.	794	16.2	847	17.2	3,180	52	3,232
Phoenix, Ariz.	199	9.4	274	12.6	912	4	916
Pittsburgh, Pa.	166	8.0	130	6.4	531	2	533
Portland, Oreg.	181	15.3	229	19.2	741	2	743
Providence, R.I.	74	8.2	100	11.0	341	8	349
Raleigh-Durham, N.C.	89	12.7	125	17.5	346	9	355
Richmond, Va.	93	11.0	116	13.6	359	7	366
Riverside-San Bernardino, Calif.	263	11.5	258	10.9	956	15	971
Rochester, N.Y.	58	5.9	91	9.3	335	2	337
Sacramento, Calif.	199	14.2	124	8.6	605	5	610
Saint Louis, Mo.	184	7.4	286	11.4	785	7	792
Salt Lake City, Utah	71	6.5	99	8.9	290	5	295
San Antonio, Tex.	223	16.2	233	16.5	772	11	783
San Diego, Calif.	491	20.4	685	27.7	2,218	19	2,237
San Francisco, Calif.	1,801	111.7	2,041	125.6	9,050	17	9,067
San Jose, Calif.	131	9.1	177	12.2	678	8	686
San Juan, P.R.	726	46.5	1,195	76.2	2,824	107	2,931
Scranton, Pa.	23	3.1	48	6.6	120	3	123
Seattle, Wash.	355	19.2	420	22.4	1,548	10	1,558
Springfield, Mass.	46	7.8	88	15.0	188	9	197
Syracuse, N.Y.	33	5.1	42	6.5	150	5	155
Tacoma, Wash.	37	6.6	33	5.8	128	2	130
Tampa-Saint Petersburg, Fla.	407	19.8	428	20.4	1,486	24	1,510
Toledo, Ohio	25	4.1	40	6.6	110	3	113
Tucson, Ariz.	49	7.5	70	10.5	239	2	241
Tulsa, Okla.	57	7.6	55	7.3	189	3	192
Washington, D.C.	842	22.3	1,191	31.2	4,290	62	4,352
West Palm Beach, Fla.	359	42.4	358	40.8	1,327	53	1,380
Wilmington, Del.	61	10.7	79	13.7	249	3	252
Worcester, Mass.	33	4.9	38	5.6	149	4	153
Metropolitan area subtotal¹	29,379	20.1	35,952	24.3	130,343	2,253	132,596
All other areas	5,820	5.5	7,132	6.7	21,888	433	22,321
Total	35,199	14.0	43,084	16.9	152,231	2,686	154,917

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

Adult/adolescent exposure category	Males		Females		Totals		
	Nov. 1988-Oct. 1989	Nov. 1989-Oct. 1990	Nov. 1988-Oct. 1989	Nov. 1989-Oct. 1990	Nov. 1988-Oct. 1989	Nov. 1989-Oct. 1990	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	19,950 (65)	23,494 (63)	—	—	19,950 (58)	23,494 (56)	90,599 (60)
Intravenous (IV) drug use (female and heterosexual male)	6,118 (20)	7,715 (21)	1,879 (52)	2,308 (48)	7,997 (23)	10,023 (24)	33,000 (22)
Male homosexual/bisexual contact and IV drug use	2,255 (7)	2,330 (6)	—	—	2,255 (7)	2,330 (6)	10,215 (7)
Hemophilia/coagulation disorder	296 (1)	323 (1)	7 (0)	10 (0)	303 (1)	333 (1)	1,344 (1)
Heterosexual contact:	755 (2)	1,026 (3)	1,183 (33)	1,641 (34)	1,938 (6)	2,667 (6)	8,018 (5)
<i>Sex with IV drug user</i>	373	455	739	1,061	1,112	1,516	4,236
<i>Sex with bisexual male</i>	—	—	104	129	104	129	474
<i>Sex with person with hemophilia</i>	1	2	15	31	16	33	77
<i>Born in Pattern-II² country</i>	247	315	132	124	379	439	1,992
<i>Sex with person born in Pattern-II country</i>	17	24	12	20	29	44	126
<i>Sex with transfusion recipient with HIV infection</i>	15	20	24	36	39	56	138
<i>Sex with HIV-infected person, risk not specified</i>	102	210	157	240	259	450	975
Receipt of blood transfusion, blood components, or tissue ³	470 (2)	522 (1)	316 (9)	362 (7)	786 (2)	884 (2)	3,572 (2)
Other/undetermined ⁴	1,076 (3)	2,057 (5)	221 (6)	512 (11)	1,297 (4)	2,569 (6)	5,483 (4)
Adult/adolescent subtotal	30,920 (100)	37,467 (100)	3,606 (100)	4,833 (100)	34,526 (100)	42,300 (100)	152,231 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	30 (8)	31 (8)	1 (0)	—	31 (5)	31 (4)	136 (5)
Mother with/at risk for HIV infection:	292 (81)	336 (82)	291 (93)	338 (91)	583 (87)	674 (86)	2,233 (83)
<i>IV drug use</i>	152	156	126	154	278	310	1,115
<i>Sex with IV drug user</i>	61	83	65	70	126	153	468
<i>Sex with bisexual male</i>	8	4	8	6	16	10	49
<i>Sex with person with hemophilia</i>	—	1	1	1	1	2	9
<i>Born in Pattern-II country</i>	26	21	28	22	54	43	208
<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>	12	16	17	20	29	36	97
<i>Receipt of blood transfusion, blood components, or tissue</i>	4	6	7	6	11	12	45
<i>Has HIV infection, risk not specified</i>	26	46	31	56	57	102	220
Receipt of blood transfusion, blood components, or tissue	30 (8)	30 (7)	14 (4)	15 (4)	44 (7)	45 (6)	250 (9)
Undetermined	7 (2)	15 (4)	8 (3)	19 (5)	15 (2)	34 (4)	67 (2)
Pediatric subtotal	359 (100)	412 (100)	314 (100)	372 (100)	673 (100)	784 (100)	2,686 (100)
Total	31,279	37,879	3,920	5,205	35,199	43,084	154,917

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 October 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	64,627 (76)	15,327 (36)	9,619 (40)	705 (75)	119 (55)	90,599 (60)
Intravenous (IV) drug use (female and heterosexual male)	6,665 (8)	16,536 (39)	9,629 (40)	40 (4)	37 (17)	33,000 (22)
Male homosexual/bisexual contact and IV drug use	5,912 (7)	2,768 (7)	1,473 (6)	20 (2)	28 (13)	10,215 (7)
Hemophilia/coagulation disorder	1,121 (1)	90 (0)	104 (0)	16 (2)	8 (4)	1,344 (1)
Heterosexual contact:	1,697 (2)	4,835 (11)	1,419 (6)	35 (4)	10 (5)	8,018 (5)
<i>Sex with IV drug user</i>	929	2,158	1,117	14	7	4,236
<i>Sex with bisexual male</i>	260	150	53	9	1	474
<i>Sex with person with hemophilia</i>	67	6	3	1	—	77
<i>Born in Pattern-II¹ country</i>	7	1,962	13	4	—	1,992
<i>Sex with person born in</i> <i>Pattern-II country</i>	40	77	8	—	—	126
<i>Sex with transfusion recipient</i> <i>with HIV infection</i>	91	23	21	1	—	138
<i>Sex with HIV-infected person,</i> <i>risk not specified</i>	303	459	204	6	2	975
Receipt of blood transfusion, blood components, or tissue ²	2,514 (3)	603 (1)	370 (2)	70 (7)	4 (2)	3,572 (2)
Other/undetermined ³	2,015 (2)	2,115 (5)	1,230 (5)	59 (6)	12 (6)	5,483 (4)
Adult/adolescent subtotal	84,551(100)	42,274 (100)	23,844(100)	945(100)	218(100)	152,231(100)
Pediatric (<13 years old)						
exposure category						
Hemophilia/coagulation disorder	92 (16)	18 (1)	23 (3)	3 (25)	—	136 (5)
Mother with/at risk for HIV infection:	347 (60)	1,272 (92)	597 (85)	4 (33)	5(100)	2,233 (83)
<i>IV drug use</i>	172	627	309	1	2	1,115
<i>Sex with IV drug user</i>	74	205	187	1	—	468
<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	204	2	—	—	208
<i>Sex with person born in</i> <i>Pattern-II country</i>	—	9	—	—	—	10
<i>Sex with transfusion recipient</i> <i>with HIV infection</i>	5	3	3	—	—	12
<i>Sex with HIV-infected person,</i> <i>risk not specified</i>	20	45	29	1	1	97
<i>Receipt of blood transfusion,</i> <i>blood components, or tissue</i>	16	17	12	—	—	45
<i>Has HIV infection, risk not</i> <i>specified</i>	34	139	44	1	2	220
Receipt of blood transfusion, blood components, or tissue	132 (23)	55 (4)	58 (8)	5 (42)	—	250 (9)
Undetermined	7 (1)	37 (3)	23 (3)	—	—	67 (2)
Pediatric subtotal	578(100)	1,382 (100)	701(100)	12(100)	5(100)	2,686(100)
Total	85,129	43,656	24,545	957	223	154,917

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 407 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through October 1990, United States

Male exposure category	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native	Total⁴
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	64,627 (80)	15,327 (44)	9,619 (46)	705 (81)	119 (63)	90,599 (66)
Intravenous (IV) drug use (heterosexual)	5,094 (6)	12,153 (35)	8,092 (39)	26 (3)	21 (11)	25,463 (19)
Male homosexual/bisexual contact and IV drug use	5,912 (7)	2,768 (8)	1,473 (7)	20 (2)	28 (15)	10,215 (7)
Hemophilia/coagulation disorder	1,095 (1)	85 (0)	102 (0)	16 (2)	8 (4)	1,311 (1)
Heterosexual contact:	538 (1)	2,355 (7)	300 (1)	7 (1)	2 (1)	3,208 (2)
<i>Sex with IV drug user</i>	334	678	193	3	2	1,210
<i>Sex with person with hemophilia</i>	5	—	1	—	—	6
<i>Born in Pattern-II¹ country</i>	4	1,430	10	3	—	1,451
<i>Sex with person born in Pattern-II country</i>	34	35	7	—	—	76
<i>Sex with transfusion recipient with HIV infection</i>	25	12	5	—	—	43
<i>Sex with HIV-infected person, risk not specified</i>	136	200	84	1	—	422
Receipt of blood transfusion, blood components, or tissue ²	1,620 (2)	324 (1)	194 (1)	44 (5)	1 (1)	2,192 (2)
Other/undetermined ³	1,736 (2)	1,550 (4)	1,038 (5)	48 (6)	9 (5)	4,427 (3)
Male subtotal	80,622 (100)	34,562 (100)	20,818 (100)	866 (100)	188 (100)	137,415 (100)
Female						
exposure category						
IV drug use	1,571 (40)	4,383 (57)	1,537 (51)	14 (18)	16 (53)	7,537 (51)
Hemophilia/coagulation disorder	26 (1)	5 (0)	2 (0)	—	—	33 (0)
Heterosexual contact:	1,159 (29)	2,480 (32)	1,119 (37)	28 (35)	8 (27)	4,810 (32)
<i>Sex with IV drug user</i>	595	1,480	924	11	5	3,026
<i>Sex with bisexual male</i>	260	150	53	9	1	474
<i>Sex with person with hemophilia</i>	62	6	2	1	—	71
<i>Born in Pattern-II country</i>	3	532	3	1	—	541
<i>Sex with person born in Pattern-II country</i>	6	42	1	—	—	50
<i>Sex with transfusion recipient with HIV infection</i>	66	11	16	1	—	95
<i>Sex with HIV-infected person, risk not specified</i>	167	259	120	5	2	553
Receipt of blood transfusion, blood components, or tissue	894 (23)	279 (4)	176 (6)	26 (33)	3 (10)	1,380 (9)
Other/undetermined	279 (7)	565 (7)	192 (6)	11 (14)	3 (10)	1,056 (7)
Female subtotal	3,929 (100)	7,712 (100)	3,026 (100)	79 (100)	30 (100)	14,816 (100)
Total	84,551	42,274	23,844	945	218	152,231

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 359 males and 40 females whose race/ethnicity is unknown.

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

Exposure category	13-19 years old			20-24 years old		
	Nov. 1988- Oct. 1989	Nov. 1989- Oct. 1990	Cumulative total	Nov. 1988- Oct. 1989	Nov. 1989- Oct. 1990	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	37 (30)	30 (18)	161 (27)	809 (56)	828 (50)	3,671 (57)
Intravenous (IV) drug use (female and heterosexual male)	16 (13)	15 (9)	68 (11)	257 (18)	297 (18)	1,048 (16)
Male homosexual/bisexual contact and IV drug use	3 (2)	2 (1)	24 (4)	123 (8)	141 (9)	605 (9)
Hemophilia/coagulation disorder	39 (31)	51 (31)	185 (31)	43 (3)	33 (2)	163 (3)
Heterosexual contact:	15 (12)	38 (23)	82 (14)	150 (10)	198 (12)	613 (9)
<i>Sex with IV drug user</i>	12	27	53	89	123	345
<i>Sex with bisexual male</i>	1	1	4	10	8	49
<i>Sex with person with hemophilia</i>	—	1	1	6	5	15
<i>Born in Pattern-II¹ country</i>	1	2	13	18	22	109
<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>	1	6	10	24	31	80
Receipt of blood transfusion, blood components, or tissue	7 (6)	11 (7)	47 (8)	15 (1)	23 (1)	98 (2)
Undetermined ²	7 (6)	20 (12)	37 (6)	59 (4)	121 (7)	274 (4)
Total	124 (100)	167 (100)	604 (100)	1,456 (100)	1,641 (100)	6,472 (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 October 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	196 (0)	619 (2)	302 (1)	3 (0)	2 (1)	1,126 (1)
5-12	155 (0)	91 (0)	69 (0)	5 (1)	—	322 (0)
13-19	216 (0)	140 (0)	88 (0)	6 (1)	5 (3)	456 (0)
20-24	2,802 (3)	1,631 (5)	971 (5)	28 (3)	12 (6)	5,456 (4)
25-29	12,285 (15)	5,593 (16)	3,645 (17)	114 (13)	43 (23)	21,722 (16)
30-34	18,985 (23)	8,851 (25)	5,377 (25)	189 (22)	47 (25)	33,531 (24)
35-39	17,731 (22)	8,093 (23)	4,652 (22)	197 (23)	33 (17)	30,799 (22)
40-44	12,103 (15)	4,701 (13)	2,875 (14)	143 (16)	21 (11)	19,901 (14)
45-49	7,227 (9)	2,577 (7)	1,482 (7)	85 (10)	15 (8)	11,415 (8)
50-54	4,037 (5)	1,399 (4)	840 (4)	43 (5)	3 (2)	6,340 (5)
55-59	2,539 (3)	864 (2)	510 (2)	28 (3)	6 (3)	3,962 (3)
60-64	1,416 (2)	447 (1)	230 (1)	8 (1)	3 (2)	2,108 (2)
65 or older	1,281 (2)	266 (1)	148 (1)	25 (3)	—	1,725 (1)
Male subtotal	80,973 (100)	35,272 (100)	21,189 (100)	874 (100)	190 (100)	138,863 (100)
Females						
Age at diagnosis (years)						
Under 5	185 (4)	595 (7)	280 (8)	1 (1)	3 (9)	1,065 (7)
5-12	42 (1)	77 (1)	50 (1)	3 (4)	—	173 (1)
13-19	40 (1)	82 (1)	24 (1)	1 (1)	1 (3)	148 (1)
20-24	272 (7)	483 (6)	247 (7)	4 (5)	5 (15)	1,016 (6)
25-29	746 (18)	1,511 (18)	705 (21)	8 (10)	4 (12)	2,982 (19)
30-34	897 (22)	2,240 (27)	816 (24)	17 (20)	10 (30)	3,989 (25)
35-39	620 (15)	1,728 (21)	598 (18)	10 (12)	5 (15)	2,969 (18)
40-44	338 (8)	805 (10)	304 (9)	15 (18)	2 (6)	1,467 (9)
45-49	184 (4)	352 (4)	137 (4)	7 (8)	—	684 (4)
50-54	142 (3)	209 (2)	85 (3)	5 (6)	1 (3)	442 (3)
55-59	162 (4)	132 (2)	49 (1)	3 (4)	—	348 (2)
60-64	146 (4)	77 (1)	26 (1)	6 (7)	1 (3)	256 (2)
65 or older	382 (9)	93 (1)	35 (1)	3 (4)	1 (3)	515 (3)
Female subtotal	4,156 (100)	8,384 (100)	3,356 (100)	83 (100)	33 (100)	16,054 (100)
Total	85,129	43,656	24,545	957	223	154,917

¹ Includes 407 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through October 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	93.5	38	8	62.5	2
July-Dec.	199	91.0	85	6	100.0	6
1982 Jan.-June	394	90.6	152	14	78.6	9
July-Dec.	685	88.6	282	15	80.0	5
1983 Jan.-June	1,261	92.1	515	32	93.8	13
July-Dec.	1,631	91.4	917	42	78.6	16
1984 Jan.-June	2,543	89.0	1,374	49	83.7	25
July-Dec.	3,334	89.8	1,917	62	72.6	24
1985 Jan.-June	4,815	88.7	2,741	94	73.4	44
July-Dec.	6,187	87.0	3,730	126	74.6	68
1986 Jan.-June	8,119	85.2	4,900	132	72.0	64
July-Dec.	9,760	82.3	6,231	177	67.2	84
1987 Jan.-June	12,544	81.4	7,245	219	61.6	112
July-Dec.	13,947	74.5	7,611	245	58.4	157
1988 Jan.-June	15,719	66.9	8,815	238	49.2	129
July-Dec.	16,003	59.9	9,999	314	44.9	150
1989 Jan.-June	17,523	49.0	11,146	309	41.7	155
July-Dec.	16,839	39.4	12,280	283	36.7	158
1990 Jan.-June	15,558	25.6	10,637	242	21.5	128
July-Oct.	5,000	13.1	3,565	73	19.2	47
Total¹	152,231	62.0	94,375	2,686	52.0	1,399

¹ Death totals include 165 adults/adolescents and 2 children known to have died, but whose dates of death are unknown.

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

Definition category ¹	Year of diagnosis					Cumulative total
	Before Nov. 1986	Nov. 1986-Oct. 1987	Nov. 1987-Oct. 1988	Nov. 1988-Oct. 1989	Nov. 1989-Oct. 1990	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	34,254 (94)	21,187 (83)	22,779 (72)	24,218 (69)	17,394 (66)	119,832 (77)
1987 definition: ²	2,327 (6)	4,287 (17)	8,765 (28)	10,891 (31)	8,815 (34)	35,085 (23)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	1,239	2,272	4,912	6,177	5,289	19,889
<i>Specific disease</i>						
<i>definitively diagnosed</i>	367	459	612	740	557	2,735
<i>HIV encephalopathy</i>	210	579	1,085	1,284	909	4,067
<i>HIV wasting syndrome</i>	511	977	2,156	2,690	2,060	8,394
Total	36,581 (100)	25,474 (100)	31,544 (100)	35,109 (100)	26,209 (100)	154,917 (100)

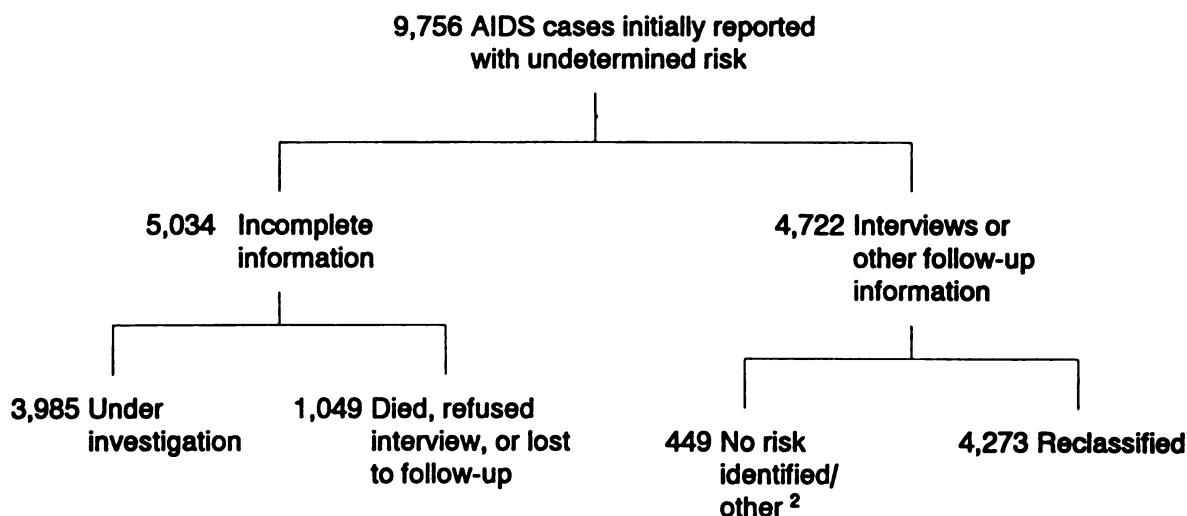
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 October 1990, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Male homosexual/bisexual contact	86,999	(57)
Intravenous (IV) drug use (female and heterosexual male)	28,310	(19)
Hemophilia/coagulation disorder	829	(1)
Heterosexual contact	7,635	(5)
Receipt of transfusion of blood, blood component, or tissue	3,572	(2)
Other/undetermined	5,483	(4)
Single mode of exposure subtotal	132,828	(87)
Multiple modes of exposure		
Male homosexual/bisexual contact; IV drug use	9,199	(6)
Male homosexual/bisexual contact; hemophilia	32	(0)
Male homosexual/bisexual contact; heterosexual contact	1,833	(1)
Male homosexual/bisexual contact; receipt of transfusion	1,626	(1)
IV drug use; hemophilia	37	(0)
IV drug use; heterosexual contact	3,739	(2)
IV drug use; receipt of transfusion	690	(0)
Hemophilia; heterosexual contact	8	(0)
Hemophilia; receipt of transfusion	494	(0)
Heterosexual contact; receipt of transfusion	383	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia	9	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact	710	(0)
Male homosexual/bisexual contact; IV drug use; receipt of transfusion	256	(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	90	(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	201	(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	19,403	(13)
Total	152,231	(100)

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



¹ Excludes 67 children under 13 years of age who have an undetermined risk: 60 children are under investigation and 7 have died, refused interview, or were lost to follow-up. An additional 105 children who were initially reported with an undetermined risk have been reclassified after investigation.

² **Health-care workers.** 3 of the 449 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 446, the mode of exposure to HIV remains undetermined after investigation. 71 of these are health-care workers, 65 of whom responded to a standardized questionnaire. 37 (57%) 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.** 389 of the 446 patients who had no risk identified after follow-up responded to a standardized questionnaire; 125 (35%) of 354 persons responding to questions related to sexually transmitted disease gave a history of such disease and 84 (35%) of 243 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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