

HIV / AIDS

SURVEILLANCE

U.S. AIDS cases reported through March 1991

Issued April 1991

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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 April 1990 through March 1991, United States

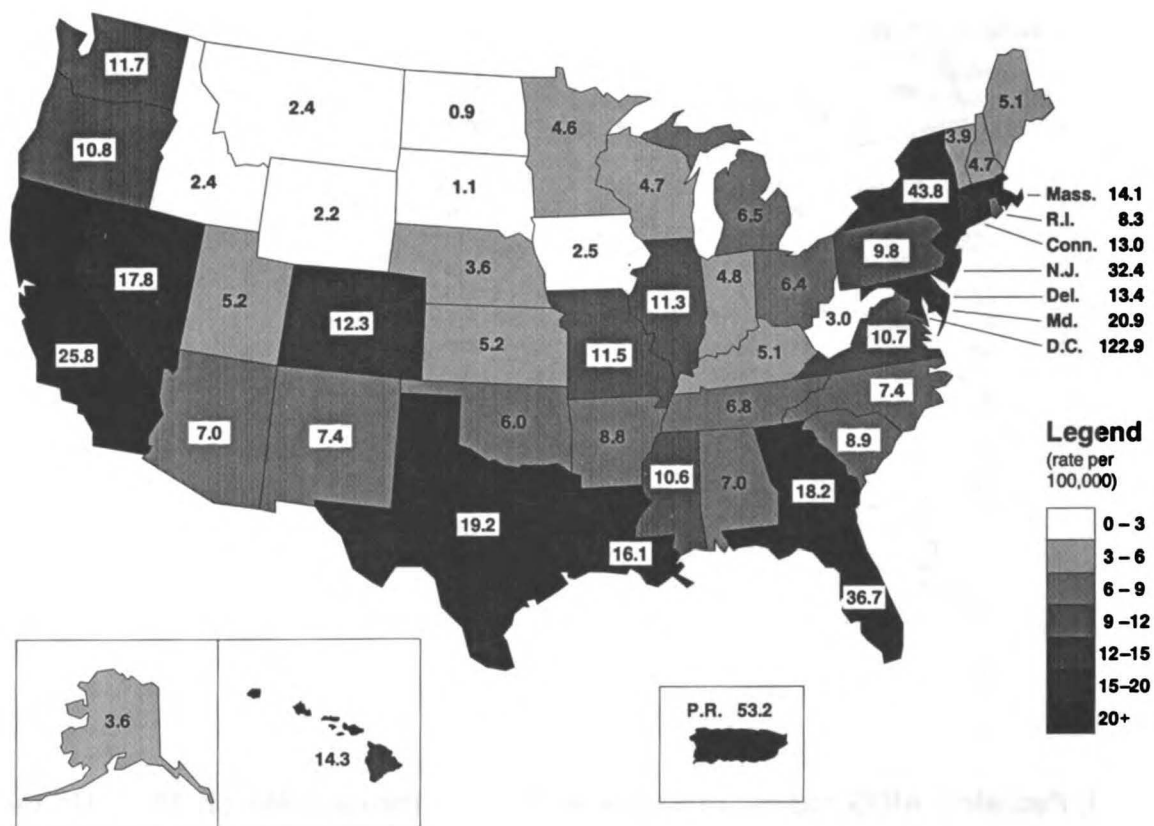


Figure 2. Adult/adolescent and pediatric AIDS cases, reported April 1990 through March 1991, United States

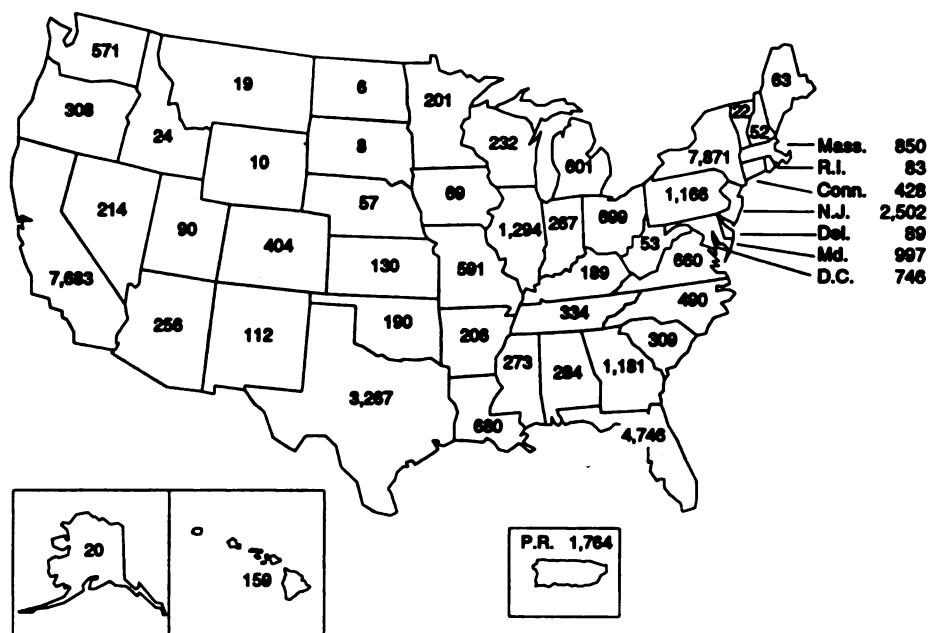


Figure 3. Pediatric AIDS cases, reported April 1990 through March 1991, United States

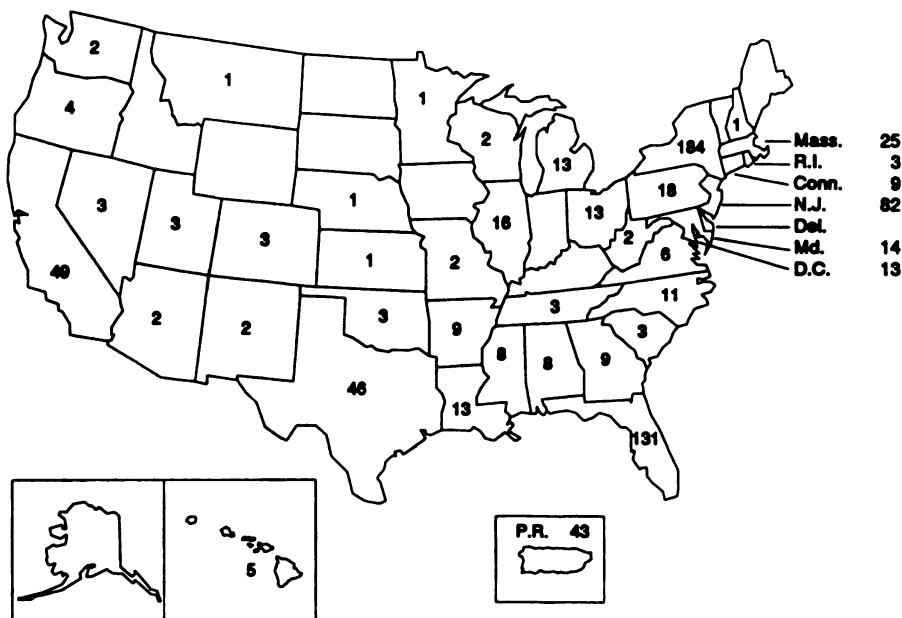


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported April 1989 through March 1990, April 1990 through March 1991; and cumulative totals, by state and age group, through March 1991¹

State of residence	Apr. 1989- Mar. 1990		Apr. 1990- Mar. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	206	5.1	284	7.0	964	24	988
Alaska	22	4.1	20	3.6	102	2	104
Arizona	386	10.8	256	7.0	1,343	10	1,353
Arkansas	98	4.2	206	8.8	485	12	497
California	6,577	22.6	7,683	25.8	32,326	221	32,547
Colorado	405	12.4	404	12.3	1,703	11	1,714
Connecticut	459	14.0	428	13.0	1,946	63	2,009
Delaware	73	11.1	89	13.4	331	4	335
District of Columbia	502	82.3	746	122.9	2,813	42	2,855
Florida	3,408	27.0	4,746	36.7	14,866	411	15,277
Georgia	1,219	19.1	1,181	18.2	4,567	50	4,617
Hawaii	209	19.1	159	14.3	672	7	679
Idaho	28	2.8	24	2.4	82	2	84
Illinois	1,190	10.4	1,294	11.3	4,952	72	5,024
Indiana	348	6.3	267	4.8	1,080	10	1,090
Iowa	49	1.8	69	2.5	241	3	244
Kansas	135	5.5	130	5.2	467	4	471
Kentucky	133	3.6	189	5.1	552	5	557
Louisiana	585	13.9	680	16.1	2,422	44	2,466
Maine	59	4.8	63	5.1	229	2	231
Maryland	791	16.7	997	20.9	3,315	69	3,384
Massachusetts	796	13.3	850	14.1	3,506	80	3,586
Michigan	513	5.5	601	6.5	2,119	36	2,155
Minnesota	172	4.0	201	4.6	862	8	870
Mississippi	191	7.4	273	10.6	713	14	727
Missouri	491	9.6	591	11.5	1,976	12	1,988
Montana	15	1.9	19	2.4	60	1	61
Nebraska	39	2.5	57	3.6	198	2	200
Nevada	152	13.1	214	17.8	688	7	695
New Hampshire	56	5.1	52	4.7	203	5	208
New Jersey	2,194	28.5	2,502	32.4	10,648	307	10,955
New Mexico	106	7.1	112	7.4	371	3	374
New York	7,071	39.4	7,871	43.8	35,622	837	36,459
North Carolina	507	7.7	490	7.4	1,730	37	1,767
North Dakota	6	0.9	6	0.9	24	—	24
Ohio	512	4.7	699	6.4	2,450	40	2,490
Oklahoma	172	5.5	190	6.0	726	12	738
Oregon	258	9.1	308	10.8	1,065	7	1,072
Pennsylvania	1,161	9.8	1,166	9.8	4,681	80	4,761
Rhode Island	87	8.7	83	8.3	385	10	395
South Carolina	385	11.2	309	8.9	1,099	22	1,121
South Dakota	2	0.3	8	1.1	25	—	25
Tennessee	303	6.2	334	6.8	1,166	15	1,181
Texas	2,572	15.4	3,267	19.2	11,928	119	12,047
Utah	84	5.0	90	5.2	349	9	358
Vermont	20	3.6	22	3.9	80	1	81
Virginia	514	8.4	660	10.7	2,210	38	2,248
Washington	608	12.7	571	11.7	2,293	13	2,306
West Virginia	64	3.5	53	3.0	182	4	186
Wisconsin	147	3.0	232	4.7	690	4	694
Wyoming	11	2.4	10	2.2	41	—	41
U.S. total	36,091	14.6	41,756	16.8	163,548	2,791	166,339
Guam	1	0.7	2	1.4	8	—	8
Pacific Islands, U.S.	—	—	1	0.5	2	—	2
Puerto Rico	1,544	46.7	1,764	53.2	5,278	168	5,446
Virgin Islands, U.S.	18	15.6	9	7.7	77	4	81
Total	37,654	15.0	43,532	17.2	168,913	2,963	171,876

¹During March 1991, 4,013 cases and 2,336 deaths among adults/adolescents and 60 cases and 34 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 April 1989 through March 1990, April 1990 through March 1991; and cumulative totals, by area and age group, through March 1991

Metropolitan area of residence	Apr. 1989- Mar. 1990		Apr. 1990- Mar. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	15	2.3	35	5.3	115	—	115
Albany-Schenectady, N.Y.	75	8.6	92	10.5	347	4	351
Allentown, Pa.	48	7.0	45	6.6	168	5	173
Anaheim, Calif.	304	12.9	381	15.8	1,386	9	1,395
Atlanta, Ga.	923	33.4	928	32.8	3,496	30	3,526
Austin, Tex.	234	30.9	218	27.9	756	8	764
Bakersfield, Calif.	35	6.6	39	7.2	124	—	124
Baltimore, Md.	517	21.9	662	27.8	2,016	50	2,066
Baton Rouge, La.	53	10.1	54	10.2	203	4	207
Bergen-Passaic, N.J.	236	18.4	325	25.4	1,389	29	1,418
Birmingham, Ala.	68	7.5	82	9.0	303	7	310
Boston, Mass.	602	16.0	576	15.2	2,694	57	2,751
Bridgeport, Conn.	129	15.6	116	14.0	572	20	592
Buffalo, N.Y.	73	7.5	103	10.6	284	2	286
Charleston, S.C.	81	16.2	62	12.2	243	—	243
Charlotte, N.C.	99	8.7	71	6.1	330	7	337
Chicago, Ill.	965	15.9	1,098	18.1	4,181	55	4,236
Cincinnati, Ohio	77	5.3	132	9.1	382	6	388
Cleveland, Ohio	135	7.3	152	8.3	621	10	631
Columbus, Ohio	99	7.3	162	11.8	542	4	546
Dallas, Tex.	559	22.4	716	28.0	2,863	16	2,879
Dayton, Ohio	61	6.4	70	7.4	246	6	252
Denver, Colo.	325	20.3	340	20.9	1,397	7	1,404
Detroit, Mich.	360	8.2	409	9.3	1,481	25	1,506
El Paso, Tex.	32	5.5	57	9.6	133	1	134
Fort Lauderdale, Fla.	558	45.3	1,034	82.4	2,714	52	2,766
Fort Worth, Tex.	123	9.5	213	16.0	664	10	674
Fresno, Calif.	54	8.3	65	9.7	213	2	215
Gary, Ind.	43	7.1	22	3.6	101	—	101
Grand Rapids, Mich.	21	3.1	40	5.8	111	1	112
Greensboro, N.C.	77	8.3	86	9.1	273	6	279
Greenville, S.C.	39	6.2	51	8.0	141	—	141
Harrisburg, Pa.	49	8.4	38	6.5	171	4	175
Hartford, Conn.	156	14.0	147	13.1	587	15	602
Honolulu, Hawaii	137	16.5	112	13.4	505	4	509
Houston, Tex.	1,049	32.3	1,329	40.2	5,037	49	5,086
Indianapolis, Ind.	179	14.4	122	9.8	510	3	513
Jacksonville, Fla.	238	26.8	260	28.7	799	27	826
Jersey City, N.J.	309	55.8	382	69.1	1,797	47	1,844
Kansas City, Mo.	264	17.0	269	17.2	1,036	4	1,040
Knoxville, Tenn.	27	4.5	27	4.5	115	1	116
Lake County, Ill.	21	4.1	19	3.7	80	2	82
Las Vegas, Nev.	114	16.0	167	22.5	509	7	516
Little Rock, Ark.	50	9.8	73	14.2	197	6	203
Los Angeles, Calif.	2,232	25.6	2,505	28.3	11,315	94	11,409
Louisville, Ky.	61	6.4	63	6.6	226	2	228
Memphis, Tenn.	94	9.6	106	10.8	373	6	379
Miami, Fla.	952	49.9	1,323	68.3	4,464	169	4,633
Middlesex, N.J.	173	17.2	189	18.5	857	24	881
Milwaukee, Wis.	80	5.6	121	8.4	382	2	384
Minneapolis-Saint Paul, Minn.	158	6.5	176	7.1	770	6	776
Monmouth-Ocean City, N.J.	163	16.8	211	21.4	699	25	724
Nashville, Tenn.	91	9.4	116	11.8	391	6	397
Nassau-Suffolk, N.Y.	377	14.5	415	15.9	1,719	43	1,762
New Bedford, Mass.	46	9.1	63	12.4	175	4	179
New Haven, Conn.	134	16.8	137	17.0	628	27	655
New Orleans, La.	354	28.5	398	32.1	1,533	24	1,557
New York, N.Y.	5,992	70.3	6,674	78.1	30,880	755	31,635

Table 2. AIDS cases and annual rates per 100,000 population, by metropolitan area with 500,000 or more population, reported April 1989 through March 1990, April 1990 through March 1991; and cumulative totals, by area and age group, through March 1991 — Continued

Metropolitan area of residence	Apr. 1989- Mar. 1990		Apr. 1990- Mar. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Newark, N.J.	949	51.9	993	54.4	4,428	143	4,571
Norfolk, Va.	118	8.6	157	11.2	489	7	496
Oakland, Calif.	430	21.0	601	28.9	2,173	15	2,188
Oklahoma City, Okla.	87	9.2	94	9.8	370	—	370
Omaha, Neb.	30	4.9	36	5.8	137	1	138
Orlando, Fla.	174	16.8	320	29.8	835	9	844
Oxnard-Ventura, Calif.	35	5.3	43	6.4	162	—	162
Philadelphia, Pa.	791	16.3	917	18.9	3,541	56	3,597
Phoenix, Ariz.	292	14.2	178	8.4	978	6	984
Pittsburgh, Pa.	175	8.4	127	6.2	586	2	588
Portland, Oreg.	196	16.0	251	20.2	843	4	847
Providence, R.I.	82	9.0	80	8.7	361	9	370
Raleigh-Durham, N.C.	119	16.6	105	14.3	382	10	392
Richmond, Va.	118	13.8	107	12.4	414	9	423
Riverside-San Bernardino, Calif.	302	12.1	309	11.9	1,104	17	1,121
Rochester, N.Y.	75	7.5	79	7.9	368	4	372
Sacramento, Calif.	143	9.9	154	10.4	665	9	674
Saint Louis, Mo.	206	8.5	300	12.3	901	7	908
Salt Lake City, Utah	70	6.6	82	7.6	309	6	315
San Antonio, Tex.	211	16.5	220	16.9	842	12	854
San Diego, Calif.	560	23.0	748	29.9	2,525	19	2,544
San Francisco, Calif.	1,875	117.8	2,155	134.4	9,925	18	9,943
San Jose, Calif.	123	8.3	192	12.8	748	8	756
San Juan, P.R.	972	61.2	1,122	70.3	3,303	111	3,414
Scranton, Pa.	37	5.0	41	5.6	137	3	140
Seattle, Wash.	454	23.4	414	21.0	1,724	10	1,734
Springfield, Mass.	63	10.5	97	16.1	234	11	245
Syracuse, N.Y.	42	6.4	42	6.4	162	6	168
Tacoma, Wash.	51	8.9	45	7.7	160	3	163
Tampa-Saint Petersburg, Fla.	369	18.2	488	23.6	1,680	28	1,708
Toledo, Ohio	29	4.7	45	7.3	126	3	129
Tucson, Ariz.	59	9.0	57	8.5	258	3	261
Tulsa, Okla.	52	7.4	48	6.8	203	4	207
Washington, D.C.	899	23.3	1,296	33.0	4,814	72	4,886
West Palm Beach, Fla.	317	38.0	419	48.5	1,468	58	1,526
Wilmington, Del.	62	10.8	71	12.3	272	3	275
Worcester, Mass.	33	4.7	65	9.2	191	4	195
Metropolitan area subtotal¹	31,120	21.4	36,376	24.7	144,062	2,479	146,541
All other areas	6,534	6.2	7,156	6.8	24,851	484	25,335
Total	37,654	15.0	43,532	17.2	168,913	2,963	171,876

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 April 1989 through March 1990, April 1990 through March 1991; and cumulative totals, by age group and exposure category, through March 1991, United States

Adult/adolescent exposure category	Males		Females		Totals		Cumulative total ¹
	Apr. 1989-Mar. 1990	Apr. 1990-Mar. 1991	Apr. 1989-Mar. 1990	Apr. 1990-Mar. 1991	Apr. 1989-Mar. 1990	Apr. 1990-Mar. 1991	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Male homosexual/bisexual contact	21,066 (64)	23,726 (63)	—	—	21,066 (57)	23,726 (55)	99,941 (59)
Intravenous (IV) drug use (female and heterosexual male)	6,856 (21)	7,610 (20)	2,032 (51)	2,397 (48)	8,888 (24)	10,007 (23)	37,090 (22)
Male homosexual/bisexual contact and IV drug use	2,288 (7)	2,275 (6)	—	—	2,288 (6)	2,275 (5)	11,153 (7)
Hemophilia/coagulation disorder	280 (1)	317 (1)	8 (0)	7 (0)	288 (1)	324 (1)	1,462 (1)
Heterosexual contact:	820 (2)	1,122 (3)	1,362 (34)	1,745 (35)	2,182 (6)	2,867 (7)	9,191 (5)
Sex with IV drug user	383	519	870	1,078	1,253	1,597	4,868
Sex with bisexual male	—	—	118	142	118	142	540
Sex with person with hemophilia	1	2	25	26	26	28	86
Born in Pattern-II ² country	276	294	132	119	408	413	2,143
Sex with person born in Pattern-II country	16	28	15	22	31	50	142
Sex with transfusion recipient with HIV infection	16	25	23	51	39	76	177
Sex with HIV-infected person, risk not specified	128	254	179	307	307	561	1,235
Receipt of blood transfusion, blood components, or tissue ³	468 (1)	504 (1)	313 (8)	333 (7)	781 (2)	837 (2)	3,861 (2)
Other/undetermined ⁴	1,194 (4)	2,173 (6)	268 (7)	556 (11)	1,462 (4)	2,729 (6)	6,215 (4)
Adult/adolescent subtotal	32,972 (100)	37,727 (100)	3,983 (100)	5,038 (100)	36,955 (100)	42,765 (100)	168,913 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	28 (7)	30 (8)	—	1 (0)	28 (4)	31 (4)	146 (5)
Mother with/at risk for HIV infection:	316 (84)	326 (83)	297 (92)	346 (93)	613 (88)	672 (88)	2,490 (84)
IV drug use	153	153	127	151	280	304	1,228
Sex with IV drug user	81	60	66	77	147	137	518
Sex with bisexual male	7	3	9	5	16	8	53
Sex with person with hemophilia	—	3	—	1	—	4	11
Born in Pattern-II country	27	21	24	16	51	37	221
Sex with person born in Pattern-II country	—	2	3	3	3	5	12
Sex with transfusion recipient with HIV infection	1	1	4	—	5	1	12
Sex with HIV-infected person, risk not specified	11	18	18	20	29	38	110
Receipt of blood transfusion, blood components, or tissue	5	6	7	6	12	12	49
Has HIV infection, risk not specified	31	59	39	67	70	126	276
Receipt of blood transfusion, blood components, or tissue	28 (7)	22 (6)	14 (4)	14 (4)	42 (6)	36 (5)	259 (9)
Undetermined	5 (1)	15 (4)	11 (3)	13 (3)	16 (2)	28 (4)	68 (2)
Pediatric subtotal	377 (100)	393 (100)	322 (100)	374 (100)	699 (100)	767 (100)	2,963 (100)
Total	33,349	38,120	4,305	5,412	37,654	43,532	171,876

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 Thirteen adult/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult with AIDS received HIV-infected tissue.

⁴ "Other" refers to 4 persons who developed AIDS after exposure to HIV within the health-care setting, as documented by evidence of seroconversion or other laboratory studies. "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 March 1991, United States

Adult/adolescent exposure category	White, not Hispanic No. (%)	Black, not Hispanic No. (%)	Hispanic No. (%)	Asian/Pacific Islander No. (%)	American Indian/ Alaskan Native No. (%)	Total⁴ No. (%)
Male homosexual/bisexual contact	71,039 (76)	17,020 (36)	10,757 (40)	777 (75)	130 (54)	99,941 (59)
Intravenous (IV) drug use (female and heterosexual male)	7,551 (8)	18,566 (39)	10,807 (40)	46 (4)	40 (17)	37,090 (22)
Male homosexual/bisexual contact and IV drug use	6,453 (7)	3,030 (6)	1,605 (6)	21 (2)	32 (13)	11,153 (7)
Hemophilia/coagulation disorder	1,213 (1)	103 (0)	117 (0)	17 (2)	8 (3)	1,462 (1)
Heterosexual contact:	1,961 (2)	5,473 (12)	1,680 (6)	41 (4)	11 (5)	9,191 (5)
<i>Sex with IV drug user</i>	1,054	2,493	1,283	16	8	4,868
<i>Sex with bisexual male</i>	291	170	66	10	1	540
<i>Sex with person with hemophilia</i>	75	7	3	1	—	86
<i>Born in Pattern-II¹ country</i>	8	2,108	18	4	—	2,143
<i>Sex with person born in Pattern-II country</i>	44	89	8	—	—	142
<i>Sex with transfusion recipient with HIV infection</i>	114	29	30	2	—	177
<i>Sex with HIV-infected person, risk not specified</i>	375	577	272	8	2	1,235
Receipt of blood transfusion, blood components, or tissue ²	2,702 (3)	673 (1)	399 (1)	70 (7)	6 (2)	3,861 (2)
Other/undetermined ³	2,236 (2)	2,430 (5)	1,420 (5)	70 (7)	14 (6)	6,215 (4)
Adult/adolescent subtotal	93,155(100)	47,295 (100)	26,785(100)	1,042 (100)	241(100)	168,913(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	100 (16)	19 (1)	24 (3)	3 (19)	—	146 (5)
Mother with/at risk for HIV infection:	391 (61)	1,434 (93)	642 (86)	8 (50)	7(100)	2,490 (84)
<i>IV drug use</i>	189	703	328	2	2	1,228
<i>Sex with IV drug user</i>	80	231	203	2	1	518
<i>Sex with bisexual male</i>	19	23	10	1	—	53
<i>Sex with person with hemophilia</i>	7	3	1	—	—	11
<i>Born in Pattern-II country</i>	2	216	3	—	—	221
<i>Sex with person born in Pattern-II country</i>	—	11	—	—	—	12
<i>Sex with transfusion recipient with HIV infection</i>	5	3	3	—	—	12
<i>Sex with HIV-infected person, risk not specified</i>	23	52	31	1	2	110
<i>Receipt of blood transfusion, blood components, or tissue</i>	17	19	13	—	—	49
<i>Has HIV infection, risk not specified</i>	49	173	50	2	2	276
Receipt of blood transfusion, blood components, or tissue	139 (22)	55 (4)	60 (8)	5 (31)	—	259 (9)
Undetermined	10 (2)	38 (2)	20 (3)	—	—	68 (2)
Pediatric subtotal	640(100)	1,546 (100)	746(100)	16 (100)	7(100)	2,963(100)
Total	93,795	48,841	27,531	1,058	248	171,876

¹ See technical notes.

²Thirteen adult/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult with AIDS received HIV-infected tissue.

³"Other" refers to 4 persons who developed AIDS after exposure to HIV within the health-care setting, as documented by evidence of seroconversion or other laboratory studies. "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 403 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through March 1991, 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	71,039 (80)	17,020 (44)	10,757 (46)	777 (82)	130 (63)	99,941 (66)
Intravenous (IV) drug use (heterosexual)	5,753 (6)	13,618 (35)	9,064 (39)	32 (3)	22 (11)	28,553 (19)
Male homosexual/bisexual contact and IV drug use	6,453 (7)	3,030 (8)	1,605 (7)	21 (2)	32 (15)	11,153 (7)
Hemophilia/coagulation disorder	1,187 (1)	98 (0)	115 (0)	17 (2)	8 (4)	1,429 (1)
Heterosexual contact:	623 (1)	2,627 (7)	389 (2)	9 (1)	3 (1)	3,657 (2)
<i>Sex with IV drug user</i>	376	789	244	5	3	1,417
<i>Sex with person with hemophilia</i>	5	—	1	—	—	6
<i>Born in Pattern-II¹ country</i>	5	1,533	12	3	—	1,557
<i>Sex with person born in Pattern-II country</i>	37	40	7	—	—	84
<i>Sex with transfusion recipient with HIV infection</i>	33	14	8	—	—	56
<i>Sex with HIV-infected person, risk not specified</i>	167	251	117	1	—	537
Receipt of blood transfusion, blood components, or tissue ²	1,738 (2)	363 (1)	212 (1)	43 (5)	2 (1)	2,365 (2)
Other/undetermined ³	1,930 (2)	1,788 (5)	1,188 (5)	54 (6)	10 (5)	5,010 (3)
Male subtotal	88,723 (100)	38,544 (100)	23,330 (100)	953 (100)	207 (100)	152,108 (100)
Female						
exposure category						
IV drug use	1,798 (41)	4,948 (57)	1,743 (50)	14 (16)	18 (53)	8,537 (51)
Hemophilia/coagulation disorder	26 (1)	5 (0)	2 (0)	—	—	33 (0)
Heterosexual contact:	1,338 (30)	2,846 (33)	1,291 (37)	32 (36)	8 (24)	5,534 (33)
<i>Sex with IV drug user</i>	678	1,704	1,039	11	5	3,451
<i>Sex with bisexual male</i>	291	170	66	10	1	540
<i>Sex with person with hemophilia</i>	70	7	2	1	—	80
<i>Born in Pattern-II country</i>	3	575	6	1	—	586
<i>Sex with person born in Pattern-II country</i>	7	49	1	—	—	58
<i>Sex with transfusion recipient with HIV infection</i>	81	15	22	2	—	121
<i>Sex with HIV-infected person, risk not specified</i>	208	326	155	7	2	698
Receipt of blood transfusion, blood components, or tissue	964 (22)	310 (4)	187 (5)	27 (30)	4 (12)	1,496 (9)
Other/undetermined	306 (7)	642 (7)	232 (7)	16 (18)	4 (12)	1,205 (7)
Female subtotal	4,432 (100)	8,751 (100)	3,455 (100)	89 (100)	34 (100)	16,805 (100)
Total	93,155	47,295	26,785	1,042	241	168,913

¹ See technical notes.

²Thirteen adult/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult with AIDS received HIV-infected tissue.

³"Other" refers to 4 persons who developed AIDS after exposure to HIV within the health-care setting, as documented by evidence of seroconversion or other laboratory studies. "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.

⁴Includes 351 males and 44 females whose race/ethnicity is unknown.

Table 6. AIDS cases in adolescents and adults under age 25, by exposure category, reported April 1989 through March 1990, April 1990 through March 1991, and cumulative totals through March 1991, United States

Exposure category	13-19 years old			20-24 years old		
	Apr. 1989- Mar. 1990	Apr. 1990- Mar. 1991	Cumulative total	Apr. 1989- Mar. 1990	Apr. 1990- Mar. 1991	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	37 (27)	31 (18)	176 (26)	797 (53)	806 (50)	3,990 (56)
Intravenous (IV) drug use (female and heterosexual male)	15 (11)	19 (11)	76 (11)	294 (20)	289 (18)	1,177 (17)
Male homosexual/bisexual contact and IV drug use	3 (2)	5 (3)	28 (4)	136 (9)	115 (7)	643 (9)
Hemophilia/coagulation disorder	42 (30)	48 (29)	203 (30)	36 (2)	36 (2)	180 (3)
Heterosexual contact:	24 (17)	31 (18)	90 (13)	163 (11)	215 (13)	696 (10)
<i>Sex with IV drug user</i>	17	24	59	93	136	396
<i>Sex with bisexual male</i>	1	1	4	7	11	53
<i>Sex with person with hemophilia</i>	1	1	2	9	2	16
<i>Born in Pattern-II¹ country</i>	2	—	13	21	16	113
<i>Sex with person born in Pattern-II country</i>	—	—	—	2	6	10
<i>Sex with transfusion recipient with HIV infection</i>	—	1	1	2	5	8
<i>Sex with HIV-infected person, risk not specified</i>	3	4	11	29	39	100
Receipt of blood transfusion, blood components, or tissue	5 (4)	11 (7)	50 (7)	9 (1)	25 (2)	103 (1)
Undetermined ²	13 (9)	23 (14)	47 (7)	67 (4)	126 (8)	308 (4)
Total	139 (100)	168 (100)	670 (100)	1,502 (100)	1,612 (100)	7,097 (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 March 1991, 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	211	(0)	692	(2)	319	(1)	5	(1)	3	(1)	1,234	(1)
5-12	169	(0)	101	(0)	76	(0)	5	(1)	—		353	(0)
13-19	235	(0)	154	(0)	99	(0)	6	(1)	5	(2)	499	(0)
20-24	3,012	(3)	1,809	(5)	1,086	(5)	30	(3)	13	(6)	5,961	(4)
25-29	13,435	(15)	6,192	(16)	4,053	(17)	129	(13)	44	(21)	23,896	(16)
30-34	20,832	(23)	9,748	(25)	5,986	(25)	204	(21)	53	(25)	36,901	(24)
35-39	19,586	(22)	9,056	(23)	5,233	(22)	218	(23)	39	(19)	34,212	(22)
40-44	13,473	(15)	5,321	(14)	3,251	(14)	152	(16)	23	(11)	22,279	(14)
45-49	8,012	(9)	2,893	(7)	1,683	(7)	94	(10)	15	(7)	12,730	(8)
50-54	4,386	(5)	1,573	(4)	925	(4)	51	(5)	4	(2)	6,960	(5)
55-59	2,773	(3)	975	(2)	573	(2)	34	(4)	6	(3)	4,377	(3)
60-64	1,586	(2)	504	(1)	263	(1)	9	(1)	4	(2)	2,371	(2)
65 or older	1,393	(2)	319	(1)	178	(1)	26	(3)	1	(0)	1,922	(1)
Male subtotal	89,103	(100)	39,337	(100)	23,725	(100)	963	(100)	210	(100)	153,695	(100)
Females												
Age at diagnosis (years)												
Under 5	210	(4)	666	(7)	295	(8)	1	(1)	4	(11)	1,177	(6)
5-12	50	(1)	87	(1)	56	(1)	5	(5)	—		199	(1)
13-19	45	(1)	99	(1)	25	(1)	1	(1)	1	(3)	171	(1)
20-24	299	(6)	549	(6)	275	(7)	4	(4)	5	(13)	1,136	(6)
25-29	840	(18)	1,688	(18)	793	(21)	8	(8)	4	(11)	3,341	(18)
30-34	1,017	(22)	2,504	(26)	922	(24)	17	(18)	11	(29)	4,483	(25)
35-39	699	(15)	1,968	(21)	674	(18)	13	(14)	5	(13)	3,367	(19)
40-44	403	(9)	931	(10)	365	(10)	20	(21)	3	(8)	1,725	(9)
45-49	214	(5)	418	(4)	170	(4)	7	(7)	2	(5)	816	(4)
50-54	161	(3)	243	(3)	102	(3)	5	(5)	1	(3)	512	(3)
55-59	174	(4)	146	(2)	55	(1)	3	(3)	—		380	(2)
60-64	162	(3)	101	(1)	30	(1)	7	(7)	1	(3)	301	(2)
65 or older	418	(9)	104	(1)	44	(1)	4	(4)	1	(3)	573	(3)
Female subtotal	4,692	(100)	9,504	(100)	3,806	(100)	95	(100)	38	(100)	18,181	(100)
Total	93,795		48,841		27,531		1,058		248		171,876	

¹ Includes 403 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through March 1991, United States

Half-year	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	77	84.4	30	6	66.7	1
1981 Jan.-June	92	93.5	38	8	62.5	2
July-Dec.	203	91.1	86	6	100.0	6
1982 Jan.-June	393	90.6	152	14	78.6	9
July-Dec.	687	88.9	283	15	80.0	5
1983 Jan.-June	1,273	92.3	518	33	93.9	13
July-Dec.	1,634	91.9	921	42	78.6	16
1984 Jan.-June	2,544	90.1	1,380	48	83.3	25
July-Dec.	3,342	90.6	1,930	62	74.2	24
1985 Jan.-June	4,831	89.8	2,766	94	74.5	44
July-Dec.	6,222	87.9	3,760	126	75.4	67
1986 Jan.-June	8,167	86.5	4,948	136	75.0	65
July-Dec.	9,827	83.8	6,294	181	66.9	84
1987 Jan.-June	12,684	83.3	7,336	219	63.9	113
July-Dec.	14,093	77.7	7,714	248	60.1	159
1988 Jan.-June	15,926	72.1	8,962	237	50.6	129
July-Dec.	16,319	66.8	10,163	319	47.6	153
1989 Jan.-June	18,046	56.8	11,635	319	42.9	155
July-Dec.	17,720	48.8	13,156	298	40.6	161
1990 Jan.-June	17,465	36.8	12,226	278	27.3	146
July-Dec.	14,321	22.6	10,606	229	18.8	123
1991 Jan.-Mar.	3,047	11.2	2,116	45	15.6	17
Total¹	168,913	63.5	107,210	2,963	51.3	1,521

¹ Death totals include 190 adults/adolescents and 4 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 March 1991, United States

Definition category ¹	Year of diagnosis					Cumulative total
	Before Apr. 1987	Apr. 1987-Mar. 1988	Apr. 1988-Mar. 1989	Apr. 1989-Mar. 1990	Apr. 1990-Mar. 1991	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	42,716 (92)	22,483 (77)	24,010 (71)	24,900 (68)	16,978 (65)	131,087 (76)
1987 definition: ²	3,532 (8)	6,586 (23)	9,799 (29)	11,691 (32)	9,181 (35)	40,789 (24)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	1,893	3,585	5,563	6,762	5,653	23,456
<i>Specific disease</i>						
<i>definitively diagnosed</i>	525	564	645	797	576	3,107
<i>HIV encephalopathy</i>	357	888	1,180	1,344	881	4,650
<i>HIV wasting syndrome</i>	757	1,549	2,411	2,788	2,071	9,576
Total	46,248 (100)	29,069 (100)	33,809 (100)	36,591 (100)	26,159 (100)	171,876 (100)

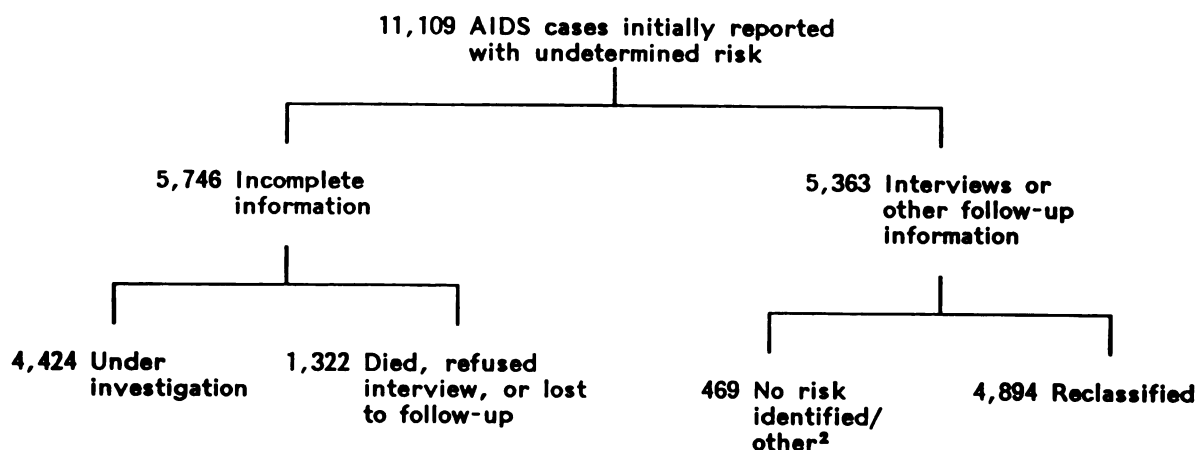
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 March 1991, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Male homosexual/bisexual contact	96,016	(57)
Intravenous (IV) drug use (female and heterosexual male)	31,791	(19)
Hemophilia/coagulation disorder	907	(1)
Heterosexual contact	8,770	(5)
Receipt of transfusion of blood, blood component, or tissue	3,861	(2)
Other/undetermined	6,215	(4)
Single mode of exposure subtotal	147,560	(87)
Multiple modes of exposure		
Male homosexual/bisexual contact; IV drug use	10,033	(6)
Male homosexual/bisexual contact; hemophilia	36	(0)
Male homosexual/bisexual contact; heterosexual contact	2,039	(1)
Male homosexual/bisexual contact; receipt of transfusion	1,725	(1)
IV drug use; hemophilia	40	(0)
IV drug use; heterosexual contact	4,283	(3)
IV drug use; receipt of transfusion	733	(0)
Hemophilia; heterosexual contact	9	(0)
Hemophilia; receipt of transfusion	532	(0)
Heterosexual contact; receipt of transfusion	421	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia	8	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact	796	(0)
Male homosexual/bisexual contact; IV drug use; receipt of transfusion	271	(0)
Male homosexual/bisexual contact; hemophilia; heterosexual contact	3	(0)
Male homosexual/bisexual contact; hemophilia; receipt of transfusion	18	(0)
Male homosexual/bisexual contact; heterosexual contact; receipt of transfusion	104	(0)
IV drug use; hemophilia; heterosexual contact	2	(0)
IV drug use; hemophilia; receipt of transfusion	19	(0)
IV drug use; heterosexual contact; receipt of transfusion	217	(0)
Hemophilia; heterosexual contact; receipt of transfusion	14	(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	38	(0)
IV drug use; hemophilia; heterosexual contact; receipt of transfusion	5	(0)
Multiple modes of exposure subtotal	21,353	(13)
Total	168,913	(100)

Figure 4. Results of investigations of adult/adolescent AIDS cases with undetermined risk, reported through March 1991¹



¹ Excludes 68 children under 13 years of age who have an undetermined risk: 59 children are under investigation and 9 have died, refused interview, or were lost to follow-up. An additional 114 children who were initially reported with an undetermined risk have been reclassified after investigation.

² Of the 469 persons classified as "No risk identified/other," 4 are persons who developed AIDS after exposure to HIV within the health-care setting, as documented by evidence of seroconversion or other laboratory studies. For the remaining 465, the mode of exposure to HIV remains undetermined after investigation.

Health-care workers. 73 of the 465 patients who had no risk identified after follow-up are health care workers, 66 of whom responded to a standardized questionnaire. 39 (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 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. 396 of the 465 patients who had no risk identified after follow-up responded to a standardized questionnaire; 126 (35%) of 361 persons responding to questions related to sexually transmitted disease gave a history of such disease and 85 (34%) of 249 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.

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.

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. Reporting delays (time between diagnosis and report to CDC) vary widely by geographic area and have been several years for some cases. The median reporting delay appears to have increased, from 2 months for cases diagnosed before 1987 to 3 months for cases diagnosed from 1987 to 1989.

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.

"Homosexual/bisexual contact" cases include men who report sexual contact with other men. "Heterosexual contact" cases include persons who report either specific heterosexual contact with a person with, or at increased risk for, HIV infection

(e.g., an intravenous drug user), or persons presumed to have acquired HIV infection through heterosexual contact because they were born in countries with a distinctive pattern of transmission termed "Pattern II" by the World Health Organization (*MMWR* 1988;37:286-8,293-5). Pattern II transmission is observed in areas of 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 denominators for computing rates in Table 1 and Table 2 are based on U.S. Bureau of Census provisional data from the 1990 census and on extrapolations from the 1980 and 1990 census. Each 12-month rate is the number of cases for a 12-month period divided by the 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 1990 census projections published in U.S. Bureau of Census publications, "Projections of the Population of the United States, by Age, Sex, and Race, 1988 to 2080," and "Projections of the Hispanic Population, 1983 to 2080." Race-specific rates are the number of cases reported for a particular race/ethnicity during the preceding 12-month period divided by the 1990 census projection 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 30% 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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