

HIV/AIDS

SURVEILLANCE

U.S. AIDS cases reported through September 1991

Issued October 1991

Contents

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

Acquired immunodeficiency syndrome (AIDS) is a specific group of diseases or conditions which are indicative of severe immunosuppression related to infection with the human immunodeficiency virus (HIV).



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

National Center for Infectious Diseases.....James M. Hughes, M.D.
Acting Director

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

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

Reporting and Analysis Section.....John W. Ward, M.D.
Chief

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

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Figure 1. AIDS annual rates per 100,000 population, for cases reported October 1990 through September 1991, United States

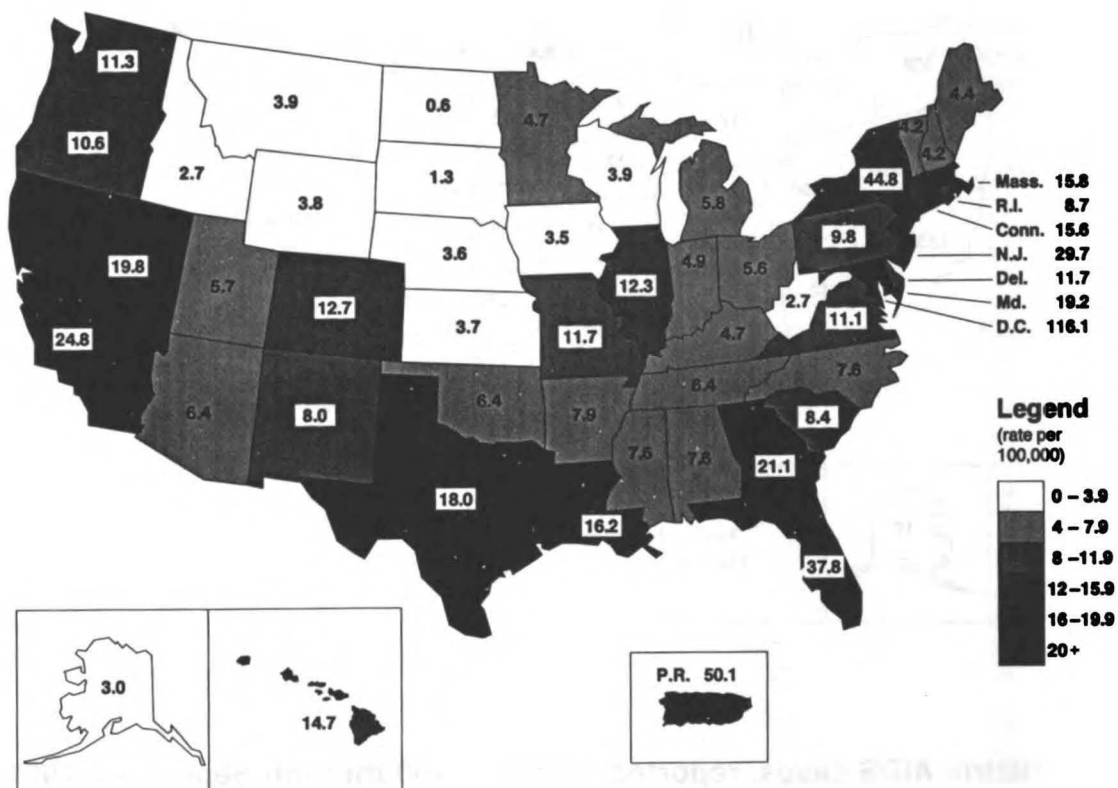


Figure 2. Adult/adolescent and pediatric AIDS cases, reported October 1990 through September 1991, United States

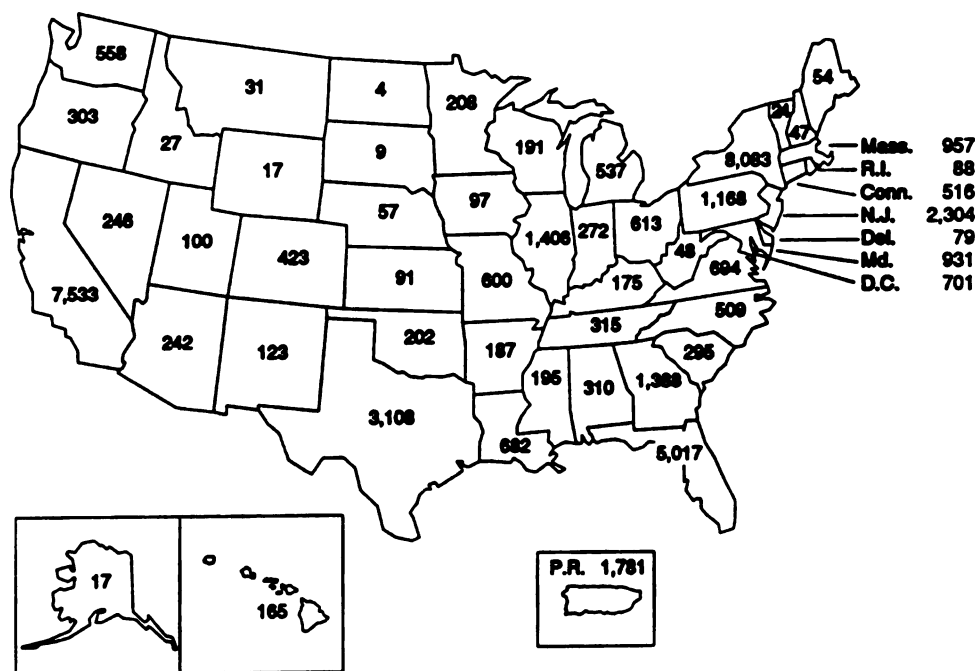


Figure 3. Pediatric AIDS cases, reported October 1990 through September 1991, United States

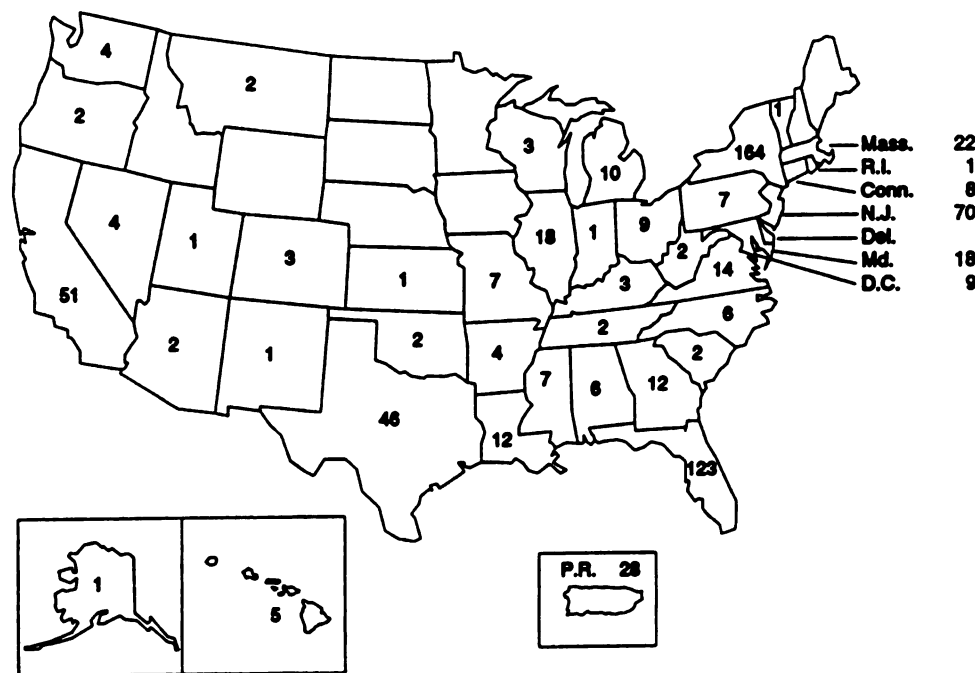


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported October 1989 through September 1990, October 1990 through September 1991; and cumulative totals, by state and age group, through September 1991¹

State of residence	Oct. 1989- Sept. 1990		Oct. 1990- Sept. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	238	5.9	310	7.6	1,122	26	1,148
Alaska	27	4.9	17	3.0	111	3	114
Arizona	387	10.6	242	6.4	1,478	9	1,487
Arkansas	185	7.9	187	7.9	589	13	602
California	7,359	24.7	7,533	24.8	36,335	247	36,582
Colorado	355	10.8	423	12.7	1,918	11	1,929
Connecticut	420	12.8	516	15.6	2,220	66	2,286
Delaware	85	12.8	79	11.7	366	4	370
District of Columbia	676	111.4	701	116.1	3,199	43	3,242
Florida	4,237	32.7	5,017	37.8	17,790	482	18,272
Georgia	1,243	19.2	1,388	21.1	5,352	56	5,408
Hawaii	178	16.1	165	14.7	756	7	763
Idaho	23	2.3	27	2.7	96	2	98
Illinois	1,249	10.9	1,406	12.3	5,735	81	5,816
Indiana	386	7.0	272	4.9	1,250	11	1,261
Iowa	52	1.9	97	3.5	298	3	301
Kansas	144	5.8	91	3.7	511	4	515
Kentucky	172	4.7	175	4.7	628	8	636
Louisiana	725	17.2	682	16.2	2,803	47	2,850
Maine	67	5.5	54	4.4	253	2	255
Maryland	1,080	22.6	931	19.2	3,817	82	3,899
Massachusetts	810	13.5	957	15.8	3,996	89	4,085
Michigan	587	6.3	537	5.8	2,383	39	2,422
Minnesota	182	4.2	208	4.7	973	8	981
Mississippi	285	11.1	195	7.6	796	18	814
Missouri	606	11.8	600	11.7	2,317	18	2,335
Montana	15	1.9	31	3.9	78	2	80
Nebraska	49	3.1	57	3.6	226	2	228
Nevada	172	14.3	246	19.8	815	9	824
New Hampshire	54	4.9	47	4.2	221	5	226
New Jersey	2,405	31.1	2,304	29.7	11,782	338	12,120
New Mexico	95	6.3	123	8.0	435	3	438
New York	8,089	45.0	8,083	44.8	39,965	927	40,892
North Carolina	615	9.3	509	7.6	2,050	38	2,088
North Dakota	4	0.6	4	0.6	24	—	24
Ohio	636	5.9	613	5.6	2,736	43	2,779
Oklahoma	225	7.2	202	6.4	856	12	868
Oregon	291	10.2	303	10.6	1,223	7	1,230
Pennsylvania	1,154	9.7	1,168	9.8	5,263	80	5,343
Rhode Island	94	9.4	88	8.7	437	9	446
South Carolina	398	11.4	295	8.4	1,277	23	1,300
South Dakota	3	0.4	9	1.3	28	—	28
Tennessee	338	6.9	315	6.4	1,336	16	1,352
Texas	3,422	20.1	3,108	18.0	13,639	148	13,787
Utah	100	5.8	100	5.7	414	9	423
Vermont	21	3.7	24	4.2	90	2	92
Virginia	614	9.9	694	11.1	2,541	47	2,588
Washington	675	13.9	558	11.3	2,607	15	2,622
West Virginia	81	4.5	48	2.7	220	4	224
Wisconsin	228	4.7	191	3.9	792	7	799
Wyoming	5	1.1	17	3.8	51	—	51
U.S. total	41,541	16.7	41,947	16.7	186,198	3,125	189,323
Guam	2	1.5	2	1.5	10	—	10
Pacific Islands, U.S.	1	0.4	—	—	2	—	2
Puerto Rico	1,704	48.4	1,781	50.1	6,108	183	6,291
Virgin Islands, U.S.	11	10.8	14	13.7	88	4	92
Total	43,259	17.1	43,744	17.2	192,406	3,312	195,718

¹ During September 1990, 4,058 cases and 3,184 deaths among adults/adolescents and 59 cases and 70 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 October 1989 through September 1990, October 1990 through September 1991; and cumulative totals, by area and age group, through September 1991

Metropolitan area of residence	Oct. 1989- Sept. 1990		Oct. 1990- Sept. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	29	4.4	28	4.3	130	—	130
Albany-Schenectady, N.Y.	85	9.7	86	9.8	387	6	393
Allentown, Pa.	55	8.0	38	5.5	184	5	189
Anaheim, Calif.	387	16.1	303	12.3	1,554	10	1,564
Atlanta, Ga.	964	34.0	1,056	36.4	4,098	33	4,131
Austin, Tex.	246	31.5	206	25.6	869	10	879
Bakersfield, Calif.	34	6.3	55	9.9	154	2	156
Baltimore, Md.	713	29.9	563	23.5	2,301	61	2,362
Baton Rouge, La.	59	11.2	65	12.2	244	4	248
Bergen-Passaic, N.J.	320	25.0	245	19.2	1,499	31	1,530
Birmingham, Ala.	73	8.0	89	9.8	355	7	362
Boston, Mass.	600	15.9	646	17.0	3,046	63	3,109
Bridgeport, Conn.	110	13.3	141	17.0	650	21	671
Buffalo, N.Y.	98	10.1	95	9.9	334	3	337
Charleston, S.C.	87	17.2	59	11.5	282	1	283
Charlotte, N.C.	106	9.1	70	5.9	377	7	384
Chicago, Ill.	1,035	17.1	1,141	18.8	4,792	63	4,855
Cincinnati, Ohio	128	8.8	99	6.8	425	6	431
Cleveland, Ohio	129	7.0	179	9.8	713	12	725
Columbus, Ohio	144	10.5	118	8.5	589	4	593
Dallas, Tex.	820	32.1	686	26.3	3,302	21	3,323
Dayton, Ohio	57	6.0	62	6.5	272	6	278
Denver, Colo.	292	18.0	359	21.9	1,580	7	1,587
Detroit, Mich.	407	9.3	372	8.5	1,669	27	1,696
El Paso, Tex.	37	6.3	43	7.1	141	1	142
Fort Lauderdale, Fla.	859	68.4	862	67.4	3,164	63	3,227
Fort Worth, Tex.	197	14.8	198	14.5	785	12	797
Fresno, Calif.	60	9.0	61	8.9	240	2	242
Gary, Ind.	38	6.3	28	4.7	115	1	116
Grand Rapids, Mich.	30	4.4	38	5.5	130	1	131
Greensboro, N.C.	104	11.0	86	9.0	328	7	335
Greenville, S.C.	47	7.3	41	6.3	164	—	164
Harrisburg, Pa.	37	6.3	42	7.1	191	4	195
Hartford, Conn.	141	12.5	163	14.4	669	15	684
Honolulu, Hawaii	120	14.4	118	14.0	569	4	573
Houston, Tex.	1,348	40.8	1,288	38.3	5,683	59	5,742
Indianapolis, Ind.	191	15.3	127	10.1	589	3	592
Jacksonville, Fla.	299	33.0	236	25.5	919	28	947
Jersey City, N.J.	342	61.8	402	72.7	2,007	56	2,063
Kansas City, Mo.	310	19.8	211	13.4	1,152	4	1,156
Knoxville, Tenn.	27	4.5	28	4.6	132	1	133
Lake County, Ill.	19	3.7	36	6.9	108	3	111
Las Vegas, Nev.	134	18.1	182	23.7	603	9	612
Little Rock, Ark.	73	14.2	70	13.5	233	7	240
Los Angeles, Calif.	2,336	26.4	2,697	30.0	12,882	104	12,986
Louisville, Ky.	70	7.3	71	7.5	261	5	266
Memphis, Tenn.	105	10.7	96	9.7	422	6	428
Miami, Fla.	1,128	58.2	1,799	91.4	5,658	190	5,848
Middlesex, N.J.	162	15.9	200	19.4	954	26	980
Milwaukee, Wis.	129	9.0	85	5.9	434	3	437
Minneapolis-Saint Paul, Minn.	168	6.8	175	7.0	864	6	870
Monmouth-Ocean City, N.J.	193	19.6	183	18.3	783	29	812
Nashville, Tenn.	111	11.3	114	11.4	452	7	459
Nassau-Suffolk, N.Y.	415	15.9	350	13.4	1,863	47	1,910
New Bedford, Mass.	48	9.5	75	14.7	210	5	215
New Haven, Conn.	140	17.4	179	22.1	729	28	757
New Orleans, La.	428	34.5	401	32.4	1,756	26	1,782
New York, N.Y.	6,931	81.1	6,894	80.4	34,681	835	35,516

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

Metropolitan area of residence	Oct. 1989- Sept. 1990		Oct. 1990- Sept. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Newark, N.J.	1,009	55.3	891	49.0	4,864	155	5,019
Norfolk, Va.	151	10.8	171	12.0	570	12	582
Oakland, Calif.	642	30.8	397	18.8	2,349	17	2,366
Oklahoma City, Okla.	118	12.3	98	10.1	435	—	435
Omaha, Neb.	31	5.0	42	6.8	158	1	159
Orlando, Fla.	259	24.1	363	32.7	1,040	14	1,054
Oxnard-Ventura, Calif.	41	6.1	36	5.3	175	—	175
Philadelphia, Pa.	827	17.0	908	18.6	3,990	57	4,047
Phoenix, Ariz.	286	13.5	185	8.5	1,087	5	1,092
Pittsburgh, Pa.	137	6.7	113	5.5	635	2	637
Portland, Oreg.	225	18.1	240	19.2	959	4	963
Providence, R.I.	90	9.8	84	9.1	412	8	420
Raleigh-Durham, N.C.	136	18.5	107	14.2	445	10	455
Richmond, Va.	118	13.6	128	14.6	484	9	493
Riverside-San Bernardino, Calif.	248	9.6	356	13.2	1,266	18	1,284
Rochester, N.Y.	86	8.6	94	9.3	420	5	425
Sacramento, Calif.	137	9.2	197	13.0	786	11	797
Saint Louis, Mo.	276	11.3	330	13.5	1,093	12	1,105
Salt Lake City, Utah	90	8.4	88	8.1	365	6	371
San Antonio, Tex.	237	18.2	213	16.1	964	13	977
San Diego, Calif.	741	29.7	594	23.2	2,807	20	2,827
San Francisco, Calif.	2,096	130.7	2,085	129.1	10,978	18	10,996
San Jose, Calif.	182	12.2	156	10.3	834	8	842
San Juan, P.R.	1,085	64.2	1,121	65.7	3,825	117	3,942
Scranton, Pa.	44	6.0	39	5.3	153	3	156
Seattle, Wash.	524	26.6	381	19.0	1,954	10	1,964
Springfield, Mass.	75	12.4	107	17.7	277	13	290
Syracuse, N.Y.	41	6.2	41	6.2	185	6	191
Tacoma, Wash.	37	6.3	50	8.4	178	5	183
Tampa-Saint Petersburg, Fla.	420	20.3	472	22.3	1,909	37	1,946
Toledo, Ohio	42	6.8	36	5.9	148	3	151
Tucson, Ariz.	69	10.3	39	5.7	273	3	276
Tulsa, Okla.	61	8.6	59	8.3	244	4	248
Washington, D.C.	1,199	30.6	1,260	31.6	5,488	75	5,563
West Palm Beach, Fla.	365	42.3	359	40.2	1,651	64	1,715
Wilmington, Del.	75	13.0	59	10.1	299	3	302
Worcester, Mass.	36	5.1	79	11.0	225	4	229
Metropolitan areas with 500,000 or more population	35,991	24.4	36,318	24.4	163,602	2,759	166,361
Metropolitan areas with 50,000 to 500,000 population	4,525	9.3	4,664	9.5	17,941	334	18,275
Non-metropolitan areas	2,568	4.5	2,600	4.6	10,311	200	10,511
Total¹	43,259	17.1	43,744	17.2	192,406	3,312	195,718

¹ Totals include 571 patients whose area of residence is unknown.

Table 3. AIDS cases by age group, exposure category, and sex, reported October 1989 through September 1990, October 1990 through September 1991; and cumulative totals, by age group and exposure category, through September 1991, United States

Adult/adolescent exposure category	Males		Females		Totals		
	Oct. 1989-Sept. 1990	Oct. 1990-Sept. 1991	Oct. 1989-Sept. 1990	Oct. 1990-Sept. 1991	Oct. 1989-Sept. 1990	Oct. 1990-Sept. 1991	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	24,125 (64)	23,285 (62)	—	—	24,125 (57)	23,285 (54)	112,812 (59)
Intravenous (IV) drug use	7,721 (20)	7,996 (21)	2,321 (49)	2,607 (49)	10,042 (24)	10,603 (25)	43,028 (22)
Men who have sex with men and use IV drugs	2,518 (7)	2,319 (6)	—	—	2,518 (6)	2,319 (5)	12,580 (7)
Hemophilia/coagulation disorder	312 (1)	297 (1)	7 (0)	9 (0)	319 (1)	306 (1)	1,622 (1)
Heterosexual contact:	1,046 (3)	1,163 (3)	1,689 (36)	1,892 (35)	2,735 (6)	3,055 (7)	10,989 (6)
<i>Sex with IV drug user</i>	469	500	1,066	1,116	1,535	1,616	5,818
<i>Sex with bisexual male</i>	—	—	146	149	146	149	625
<i>Sex with person with hemophilia</i>	1	5	31	20	32	25	100
<i>Born in Pattern-II country</i>	309	316	127	153	436	469	2,401
<i>Sex with person born in Pattern-II country</i>	28	25	22	25	50	50	173
<i>Sex with transfusion recipient with HIV infection</i>	24	30	39	50	63	80	223
<i>Sex with HIV-infected person, risk not specified</i>	215	287	258	379	473	666	1,649
Receipt of blood transfusion, blood components, or tissue ³	503 (1)	467 (1)	359 (8)	251 (5)	862 (2)	718 (2)	4,205 (2)
Other/undetermined ⁴	1,515 (4)	2,179 (6)	375 (8)	585 (11)	1,890 (4)	2,764 (6)	7,170 (4)
Adult/adolescent subtotal	37,740 (100)	37,706 (100)	4,751 (100)	5,344 (100)	42,491 (100)	43,050 (100)	192,406 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	31 (8)	24 (6)	—	2 (1)	31 (4)	26 (4)	160 (5)
Mother with/at risk for HIV infection:	331 (82)	319 (85)	336 (92)	281 (89)	667 (87)	600 (86)	2,785 (84)
<i>IV drug use</i>	155	149	154	119	309	268	1,363
<i>Sex with IV drug user</i>	76	60	69	61	145	121	579
<i>Sex with bisexual male</i>	7	3	7	7	14	10	59
<i>Sex with person with hemophilia</i>	1	2	1	—	2	2	11
<i>Born in Pattern-II country</i>	22	21	24	8	46	29	234
<i>Sex with person born in Pattern-II country</i>	2	—	2	2	4	2	13
<i>Sex with transfusion recipient with HIV infection</i>	1	—	1	1	2	1	14
<i>Sex with HIV-infected person, risk not specified</i>	17	23	21	16	38	39	136
<i>Receipt of blood transfusion, blood components, or tissue</i>	5	7	6	5	11	12	56
<i>Has HIV infection, risk not specified</i>	45	54	51	62	96	116	320
Receipt of blood transfusion, blood components, or tissue	28 (7)	24 (6)	14 (4)	18 (6)	42 (5)	42 (6)	284 (9)
Undetermined	12 (3)	10 (3)	16 (4)	16 (5)	28 (4)	26 (4)	83 (3)
Pediatric subtotal	402 (100)	377 (100)	366 (100)	317 (100)	768 (100)	694 (100)	3,312 (100)
Total	38,142	38,083	5,117	5,661	43,259	43,744	195,718

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 Eighteen adults/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult developed AIDS after receiving tissue from an HIV-infected donor who screened negative for HIV antibody.

⁴ "Other" refers to 4 persons who developed AIDS after exposure to HIV-infected blood 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 September 1991, United States

Adult/adolescent exposure category	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/ Alaska Native	Total ⁴
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	79,564 (76)	19,406 (35)	12,539 (40)	889 (75)	163 (55)	112,812 (59)
Intravenous (IV) drug use	8,762 (8)	21,597 (39)	12,468 (40)	51 (4)	55 (18)	43,028 (22)
Men who have sex with men and use IV drugs	7,257 (7)	3,426 (6)	1,815 (6)	27 (2)	39 (13)	12,580 (7)
Hemophilia/coagulation disorder	1,337 (1)	120 (0)	132 (0)	18 (2)	8 (3)	1,622 (1)
Heterosexual contact:	2,323 (2)	6,543 (12)	2,036 (7)	44 (4)	13 (4)	10,989 (6)
<i>Sex with IV drug user</i>	1,241	3,012	1,519	18	10	5,818
<i>Sex with bisexual male</i>	330	208	74	10	1	625
<i>Sex with person with hemophilia</i>	83	9	6	2	—	100
<i>Born in Pattern-II¹ country</i>	10	2,367	14	3	—	2,401
<i>Sex with person born in Pattern-II country</i>	51	110	10	1	—	173
<i>Sex with transfusion recipient with HIV infection</i>	136	43	40	2	—	223
<i>Sex with HIV-infected person, risk not specified</i>	472	794	373	8	2	1,649
Receipt of blood transfusion, blood components, or tissue ²	2,921 (3)	740 (1)	448 (1)	80 (7)	6 (2)	4,205 (2)
Other/undetermined ³	2,543 (2)	2,869 (5)	1,615 (5)	81 (7)	14 (5)	7,170 (4)
Adult/adolescent subtotal	104,707(100)	54,701 (100)	31,053(100)	1,190 (100)	298(100)	192,406(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	110 (15)	23 (1)	24 (3)	3 (18)	—	160 (5)
Mother with/at risk for HIV infection:	440 (62)	1,608 (92)	714 (87)	8 (47)	7(100)	2,785 (84)
<i>IV drug use</i>	213	792	352	2	1	1,363
<i>Sex with IV drug user</i>	87	256	231	2	1	579
<i>Sex with bisexual male</i>	22	23	13	1	—	59
<i>Sex with person with hemophilia</i>	7	3	1	—	—	11
<i>Born in Pattern-II country</i>	1	231	2	—	—	234
<i>Sex with person born in Pattern-II country</i>	—	12	—	—	—	13
<i>Sex with transfusion recipient with HIV infection</i>	5	4	4	—	—	14
<i>Sex with HIV-infected person, risk not specified</i>	28	65	39	1	2	136
<i>Receipt of blood transfusion, blood components, or tissue</i>	20	23	13	—	—	56
<i>Has HIV infection, risk not specified</i>	57	199	59	2	3	320
Receipt of blood transfusion, blood components, or tissue	150 (21)	64 (4)	64 (8)	6 (35)	—	284 (9)
Undetermined	11 (2)	51 (3)	21 (3)	—	—	83 (3)
Pediatric subtotal	711(100)	1,746 (100)	823(100)	17 (100)	7(100)	3,312(100)
Total	105,418	56,447	31,876	1,207	305	195,718

¹ See technical notes.

² Eighteen adults/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult developed AIDS after receiving tissue from an HIV-infected donor who screened negative for HIV antibody.

³ "Other" refers to 4 persons who developed AIDS after exposure to HIV-infected blood 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 465 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through September 1991, United States

Male exposure category	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/Alaska Native	Total ⁴
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	79,564 (80)	19,406 (44)	12,539 (46)	889 (81)	163 (64)	112,812 (65)
Intravenous (IV) drug use	6,613 (7)	15,818 (36)	10,409 (39)	36 (3)	32 (13)	32,984 (19)
Men who have sex with men and use IV drugs	7,257 (7)	3,426 (8)	1,815 (7)	27 (2)	39 (15)	12,580 (7)
Hemophilia/coagulation disorder	1,308 (1)	113 (0)	130 (0)	18 (2)	8 (3)	1,584 (1)
Heterosexual contact:	749 (1)	3,068 (7)	484 (2)	8 (1)	4 (2)	4,321 (3)
<i>Sex with IV drug user</i>	455	954	283	4	4	1,701
<i>Sex with person with hemophilia</i>	7	1	2	—	—	10
<i>Born in Pattern-II¹ country</i>	6	1,701	11	2	—	1,726
<i>Sex with person born in Pattern-II country</i>	41	49	8	1	—	99
<i>Sex with transfusion recipient with HIV infection</i>	39	19	16	—	—	75
<i>Sex with HIV-infected person, risk not specified</i>	201	344	164	1	—	710
Receipt of blood transfusion, blood components, or tissue ²	1,889 (2)	403 (1)	243 (1)	50 (5)	1 (0)	2,592 (2)
Other/undetermined ³	2,174 (2)	2,096 (5)	1,352 (5)	64 (6)	9 (4)	5,737 (3)
Male subtotal	99,554 (100)	44,330 (100)	26,972 (100)	1,092 (100)	256 (100)	172,610 (100)
Female exposure category						
IV drug use	2,149 (42)	5,779 (56)	2,059 (50)	15 (15)	23 (55)	10,044 (51)
Hemophilia/coagulation disorder	29 (1)	7 (0)	2 (0)	—	—	38 (0)
Heterosexual contact:	1,574 (31)	3,475 (34)	1,552 (38)	36 (37)	9 (21)	6,668 (34)
<i>Sex with IV drug user</i>	786	2,058	1,236	14	6	4,117
<i>Sex with bisexual male</i>	330	208	74	10	1	625
<i>Sex with person with hemophilia</i>	76	8	4	2	—	90
<i>Born in Pattern-II country</i>	4	666	3	1	—	675
<i>Sex with person born in Pattern-II country</i>	10	61	2	—	—	74
<i>Sex with transfusion recipient with HIV infection</i>	97	24	24	2	—	148
<i>Sex with HIV-infected person, risk not specified</i>	271	450	209	7	2	939
Receipt of blood transfusion, blood components, or tissue	1,032 (20)	337 (3)	205 (5)	30 (31)	5 (12)	1,613 (8)
Other/undetermined	369 (7)	773 (7)	263 (6)	17 (17)	5 (12)	1,433 (7)
Female subtotal	5,153 (100)	10,371 (100)	4,081 (100)	98 (100)	42 (100)	19,796 (100)
Total	104,707	54,701	31,053	1,190	298	192,406

¹ See technical notes.

² Eighteen adults/adolescents and 2 children developed AIDS after receiving blood screened negative for HIV antibody. One additional adult developed AIDS after receiving tissue from an HIV-infected donor who screened negative for HIV antibody.

³ "Other" refers to 4 persons who developed AIDS after exposure to HIV-infected blood 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 406 males and 51 females whose race/ethnicity is unknown.

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

Exposure category	13-19 years old			20-24 years old		
	Oct. 1989- Sept. 1990	Oct. 1990- Sept. 1991	Cumulative total	Oct. 1989- Sept. 1990	Oct. 1990- Sept. 1991	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	31 (19)	31 (18)	189 (25)	847 (52)	690 (47)	4,314 (55)
Intravenous (IV) drug use	22 (14)	24 (14)	94 (13)	290 (18)	292 (20)	1,331 (17)
Men who have sex with men and use IV drugs	4 (3)	7 (4)	33 (4)	156 (10)	98 (7)	703 (9)
Hemophilia/coagulation disorder	45 (28)	46 (27)	224 (30)	35 (2)	34 (2)	195 (2)
Heterosexual contact:	36 (23)	28 (17)	105 (14)	207 (13)	203 (14)	810 (10)
<i>Sex with IV drug user</i>	26	20	71	127	126	470
<i>Sex with bisexual male</i>	—	—	3	10	8	56
<i>Sex with person with hemophilia</i>	1	2	3	4	3	17
<i>Born in Pattern-II¹ country</i>	2	2	14	23	14	121
<i>Sex with person born in Pattern-II country</i>	—	1	1	5	2	10
<i>Sex with transfusion recipient with HIV infection</i>	1	—	1	4	3	9
<i>Sex with HIV-infected person, risk not specified</i>	6	3	12	34	47	127
Receipt of blood transfusion, blood components, or tissue	8 (5)	8 (5)	52 (7)	21 (1)	17 (1)	110 (1)
Undetermined ²	14 (9)	25 (15)	54 (7)	85 (5)	139 (9)	357 (5)
Total	160 (100)	169 (100)	751 (100)	1,641 (100)	1,473 (100)	7,820 (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 September 1991, United States

Males	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/ Alaska Native	Total¹
Age at diagnosis (years)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Under 5	237 (0)	781 (2)	357 (1)	6 (1)	4 (2)	1,388 (1)
5-12	186 (0)	120 (0)	87 (0)	5 (0)	—	400 (0)
13-19	260 (0)	166 (0)	112 (0)	7 (1)	5 (2)	550 (0)
20-24	3,264 (3)	1,975 (4)	1,207 (4)	37 (3)	14 (5)	6,513 (4)
25-29	15,001 (15)	6,980 (15)	4,598 (17)	149 (14)	57 (22)	26,838 (15)
30-34	23,261 (23)	11,094 (25)	6,920 (25)	220 (20)	65 (25)	41,641 (24)
35-39	22,001 (22)	10,486 (23)	6,050 (22)	249 (23)	53 (20)	38,937 (22)
40-44	15,332 (15)	6,285 (14)	3,777 (14)	183 (17)	32 (12)	25,675 (15)
45-49	9,074 (9)	3,370 (7)	1,969 (7)	110 (10)	16 (6)	14,583 (8)
50-54	4,934 (5)	1,878 (4)	1,109 (4)	59 (5)	5 (2)	8,008 (5)
55-59	3,092 (3)	1,119 (2)	685 (2)	38 (3)	5 (2)	4,955 (3)
60-64	1,790 (2)	592 (1)	331 (1)	12 (1)	3 (1)	2,732 (2)
65 or older	1,545 (2)	385 (1)	214 (1)	28 (3)	1 (0)	2,178 (1)
Male subtotal	99,977 (100)	45,231 (100)	27,416 (100)	1,103(100)	260 (100)	174,398 (100)
Females						
Age at diagnosis (years)						
Under 5	232 (4)	740 (7)	317 (7)	1 (1)	3 (7)	1,295 (6)
5-12	56 (1)	105 (1)	62 (1)	5 (5)	—	229 (1)
13-19	56 (1)	114 (1)	29 (1)	1 (1)	1 (2)	201 (1)
20-24	324 (6)	643 (6)	322 (7)	6 (6)	5 (11)	1,307 (6)
25-29	952 (17)	1,963 (18)	930 (21)	8 (8)	5 (11)	3,868 (18)
30-34	1,184 (22)	2,938 (26)	1,067 (24)	19 (18)	14 (31)	5,233 (25)
35-39	839 (15)	2,338 (21)	813 (18)	14 (13)	5 (11)	4,019 (19)
40-44	495 (9)	1,117 (10)	433 (10)	20 (19)	5 (11)	2,073 (10)
45-49	258 (5)	522 (5)	206 (5)	7 (7)	3 (7)	1,001 (5)
50-54	195 (4)	309 (3)	122 (3)	7 (7)	1 (2)	635 (3)
55-59	207 (4)	180 (2)	69 (2)	4 (4)	—	462 (2)
60-64	178 (3)	118 (1)	41 (1)	7 (7)	2 (4)	346 (2)
65 or older	465 (9)	129 (1)	49 (1)	5 (5)	1 (2)	651 (3)
Female subtotal	5,441 (100)	11,216 (100)	4,460 (100)	104(100)	45 (100)	21,320 (100)
Total	105,418	56,447	31,876	1,207	305	195,718

¹ Includes 465 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through September 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	79	84.8	30	6	66.7	1
1981 Jan.-June	91	91.2	38	9	77.8	2
July-Dec.	208	90.4	86	5	100.0	7
1982 Jan.-June	392	91.8	151	15	80.0	8
July-Dec.	691	89.3	284	15	80.0	5
1983 Jan.-June	1,278	92.9	519	34	97.1	13
July-Dec.	1,644	92.3	926	42	83.3	16
1984 Jan.-June	2,558	90.6	1,387	49	85.7	26
July-Dec.	3,382	91.5	1,944	62	80.6	24
1985 Jan.-June	4,847	90.4	2,792	96	75.0	45
July-Dec.	6,266	89.3	3,815	129	77.5	69
1986 Jan.-June	8,249	88.0	5,026	136	77.9	65
July-Dec.	9,886	85.0	6,412	188	68.6	90
1987 Jan.-June	12,818	84.9	7,439	220	68.2	116
July-Dec.	14,206	80.4	7,798	252	62.3	163
1988 Jan.-June	16,200	76.1	9,128	241	56.0	132
July-Dec.	16,616	72.7	10,376	324	53.7	163
1989 Jan.-June	18,607	64.6	11,896	330	49.4	165
July-Dec.	18,485	58.6	13,539	309	45.3	178
1990 Jan.-June	19,082	48.3	13,031	312	35.6	175
July-Dec.	17,550	37.3	13,287	304	28.3	165
1991 Jan.-June	16,095	22.7	11,816	208	25.5	124
July-Sept.	3,176	10.0	2,467	26	11.5	21
Total¹	192,406	64.6	124,380	3,312	53.7	1,779

¹ Death totals include 193 adults/adolescents and 6 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 September 1991, United States

Definition category ¹	Year of diagnosis					Cumulative total
	Before Oct. 1987	Oct. 1987- Sept. 1988	Oct. 1988- Sept. 1989	Oct. 1989- Sept. 1990	Oct. 1990- Sept. 1991	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	54,286 (90)	23,513 (73)	25,765 (70)	25,213 (67)	17,607 (62)	146,384 (75)
1987 definition: ²	6,271 (10)	8,658 (27)	11,169 (30)	12,634 (33)	10,602 (38)	49,334 (25)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	3,335	4,891	6,370	7,703	6,617	28,916
<i>Specific disease</i>						
<i>definitively diagnosed</i>	804	586	753	824	636	3,603
<i>HIV encephalopathy</i>	727	1,120	1,314	1,324	964	5,449
<i>HIV wasting syndrome</i>	1,405	2,061	2,732	2,783	2,385	11,366
Total	60,557 (100)	32,171 (100)	36,934 (100)	37,847 (100)	28,209 (100)	195,718 (100)

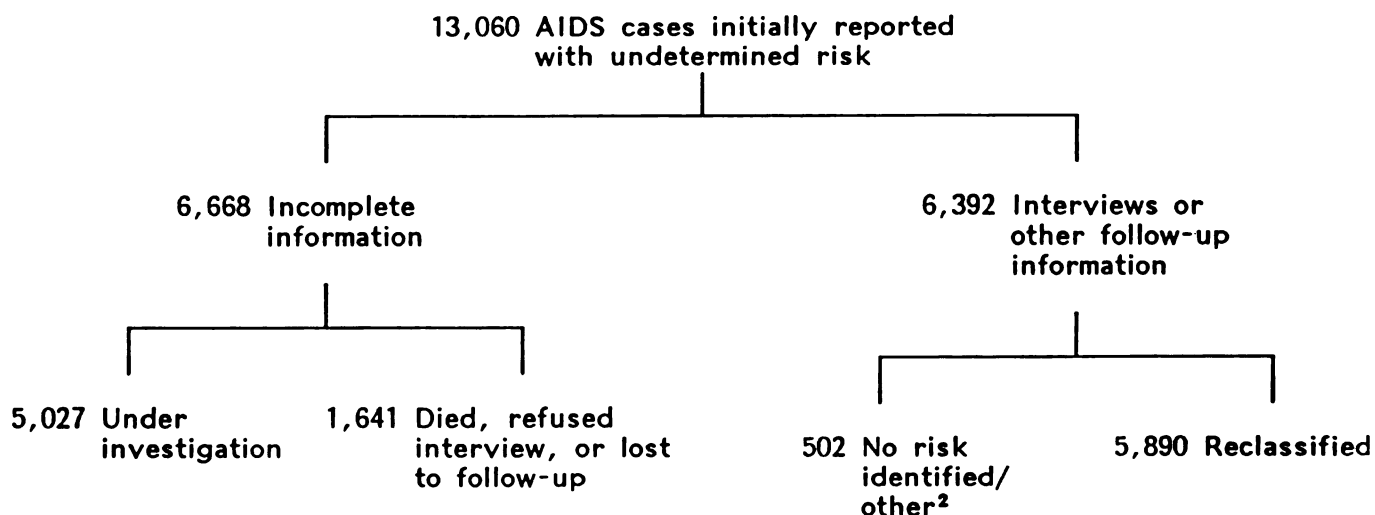
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 September 1991, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Men who have sex with men	108,498	(56)
Intravenous (IV) drug use	36,788	(19)
Hemophilia/coagulation disorder	1,033	(1)
Heterosexual contact	10,520	(5)
Receipt of transfusion of blood, blood component, or tissue	4,205	(2)
Other/undetermined	7,170	(4)
Single mode of exposure subtotal	168,214	(87)
Multiple modes of exposure		
Men who have sex with men; IV drug use	11,306	(6)
Men who have sex with men; hemophilia	38	(0)
Men who have sex with men; heterosexual contact	2,282	(1)
Men who have sex with men; receipt of transfusion	1,858	(1)
IV drug use; hemophilia	45	(0)
IV drug use; heterosexual contact	5,120	(3)
IV drug use; receipt of transfusion	803	(0)
Hemophilia; heterosexual contact	9	(0)
Hemophilia; receipt of transfusion	568	(0)
Heterosexual contact; receipt of transfusion	469	(0)
Men who have sex with men; IV drug use; hemophilia	9	(0)
Men who have sex with men; IV drug use; heterosexual contact	934	(0)
Men who have sex with men; IV drug use; receipt of transfusion	283	(0)
Men who have sex with men; hemophilia; heterosexual contact	3	(0)
Men who have sex with men; hemophilia; receipt of transfusion	21	(0)
Men who have sex with men; heterosexual contact; receipt of transfusion	112	(0)
IV drug use; hemophilia; heterosexual contact	5	(0)
IV drug use; hemophilia; receipt of transfusion	19	(0)
IV drug use; heterosexual contact; receipt of transfusion	242	(0)
Hemophilia; heterosexual contact; receipt of transfusion	12	(0)
Men who have sex with men; IV drug use; hemophilia; heterosexual contact	1	(0)
Men who have sex with men; IV drug use; hemophilia; receipt of transfusion	6	(0)
Men who have sex with men; IV drug use; heterosexual contact; receipt of transfusion	41	(0)
IV drug use; hemophilia; heterosexual contact; receipt of transfusion	6	(0)
Multiple modes of exposure subtotal	24,192	(13)
Total	192,406	(100)

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



¹ Excludes 83 children under 13 years of age who have an undetermined risk: 73 children are under investigation and 10 have died, refused interview, or were lost to follow-up. An additional 119 children who were initially reported with an undetermined risk have been reclassified after investigation.

² Of the 502 persons classified as "No risk identified/other," 4 are persons who developed AIDS after exposure to HIV-infected blood within the health-care setting, as documented by evidence of seroconversion or other laboratory studies. For the remaining 498, the mode of exposure to HIV remains undetermined after investigation.

Health-care workers. 84 of the 498 patients who had no risk identified after follow-up are health-care workers, 76 of whom responded to a standardized questionnaire. 44 (58%) 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. 440 of the 498 patients who had no risk identified after follow-up responded to a standardized questionnaire; 139 (34%) of 404 persons responding to questions related to sexually transmitted disease gave a history of such disease and 96 (35%) of 276 interviewed men reported sexual contact with a prostitute. Some of these persons may represent unreported or unrecognized heterosexual transmission of HIV. See *MMWR*, "Update: Heterosexual Transmission of AIDS and HIV Infection — U.S.," (June 23, 1989) 38:423-424,429-434.

Technical notes

Surveillance and reporting of AIDS

All 50 states, the District of Columbia, U.S. dependencies and possessions, and independent nations in free association with the U.S.¹ report AIDS cases to CDC using a uniform case definition and case report form. The original definition was modified in 1985 (*MMWR* 1985;34:373-5) and again in 1987 (*MMWR* 1987;36 [suppl. no. 1S]:1S-15S). The revisions incorporated a broader range of AIDS-indicator diseases and conditions and used human immunodeficiency virus (HIV) diagnostic tests to improve the sensitivity and specificity of the definition. For persons with laboratory-confirmed HIV infection, the 1987 revision incorporated HIV encephalopathy, wasting syndrome, and other indicator diseases that are diagnosed presumptively (i.e., without confirmatory laboratory evidence of the opportunistic disease). AIDS cases that meet the criteria of both the pre-1987 and 1987 definitions are classified in the pre-1987 definition category. Compared with patients who meet the pre-1987 case definition, a higher proportion of patients who meet only the 1987 case definition were female, black, or Hispanic, or were intravenous drug users (*MMWR* 1989;38:229-36).

Each issue of this update includes information received and tabulated by CDC through the last day of the previous month. Data are tabulated by date of report to CDC unless otherwise noted. Data for U.S. dependencies and possessions and for associated independent nations are included in the totals.

Age group tabulations are based on the person's age at diagnosis of AIDS: adult/adolescent cases include persons 13 years of age and older; pediatric cases include children under 13 years of age. Age group tabulations in Table 13 (only included in the year-end edition) are based on age at death.

Metropolitan areas are defined as the Metropolitan Statistical Areas (MSA) for all areas except the 6 New England states. For these states, the New England County Metropolitan Areas (NECMA) are used. Metropolitan areas are named for a central city in the MSA or NECMA, may include several cities and counties, and may cross state boundaries. For example, AIDS cases and annual rates pre-

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.

sented 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 men with both a history of sexual contact with other men and intravenous drug use. They make up a separate exposure category.

"Men who have sex with men" cases include men who report sexual contact with other men (i.e., homosexual contact) and men who report sexual contact with both men and women (i.e., bisexual contact). "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 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 1990 or 1991 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-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 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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