

HIV/AIDS

SURVEILLANCE

U.S. AIDS cases reported through November 1990

Issued December 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, December 1990:1-18

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

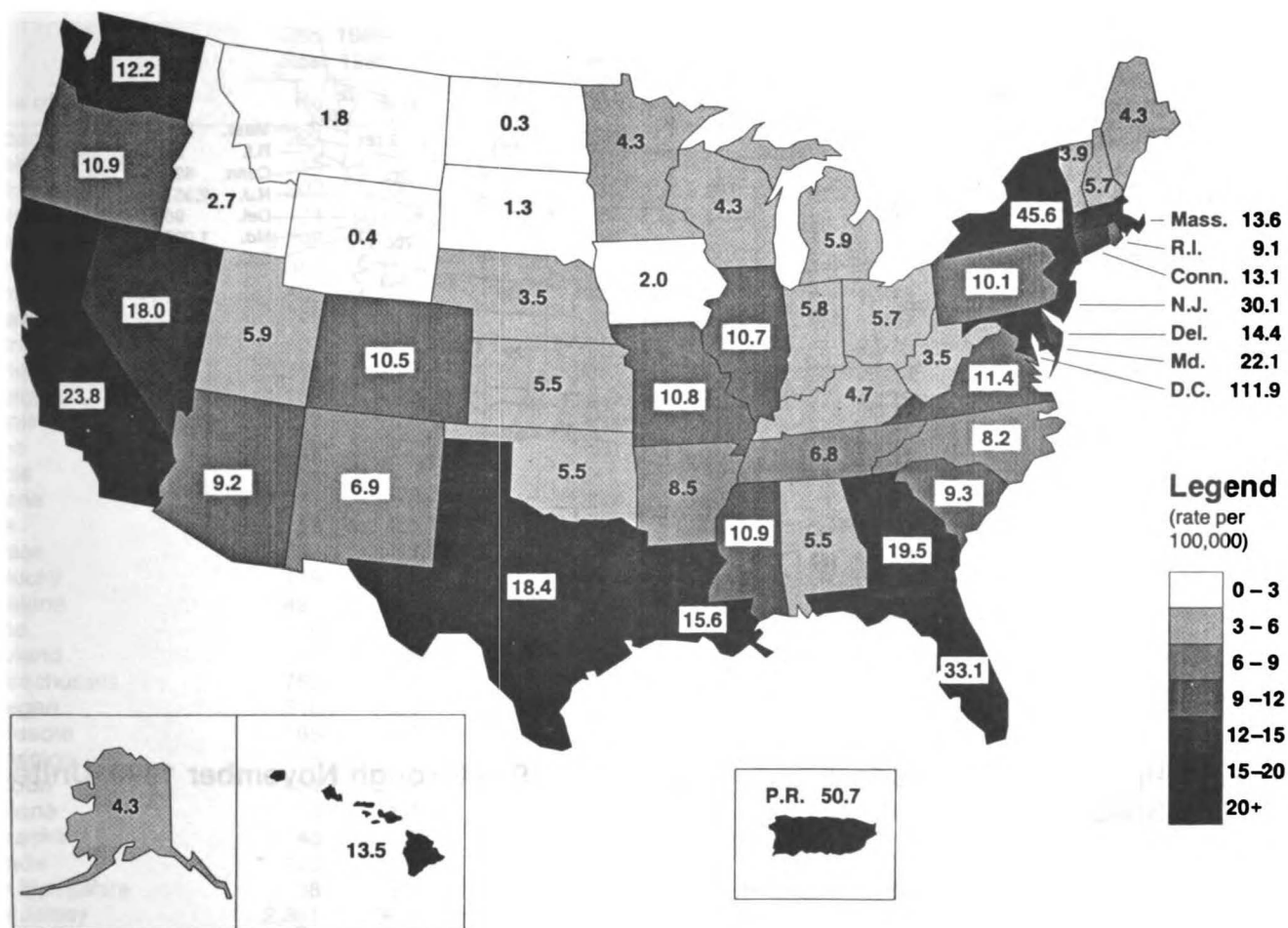


Figure 2. Adult/adolescent and pediatric AIDS cases, reported December 1989 through November 1990, United States

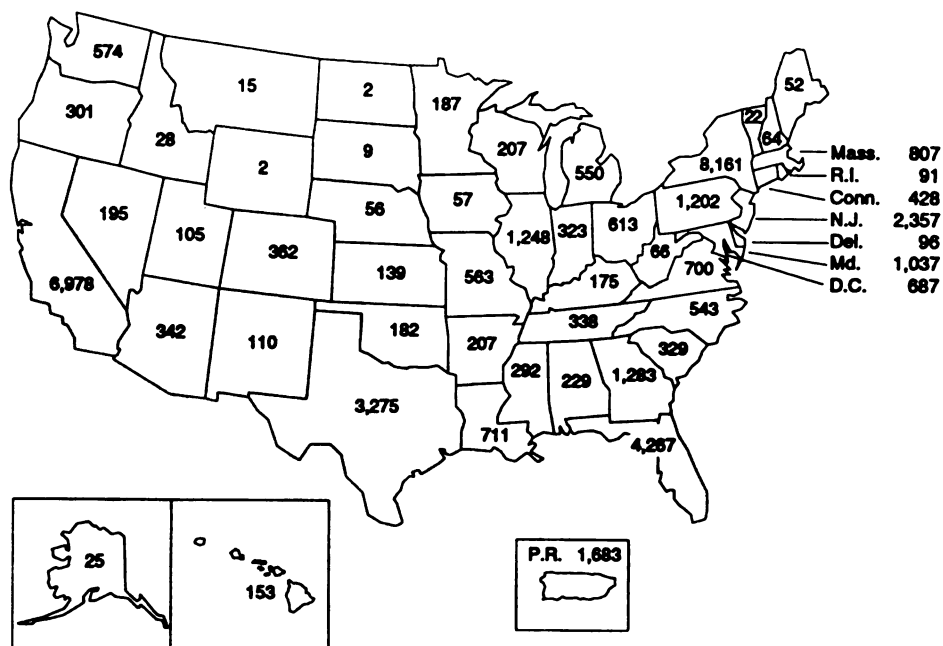


Figure 3. Pediatric AIDS cases reported December 1989 through November 1990, United States

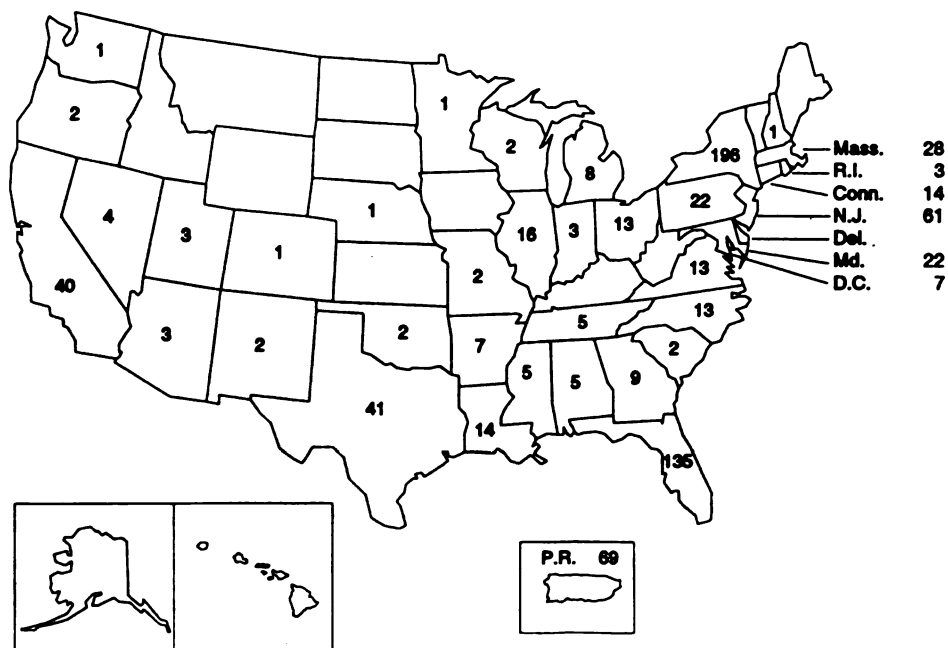


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported December 1988 through November 1989, December 1989 through November 1990; and cumulative totals, by state and age group, through November 1990¹

State of residence	Dec. 1988- Nov. 1989		Dec. 1989- Nov. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	224	5.4	229	5.5	852	21	873
Alaska	16	2.9	25	4.3	96	2	98
Arizona	302	8.3	342	9.2	1,267	8	1,275
Arkansas	71	2.9	207	8.5	431	10	441
California	6,398	22.3	6,978	23.8	29,588	204	29,792
Colorado	381	11.2	362	10.5	1,550	8	1,558
Connecticut	439	13.5	428	13.1	1,778	63	1,841
Delaware	76	11.5	96	14.4	307	4	311
District of Columbia	500	81.1	687	111.9	2,570	35	2,605
Florida	3,314	26.3	4,267	33.1	13,428	381	13,809
Georgia	1,158	17.9	1,283	19.5	4,179	44	4,223
Hawaii	173	15.5	153	13.5	609	2	611
Idaho	22	2.2	28	2.7	75	2	77
Illinois	1,154	9.9	1,248	10.7	4,562	65	4,627
Indiana	331	6.0	323	5.8	982	10	992
Iowa	58	2.1	57	2.0	215	3	218
Kansas	103	4.1	139	5.5	431	3	434
Kentucky	119	3.2	175	4.7	486	5	491
Louisiana	491	10.9	711	15.6	2,205	38	2,243
Maine	66	5.5	52	4.3	204	2	206
Maryland	675	14.5	1,037	22.1	3,020	68	3,088
Massachusetts	758	12.9	807	13.6	3,176	70	3,246
Michigan	516	5.6	550	5.9	1,920	30	1,950
Minnesota	185	4.3	187	4.3	794	8	802
Mississippi	158	5.9	292	10.9	636	10	646
Missouri	434	8.4	563	10.8	1,772	12	1,784
Montana	14	1.7	15	1.8	54	—	54
Nebraska	48	3.0	56	3.5	181	2	183
Nevada	163	15.4	195	18.0	611	7	618
New Hampshire	38	3.4	64	5.7	187	5	192
New Jersey	2,361	30.3	2,357	30.1	9,920	276	10,196
New Mexico	96	6.1	110	6.9	339	3	342
New York	6,527	36.5	8,161	45.6	33,280	791	34,071
North Carolina	457	6.9	543	8.2	1,613	36	1,649
North Dakota	8	1.2	2	0.3	20	—	20
Ohio	525	4.9	613	5.7	2,194	37	2,231
Oklahoma	190	5.7	182	5.5	678	11	689
Oregon	224	8.1	301	10.9	972	5	977
Pennsylvania	1,108	9.3	1,202	10.1	4,317	75	4,392
Rhode Island	79	8.0	91	9.1	365	9	374
South Carolina	328	9.3	329	9.3	1,001	21	1,022
South Dakota	4	0.6	9	1.3	25	—	25
Tennessee	262	5.3	338	6.8	1,073	15	1,088
Texas	2,404	13.8	3,275	18.4	10,818	106	10,924
Utah	85	4.9	105	5.9	328	8	336
Vermont	14	2.5	22	3.9	70	1	71
Virginia	393	6.5	700	11.4	1,980	35	2,015
Washington	516	11.1	574	12.2	2,083	12	2,095
West Virginia	53	2.8	66	3.5	174	2	176
Wisconsin	132	2.7	207	4.3	616	4	620
Wyoming	16	3.2	2	0.4	33	—	33
U.S. total	34,167	13.8	40,745	16.3	150,065	2,569	152,634
Guam	1	0.7	2	1.4	8	—	8
Pacific Islands, U.S.	1	0.5	1	0.5	2	—	2
Puerto Rico	1,416	42.8	1,683	50.7	4,641	161	4,802
Virgin Islands, U.S.	29	25.2	11	9.4	75	4	79
Total	35,614	14.1	42,442	16.7	154,791	2,734	157,525

¹ During November 1990, 2,560 cases and 2,732 deaths among adults/adolescents and 48 cases and 24 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 December 1988 through November 1989, December 1989 through November 1990; and cumulative totals, by area and age group, through November 1990

Metropolitan area of residence	Dec. 1988- Nov. 1989		Dec. 1989- Nov. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	29	4.5	26	4.0	103	—	103
Albany-Schenectady, N.Y.	62	7.3	95	11.2	326	3	329
Albuquerque, N.M.	53	10.4	52	10.0	176	1	177
Allentown, Pa.	31	4.6	59	8.7	153	4	157
Anaheim, Calif.	273	11.9	378	16.2	1,296	9	1,305
Atlanta, Ga.	915	32.3	993	34.2	3,203	25	3,228
Austin, Tex.	190	24.0	230	28.1	683	6	689
Bakersfield, Calif.	34	6.4	29	5.3	107	—	107
Baltimore, Md.	459	19.6	667	28.3	1,809	49	1,858
Baton Rouge, La.	49	9.0	58	10.5	186	3	189
Bergen-Passaic, N.J.	221	17.0	326	25.1	1,293	27	1,320
Birmingham, Ala.	82	8.8	73	7.8	276	6	282
Boston, Mass.	591	15.7	585	15.5	2,487	51	2,538
Bridgeport, Conn.	136	16.6	116	14.1	532	20	552
Buffalo, N.Y.	65	6.9	96	10.3	256	2	258
Charleston, S.C.	66	12.7	71	13.4	225	—	225
Charlotte, N.C.	91	8.1	92	8.0	319	7	326
Chicago, Ill.	936	15.0	1,055	16.9	3,861	50	3,911
Cincinnati, Ohio	63	4.3	134	9.2	341	6	347
Cleveland, Ohio	127	6.9	119	6.5	548	9	557
Columbus, Ohio	125	9.3	130	9.6	487	4	491
Dallas, Tex.	543	20.8	813	30.4	2,674	14	2,688
Dayton, Ohio	66	7.0	61	6.5	222	5	227
Denver, Colo.	311	18.3	302	17.5	1,268	5	1,273
Detroit, Mich.	360	8.3	376	8.6	1,343	21	1,364
El Paso, Tex.	28	4.6	32	5.2	99	1	100
Fort Lauderdale, Fla.	581	48.5	908	74.5	2,451	49	2,500
Fort Worth, Tex.	162	11.9	182	13.0	592	7	599
Fresno, Calif.	47	7.6	61	9.7	187	2	189
Gary, Ind.	32	5.4	25	4.3	87	—	87
Grand Rapids, Mich.	29	4.3	35	5.1	102	1	103
Greensboro, N.C.	73	7.8	93	9.8	249	6	255
Greenville, S.C.	38	6.1	40	6.4	123	—	123
Harrisburg, Pa.	51	8.7	33	5.6	155	4	159
Hartford, Conn.	154	13.8	148	13.2	533	15	548
Honolulu, Hawaii	120	14.1	109	12.7	467	2	469
Houston, Tex.	938	28.3	1,278	37.8	4,525	45	4,570
Indianapolis, Ind.	157	12.6	162	12.9	463	3	466
Jacksonville, Fla.	170	18.5	314	33.3	756	25	781
Jersey City, N.J.	347	63.9	338	62.4	1,674	43	1,717
Kansas City, Mo.	224	14.1	284	17.8	959	4	963
Knoxville, Tenn.	21	3.5	30	5.0	109	1	110
Lake County, Ill.	21	4.1	15	2.9	72	2	74
Las Vegas, Nev.	116	18.3	158	24.2	456	7	463
Little Rock, Ark.	27	5.2	82	15.5	175	5	180
Los Angeles, Calif.	2,333	26.5	2,084	23.3	10,311	90	10,401
Louisville, Ky.	46	4.7	70	7.2	202	2	204
Memphis, Tenn.	79	8.0	109	10.9	345	6	351
Miami, Fla.	971	53.2	1,074	58.4	3,965	157	4,122
Middlesex, N.J.	209	21.0	157	15.6	777	24	801
Milwaukee, Wis.	74	5.3	116	8.3	352	2	354
Minneapolis-Saint Paul, Minn.	166	6.9	169	7.0	712	6	718
Mobile, Ala.	47	9.5	37	7.4	177	—	177
Monmouth-Ocean City, N.J.	192	19.3	193	19.1	641	23	664
Nashville, Tenn.	83	8.4	110	10.9	354	6	360
Nassau-Suffolk, N.Y.	360	13.7	420	16.0	1,596	39	1,635
New Haven, Conn.	107	13.4	136	17.0	566	27	593
New Orleans, La.	301	22.5	406	30.2	1,403	19	1,422

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

Metropolitan area of residence	Dec. 1988- Nov. 1989		Dec. 1989- Nov. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
New York, N.Y.	5,515	64.4	6,962	80.9	28,881	719	29,600
Newark, N.J.	992	52.2	944	49.6	4,159	123	4,282
Norfolk, Va.	74	5.3	179	12.6	442	7	449
Oakland, Calif.	401	19.9	591	28.9	1,985	14	1,999
Oklahoma City, Okla.	101	10.2	93	9.2	348	—	348
Omaha, Neb.	34	5.4	38	6.0	119	1	120
Orlando, Fla.	160	16.1	272	26.5	730	8	738
Oxnard-Ventura, Calif.	33	5.0	43	6.4	144	—	144
Philadelphia, Pa.	803	16.3	897	18.2	3,271	52	3,323
Phoenix, Ariz.	225	10.7	240	11.0	923	5	928
Pittsburgh, Pa.	160	7.8	138	6.7	545	2	547
Portland, Oreg.	169	14.2	241	20.2	766	2	768
Providence, R.I.	72	8.0	89	9.8	342	8	350
Raleigh-Durham, N.C.	99	14.2	115	16.1	355	10	365
Richmond, Va.	93	11.0	131	15.3	379	7	386
Riverside-San Bernardino, Calif.	237	10.3	250	10.5	956	15	971
Rochester, N.Y.	71	7.3	78	8.0	338	2	340
Sacramento, Calif.	200	14.3	136	9.5	620	5	625
Saint Louis, Mo.	186	7.5	288	11.5	804	7	811
Salt Lake City, Utah	68	6.2	96	8.6	290	5	295
San Antonio, Tex.	211	15.3	232	16.4	772	11	783
San Diego, Calif.	490	20.3	691	28.0	2,279	19	2,298
San Francisco, Calif.	1,764	109.4	2,074	127.7	9,196	17	9,213
San Jose, Calif.	114	7.9	195	13.4	696	8	704
San Juan, P.R.	833	53.3	1,103	70.4	2,894	106	3,000
Scranton, Pa.	27	3.7	47	6.4	123	3	126
Seattle, Wash.	381	20.6	426	22.7	1,581	10	1,591
Springfield, Mass.	45	7.7	90	15.3	193	10	203
Syracuse, N.Y.	34	5.3	45	7.0	156	5	161
Tacoma, Wash.	41	7.3	34	6.0	133	2	135
Tampa-Saint Petersburg, Fla.	378	18.4	442	21.0	1,523	26	1,549
Toledo, Ohio	27	4.4	39	6.4	111	3	114
Tucson, Ariz.	49	7.5	70	10.5	241	2	243
Tulsa, Okla.	56	7.5	48	6.3	191	3	194
Washington, D.C.	837	22.2	1,235	32.3	4,388	64	4,452
West Palm Beach, Fla.	327	38.6	374	42.7	1,343	53	1,396
Wilmington, Del.	61	10.7	85	14.8	257	3	260
Worcester, Mass.	35	5.2	39	5.8	155	4	159
Metropolitan area subtotal¹	29,585	20.2	35,434	23.9	132,438	2,291	134,729
All other areas	6,029	5.7	7,008	6.6	22,353	443	22,796
Total	35,614	14.1	42,442	16.7	154,791	2,734	157,525

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

Adult/adolescent exposure category	Males		Females		Totals		
	Dec. 1988-Nov. 1989	Dec. 1989-Nov. 1990	Dec. 1988-Nov. 1989	Dec. 1989-Nov. 1990	Dec. 1988-Nov. 1989	Dec. 1989-Nov. 1990	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	20,064 (64)	23,241 (63)	—	—	20,064 (57)	23,241 (56)	92,049 (59)
Intravenous (IV) drug use (female and heterosexual male)	6,328 (20)	7,546 (20)	1,907 (52)	2,277 (48)	8,235 (24)	9,823 (24)	33,694 (22)
Male homosexual/bisexual contact and IV drug use	2,246 (7)	2,280 (6)	—	—	2,246 (6)	2,280 (5)	10,356 (7)
Hemophilia/coagulation disorder	286 (1)	320 (1)	6 (0)	10 (0)	292 (1)	330 (1)	1,360 (1)
Heterosexual contact:	768 (2)	1,006 (3)	1,222 (33)	1,632 (34)	1,990 (6)	2,638 (6)	8,204 (5)
<i>Sex with IV drug user</i>	383	442	763	1,051	1,146	1,493	4,334
<i>Sex with bisexual male</i>	—	—	107	132	107	132	488
<i>Sex with person with hemophilia</i>	1	2	19	28	20	30	78
<i>Born in Pattern-II country² country</i>	253	301	126	123	379	424	2,016
<i>Sex with person born in Pattern-II country</i>	18	23	13	20	31	43	128
<i>Sex with transfusion recipient with HIV infection</i>	13	23	24	36	37	59	144
<i>Sex with HIV-infected person, risk not specified</i>	100	215	170	242	270	457	1,016
Receipt of blood transfusion, blood components, or tissue ³	473 (2)	509 (1)	318 (9)	356 (7)	791 (2)	865 (2)	3,624 (2)
Other/undetermined ⁴	1,103 (4)	1,985 (5)	219 (6)	503 (11)	1,322 (4)	2,488 (6)	5,504 (4)
Adult/adolescent subtotal	31,268(100)	36,887(100)	3,672 (100)	4,778 (100)	34,940(100)	41,665(100)	154,791(100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	27 (7)	32 (8)	1 (0)	—	28 (4)	32 (4)	138 (5)
Mother with/at risk for HIV infection:	301 (83)	331 (82)	285 (92)	344 (92)	586 (87)	675 (87)	2,280 (83)
<i>IV drug use</i>	153	161	120	155	273	316	1,144
<i>Sex with IV drug user</i>	69	73	64	75	133	148	478
<i>Sex with bisexual male</i>	8	4	6	6	14	10	48
<i>Sex with person with hemophilia</i>	—	1	1	1	1	2	9
<i>Born in Pattern-II country</i>	25	22	29	19	54	41	209
<i>Sex with person born in Pattern-II country</i>	1	2	2	3	3	5	11
<i>Sex with transfusion recipient with HIV infection</i>	2	1	5	1	7	2	12
<i>Sex with HIV-infected person, risk not specified</i>	11	16	18	20	29	36	97
<i>Receipt of blood transfusion, blood components, or tissue</i>	6	5	7	6	13	11	46
<i>Has HIV infection, risk not specified</i>	26	46	33	58	59	104	226
Receipt of blood transfusion, blood components, or tissue	29 (8)	27 (7)	16 (5)	13 (3)	45 (7)	40 (5)	250 (9)
Undetermined	6 (2)	15 (4)	9 (3)	15 (4)	15 (2)	30 (4)	66 (2)
Pediatric subtotal	363(100)	405(100)	311 (100)	372 (100)	674(100)	777(100)	2,734(100)
Total	31,631	37,292	3,983	5,150	35,614	42,442	157,525

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 14 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 November 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	65,634 (76)	15,611 (36)	9,776 (40)	717 (75)	120 (54)	92,049 (59)
Intravenous (IV) drug use (female and heterosexual male)	6,815 (8)	16,897 (39)	9,828 (40)	40 (4)	37 (17)	33,694 (22)
Male homosexual/bisexual contact and IV drug use	5,990 (7)	2,805 (7)	1,496 (6)	20 (2)	29 (13)	10,356 (7)
Hemophilia/coagulation disorder	1,133 (1)	92 (0)	106 (0)	16 (2)	8 (4)	1,360 (1)
Heterosexual contact:	1,739 (2)	4,938 (11)	1,462 (6)	35 (4)	10 (5)	8,204 (5)
<i>Sex with IV drug user</i>	949	2,206	1,146	14	7	4,334
<i>Sex with bisexual male</i>	268	153	56	9	1	488
<i>Sex with person with hemophilia</i>	68	6	3	1	—	78
<i>Born in Pattern-II¹ country</i>	7	1,986	15	4	—	2,016
<i>Sex with person born in Pattern-II country</i>	41	78	8	—	—	128
<i>Sex with transfusion recipient with HIV infection</i>	93	25	23	1	—	144
<i>Sex with HIV-infected person, risk not specified</i>	313	484	211	6	2	1,016
Receipt of blood transfusion, blood components, or tissue ²	2,550 (3)	615 (1)	373 (2)	71 (7)	4 (2)	3,624 (2)
Other/undetermined ³	2,023 (2)	2,136 (5)	1,228 (5)	60 (6)	14 (6)	5,504 (4)
Adult/adolescent subtotal	85,884(100)	43,094 (100)	24,269(100)	959(100)	222(100)	154,791(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	94 (16)	18 (1)	23 (3)	3 (25)	—	138 (5)
Mother with/at risk for HIV infection:	353 (60)	1,302 (92)	607 (85)	4 (33)	6(100)	2,280 (83)
<i>IV drug use</i>	176	647	314	1	2	1,144
<i>Sex with IV drug user</i>	74	209	192	1	1	478
<i>Sex with bisexual male</i>	18	21	9	—	—	48
<i>Sex with person with hemophilia</i>	6	2	1	—	—	9
<i>Born in Pattern-II country</i>	2	205	2	—	—	209
<i>Sex with person born in Pattern-II country</i>	—	10	—	—	—	11
<i>Sex with transfusion recipient with HIV infection</i>	5	3	3	—	—	12
<i>Sex with HIV-infected person, risk not specified</i>	20	45	29	1	1	97
<i>Receipt of blood transfusion, blood components, or tissue</i>	16	18	12	—	—	46
<i>Has HIV infection, risk not specified</i>	36	142	45	1	2	226
Receipt of blood transfusion, blood components, or tissue	132 (23)	55 (4)	58 (8)	5 (42)	—	250 (9)
Undetermined	7 (1)	37 (3)	22 (3)	—	—	66 (2)
Pediatric subtotal	586(100)	1,412 (100)	710(100)	12(100)	6(100)	2,734(100)
Total	86,470	44,506	24,979	971	228	157,525

¹ See technical notes.

² Includes 14 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 371 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through November 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	65,634 (80)	15,611 (44)	9,776 (46)	717 (81)	120 (63)	92,049 (66)
Intravenous (IV) drug use (heterosexual)	5,203 (6)	12,423 (35)	8,258 (39)	26 (3)	21 (11)	25,995 (19)
Male homosexual/bisexual contact and IV drug use	5,990 (7)	2,805 (8)	1,496 (7)	20 (2)	29 (15)	10,356 (7)
Hemophilia/coagulation disorder	1,107 (1)	87 (0)	104 (0)	16 (2)	8 (4)	1,327 (1)
Heterosexual contact:	550 (1)	2,392 (7)	305 (1)	7 (1)	2 (1)	3,260 (2)
<i>Sex with IV drug user</i>	342	687	195	3	2	1,229
<i>Sex with person with hemophilia</i>	5	—	1	—	—	6
<i>Born in Pattern-II¹ country</i>	4	1,447	10	3	—	1,467
<i>Sex with person born in Pattern-II country</i>	34	36	7	—	—	77
<i>Sex with transfusion recipient with HIV infection</i>	26	14	6	—	—	47
<i>Sex with HIV-infected person, risk not specified</i>	139	208	86	1	—	434
Receipt of blood transfusion, blood components, or tissue ²	1,640 (2)	331 (1)	196 (1)	45 (5)	1 (1)	2,222 (2)
Other/undetermined ³	1,746 (2)	1,566 (4)	1,038 (5)	49 (6)	10 (5)	4,449 (3)
Male subtotal	81,870 (100)	35,215 (100)	21,173 (100)	880 (100)	191 (100)	139,658 (100)
Female						
exposure category						
IV drug use	1,612 (40)	4,474 (57)	1,570 (51)	14 (18)	16 (52)	7,699 (51)
Hemophilia/coagulation disorder	26 (1)	5 (0)	2 (0)	—	—	33 (0)
Heterosexual contact:	1,189 (30)	2,546 (32)	1,157 (37)	28 (35)	8 (26)	4,944 (33)
<i>Sex with IV drug user</i>	607	1,519	951	11	5	3,105
<i>Sex with bisexual male</i>	268	153	56	9	1	488
<i>Sex with person with hemophilia</i>	63	6	2	1	—	72
<i>Born in Pattern-II country</i>	3	539	5	1	—	549
<i>Sex with person born in Pattern-II country</i>	7	42	1	—	—	51
<i>Sex with transfusion recipient with HIV infection</i>	67	11	17	1	—	97
<i>Sex with HIV-infected person, risk not specified</i>	174	276	125	5	2	582
Receipt of blood transfusion, blood components, or tissue	910 (23)	284 (4)	177 (6)	26 (33)	3 (10)	1,402 (9)
Other/undetermined	277 (7)	570 (7)	190 (6)	11 (14)	4 (13)	1,055 (7)
Female subtotal	4,014 (100)	7,879 (100)	3,096 (100)	79 (100)	31 (100)	15,133 (100)
Total	85,884	43,094	24,269	959	222	154,791

¹ See technical notes.

² Includes 14 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 329 males and 34 females whose race/ethnicity is unknown.

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

Exposure category	13-19 years old			20-24 years old		
	Dec. 1988- Nov. 1989	Dec. 1989- Nov. 1990	Cumulative total	Dec. 1988- Nov. 1989	Dec. 1989- Nov. 1990	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	36 (29)	29 (17)	163 (27)	794 (55)	816 (50)	3,728 (57)
Intravenous (IV) drug use (female and heterosexual male)	18 (14)	14 (8)	69 (11)	267 (18)	294 (18)	1,071 (16)
Male homosexual/bisexual contact and IV drug use	2 (2)	4 (2)	26 (4)	129 (9)	133 (8)	608 (9)
Hemophilia/coagulation disorder	40 (32)	50 (30)	186 (30)	37 (3)	32 (2)	165 (3)
Heterosexual contact:	17 (13)	37 (22)	84 (14)	146 (10)	202 (12)	626 (10)
<i>Sex with IV drug user</i>	13	28	55	85	129	355
<i>Sex with bisexual male</i>	1	1	4	11	8	50
<i>Sex with person with hemophilia</i>	—	1	1	7	4	15
<i>Born in Pattern-II¹ country</i>	—	2	13	18	21	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	5	7
<i>Sex with HIV-infected person, risk not specified</i>	3	4	10	22	30	81
Receipt of blood transfusion, blood components, or tissue	6 (5)	11 (7)	47 (8)	14 (1)	25 (2)	100 (2)
Undetermined ²	7 (6)	23 (14)	40 (7)	57 (4)	125 (8)	281 (4)
Total	126 (100)	168 (100)	615 (100)	1,444 (100)	1,627 (100)	6,579 (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 November 1990, United States

Males	White, not Hispanic		Black, not Hispanic		Hispanic		Asian/Pacific Islander		American Indian/Alaskan Native		Total ¹	
Age at diagnosis (years)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Under 5	199	(0)	632	(2)	306	(1)	3	(0)	2	(1)	1,146	(1)
5-12	156	(0)	94	(0)	70	(0)	5	(1)	—		327	(0)
13-19	219	(0)	141	(0)	90	(0)	6	(1)	5	(3)	462	(0)
20-24	2,843	(3)	1,665	(5)	981	(5)	28	(3)	12	(6)	5,540	(4)
25-29	12,465	(15)	5,697	(16)	3,699	(17)	115	(13)	43	(22)	22,057	(16)
30-34	19,258	(23)	8,992	(25)	5,470	(25)	193	(22)	49	(25)	34,036	(24)
35-39	17,995	(22)	8,255	(23)	4,727	(22)	200	(23)	33	(17)	31,292	(22)
40-44	12,331	(15)	4,799	(13)	2,937	(14)	145	(16)	22	(11)	20,289	(14)
45-49	7,363	(9)	2,621	(7)	1,511	(7)	86	(10)	15	(8)	11,623	(8)
50-54	4,084	(5)	1,432	(4)	857	(4)	46	(5)	3	(2)	6,440	(5)
55-59	2,574	(3)	879	(2)	520	(2)	28	(3)	6	(3)	4,022	(3)
60-64	1,442	(2)	458	(1)	229	(1)	8	(1)	3	(2)	2,143	(2)
65 or older	1,296	(2)	276	(1)	152	(1)	25	(3)	—		1,754	(1)
Male subtotal	82,225	(100)	35,941	(100)	21,549	(100)	888	(100)	193	(100)	141,131	(100)
Females												
Age at diagnosis (years)												
Under 5	190	(4)	608	(7)	284	(8)	1	(1)	4	(11)	1,088	(7)
5-12	41	(1)	78	(1)	50	(1)	3	(4)	—		173	(1)
13-19	41	(1)	86	(1)	24	(1)	1	(1)	1	(3)	153	(1)
20-24	278	(7)	497	(6)	251	(7)	4	(5)	5	(14)	1,039	(6)
25-29	757	(18)	1,539	(18)	724	(21)	8	(10)	4	(11)	3,039	(19)
30-34	918	(22)	2,274	(27)	837	(24)	17	(20)	10	(29)	4,065	(25)
35-39	635	(15)	1,771	(21)	607	(18)	10	(12)	5	(14)	3,035	(19)
40-44	352	(8)	833	(10)	311	(9)	15	(18)	2	(6)	1,515	(9)
45-49	187	(4)	363	(4)	139	(4)	7	(8)	1	(3)	699	(4)
50-54	144	(3)	210	(2)	89	(3)	5	(6)	1	(3)	449	(3)
55-59	162	(4)	133	(2)	51	(1)	3	(4)	—		351	(2)
60-64	152	(4)	79	(1)	27	(1)	6	(7)	1	(3)	265	(2)
65 or older	388	(9)	94	(1)	36	(1)	3	(4)	1	(3)	523	(3)
Female subtotal	4,245	(100)	8,565	(100)	3,430	(100)	83	(100)	35	(100)	16,394	(100)
Total	86,470		44,506		24,979		971		228		157,525	

¹ Includes 371 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through November 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	395	90.6	152	14	78.6	9
July-Dec.	686	88.8	283	15	80.0	5
1983 Jan.-June	1,262	92.2	516	32	93.8	13
July-Dec.	1,631	91.7	916	42	78.6	16
1984 Jan.-June	2,544	89.4	1,376	49	83.7	25
July-Dec.	3,337	90.1	1,921	62	72.6	24
1985 Jan.-June	4,814	89.1	2,753	94	73.4	44
July-Dec.	6,188	87.3	3,745	127	74.0	68
1986 Jan.-June	8,129	85.7	4,911	133	72.9	64
July-Dec.	9,770	82.8	6,249	178	66.9	84
1987 Jan.-June	12,572	82.1	7,270	220	62.3	113
July-Dec.	13,979	75.6	7,650	245	58.4	158
1988 Jan.-June	15,747	68.6	8,870	235	50.2	129
July-Dec.	16,040	61.7	10,090	317	45.1	151
1989 Jan.-June	17,608	51.2	11,310	309	42.4	155
July-Dec.	16,993	41.8	12,639	288	38.2	160
1990 Jan.-June	15,961	27.7	11,343	254	22.8	133
July-Nov.	6,766	14.8	4,802	100	17.0	60
Total¹	154,791	62.7	97,107	2,734	52.0	1,423

¹ Death totals include 158 adults/adolescents and 3 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 November 1990, United States

Definition category ¹	Year of diagnosis					Cumulative total
	Before Dec. 1986	Dec. 1986-Nov. 1987	Dec. 1987-Nov. 1988	Dec. 1988-Nov. 1989	Dec. 1989-Nov. 1990	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Pre-1987 definition	35,679 (93)	21,549 (82)	22,971 (72)	24,349 (69)	16,998 (66)	121,546 (77)
1987 definition: ²	2,482 (7)	4,713 (18)	8,980 (28)	10,963 (31)	8,841 (34)	35,979 (23)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	1,316	2,522	5,048	6,223	5,334	20,443
<i>Specific disease</i>						
<i>definitively diagnosed</i>	390	465	628	764	553	2,800
<i>HIV encephalopathy</i>	230	636	1,104	1,287	904	4,161
<i>HIV wasting syndrome</i>	546	1,090	2,200	2,689	2,050	8,575
Total	38,161 (100)	26,262 (100)	31,951 (100)	35,312 (100)	25,839 (100)	157,525 (100)

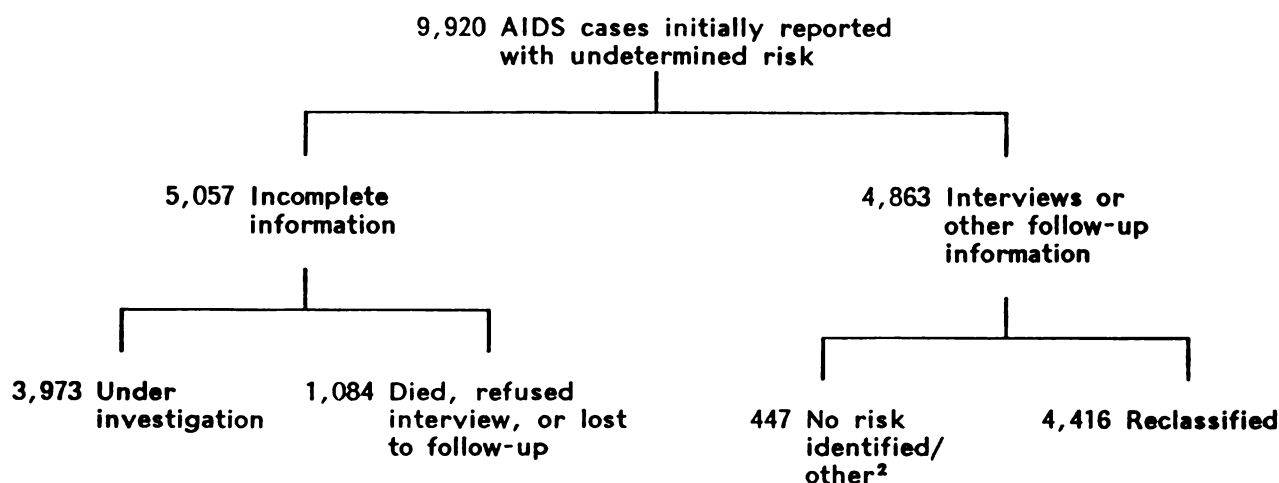
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 November 1990, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Male homosexual/bisexual contact	88,391	(57)
Intravenous (IV) drug use (female and heterosexual male)	28,894	(19)
Hemophilia/coagulation disorder	839	(1)
Heterosexual contact	7,809	(5)
Receipt of transfusion of blood, blood component, or tissue	3,624	(2)
Other/undetermined	5,504	(4)
Single mode of exposure subtotal	135,061	(87)
Multiple modes of exposure		
Male homosexual/bisexual contact; IV drug use	9,317	(6)
Male homosexual/bisexual contact; hemophilia	34	(0)
Male homosexual/bisexual contact; heterosexual contact	1,865	(1)
Male homosexual/bisexual contact; receipt of transfusion	1,649	(1)
IV drug use; hemophilia	40	(0)
IV drug use; heterosexual contact	3,839	(2)
IV drug use; receipt of transfusion	694	(0)
Hemophilia; heterosexual contact	9	(0)
Hemophilia; receipt of transfusion	499	(0)
Heterosexual contact; receipt of transfusion	395	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia	9	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact	730	(0)
Male homosexual/bisexual contact; IV drug use; receipt of transfusion	259	(0)
Male homosexual/bisexual contact; hemophilia; heterosexual contact	2	(0)
Male homosexual/bisexual contact; hemophilia; receipt of transfusion	16	(0)
Male homosexual/bisexual contact; heterosexual contact; receipt of transfusion	92	(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	204	(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	19,730	(13)
Total	154,791	(100)

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



¹ Excludes 66 children under 13 years of age who have an undetermined risk: 59 children are under investigation and 7 have died, refused interview, or were lost to follow-up. An additional 107 children who were initially reported with an undetermined risk have been reclassified after investigation.

² **Health-care workers.** 3 of the 447 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 444, 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. **Heterosexual transmission.** 394 of the 444 patients who had no risk identified after follow-up responded to a standardized questionnaire; 127 (35%) of 360 persons responding to questions related to sexually transmitted disease gave a history of such disease and 85 (34%) of 248 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 sub-Saharan Africa and in some Caribbean countries. In these countries, most of the reported cases occur in heterosexuals and the male-to-female ratio is approximately 1:1. Intravenous drug use and homosexual transmission either do not occur or occur at a low level.

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

Rates

Rates are on an annual basis per 100,000 population. The 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.

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