

HIV/AIDS

SURVEILLANCE

U.S. AIDS cases reported through January 1990

Issued February 1990

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Acquired immunodeficiency syndrome (AIDS) is a life-threatening manifestation of infection with the human immunodeficiency virus (HIV).

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

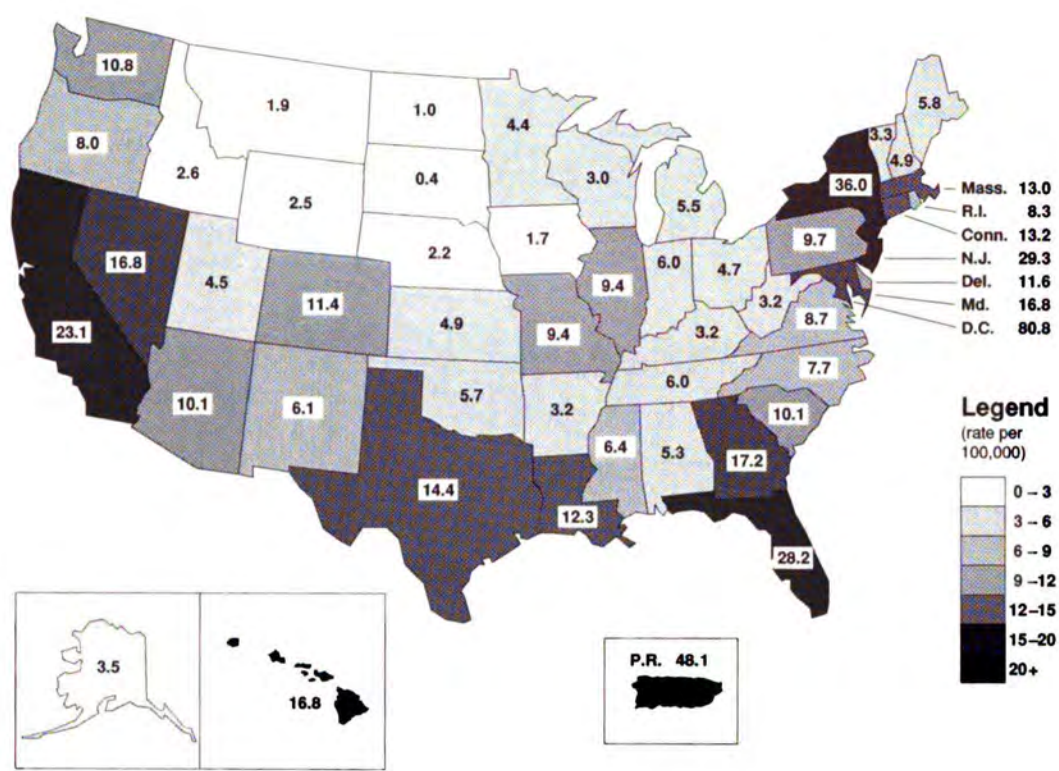


Figure 2. Adult/adolescent and pediatric AIDS cases, reported February 1989 through January 1990, United States

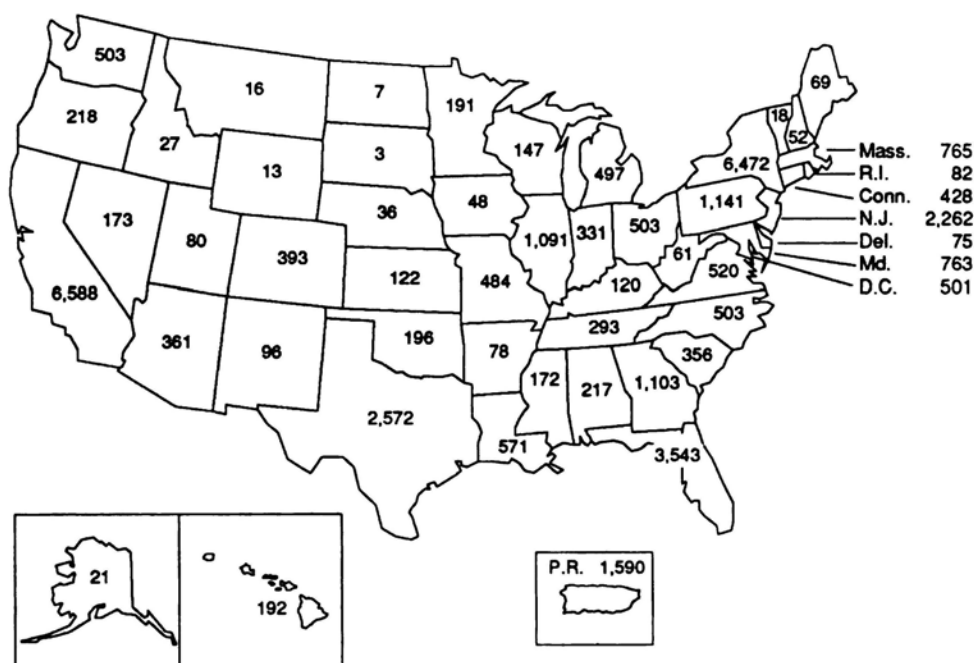


Figure 3. Pediatric AIDS cases, reported February 1989 through January 1990, United States

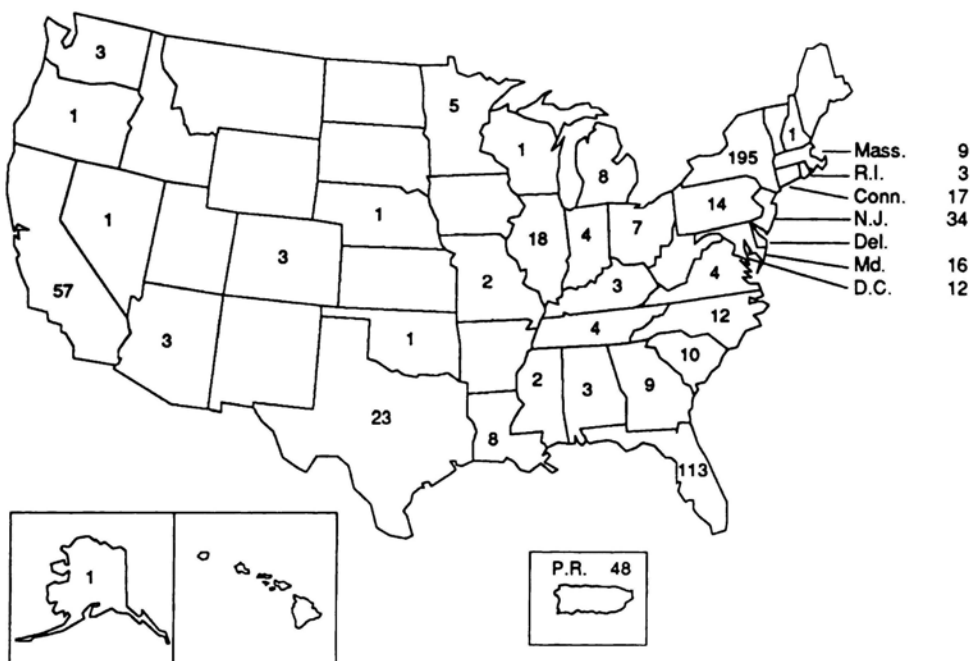


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported February 1988 through January 1989, February 1989 through January 1990; and cumulative totals, by state and age group, through January 1990

State of residence	Feb. 1988- Jan. 1989		Feb. 1989- Jan. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	222	5.4	217	5.3	659	16	675
Alaska	16	2.7	21	3.5	76	2	78
Arizona	238	6.8	361	10.1	1,013	6	1,019
Arkansas	82	3.4	78	3.2	250	3	253
California	5,674	20.2	6,588	23.1	23,585	167	23,752
Colorado	360	10.6	393	11.4	1,264	8	1,272
Connecticut	432	13.4	428	13.2	1,435	51	1,486
Delaware	75	11.7	75	11.6	227	4	231
District of Columbia	516	82.9	501	80.8	2,000	29	2,029
Florida	2,813	22.9	3,543	28.2	9,938	276	10,214
Georgia	910	14.4	1,103	17.2	3,110	37	3,147
Hawaii	99	8.8	192	16.8	486	2	488
Idaho	12	1.2	27	2.6	54	2	56
Illinois	1,013	8.7	1,091	9.4	3,466	51	3,517
Indiana	141	2.6	331	6.0	724	8	732
Iowa	49	1.7	48	1.7	163	3	166
Kansas	84	3.4	122	4.9	319	3	322
Kentucky	101	2.7	120	3.2	326	5	331
Louisiana	401	8.7	571	12.3	1,661	25	1,686
Maine	27	2.3	69	5.8	160	2	162
Maryland	538	11.9	763	16.8	2,191	47	2,238
Massachusetts	724	12.3	765	13.0	2,538	41	2,579
Michigan	443	4.9	497	5.5	1,450	22	1,472
Minnesota	147	3.4	191	4.4	635	7	642
Mississippi	124	4.7	172	6.4	393	7	400
Missouri	401	7.9	484	9.4	1,316	10	1,326
Montana	14	1.7	16	1.9	42	—	42
Nebraska	43	2.7	36	2.2	130	1	131
Nevada	138	13.7	173	16.8	461	4	465
New Hampshire	38	3.6	52	4.9	143	4	147
New Jersey	2,511	32.7	2,262	29.3	7,889	218	8,107
New Mexico	51	3.3	96	6.1	240	1	241
New York	7,064	39.4	6,472	36.0	26,381	616	26,997
North Carolina	249	3.8	503	7.7	1,140	23	1,163
North Dakota	4	0.6	7	1.0	18	—	18
Ohio	523	4.9	503	4.7	1,646	25	1,671
Oklahoma	136	4.0	196	5.7	526	9	535
Oregon	168	6.2	218	8.0	697	3	700
Pennsylvania	923	7.8	1,141	9.7	3,324	57	3,381
Rhode Island	88	8.9	82	8.3	289	7	296
South Carolina	171	4.9	356	10.1	723	19	742
South Dakota	8	1.1	3	0.4	17	—	17
Tennessee	295	6.1	293	6.0	780	12	792
Texas	2,189	12.6	2,572	14.4	8,349	72	8,421
Utah	76	4.4	80	4.5	250	5	255
Vermont	13	2.4	18	3.3	55	1	56
Virginia	364	6.1	520	8.7	1,442	23	1,465
Washington	414	9.0	503	10.8	1,584	11	1,595
West Virginia	18	0.9	61	3.2	122	2	124
Wisconsin	111	2.3	147	3.0	442	2	444
Wyoming	9	1.7	13	2.5	31	—	31
U.S. total	31,260	12.7	35,074	14.1	116,160	1,949	118,109
Guam	1	0.8	3	2.2	8	—	8
Pacific Islands, U.S.	1	0.7	—	—	1	—	1
Puerto Rico	1,342	40.7	1,590	48.1	3,355	102	3,457
Virgin Islands, U.S.	48	42.4	15	13.0	66	4	70
Total	32,652	13.1	36,682	14.6	119,590	2,055	121,645

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

Metropolitan area of residence	Feb. 1988- Jan. 1989		Feb. 1989- Jan. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	27	4.2	24	3.8	79	—	79
Albany-Schenectady, N.Y.	72	8.5	69	8.1	247	2	249
Allentown, Pa.	32	4.9	39	5.9	108	3	111
Anaheim, Calif.	247	11.1	274	12.1	941	7	948
Atlanta, Ga.	678	25.1	854	30.9	2,365	21	2,386
Austin, Tex.	92	11.4	231	27.6	512	5	517
Bakersfield, Calif.	20	3.8	36	6.6	80	—	80
Baltimore, Md.	316	13.8	483	21.0	1,234	33	1,267
Baton Rouge, La.	37	6.5	54	9.3	141	—	141
Bergen-Passaic, N.J.	290	22.2	218	16.7	986	24	1,010
Birmingham, Ala.	79	8.6	71	7.7	213	6	219
Boston, Mass.	576	15.4	591	15.8	2,010	33	2,043
Bridgeport, Conn.	116	13.9	130	15.6	416	15	431
Buffalo, N.Y.	45	4.7	68	7.2	174	—	174
Charleston, S.C.	42	8.2	71	13.5	164	—	164
Charlotte, N.C.	58	5.3	100	9.0	242	4	246
Chicago, Ill.	877	14.0	879	14.0	2,932	36	2,968
Cincinnati, Ohio	71	5.0	68	4.8	224	3	227
Cleveland, Ohio	129	7.0	130	7.1	442	5	447
Columbus, Ohio	132	10.0	108	8.1	369	3	372
Dallas, Tex.	527	20.8	608	23.3	2,068	8	2,076
Dayton, Ohio	49	5.3	60	6.5	171	3	174
Denver, Colo.	290	17.0	317	18.2	1,029	5	1,034
Detroit, Mich.	311	7.3	343	8.1	1,014	16	1,030
El Paso, Tex.	12	2.1	35	6.0	76	1	77
Fort Lauderdale, Fla.	381	32.0	604	49.9	1,622	25	1,647
Fort Worth, Tex.	128	9.6	145	10.5	439	5	444
Fresno, Calif.	41	6.6	55	8.7	137	1	138
Gary, Ind.	10	1.6	36	6.0	68	—	68
Grand Rapids, Mich.	24	3.6	25	3.7	71	1	72
Greensboro, N.C.	37	4.0	81	8.8	169	3	172
Greenville, S.C.	14	2.3	38	6.1	83	—	83
Harrisburg, Pa.	42	7.3	48	8.3	128	4	132
Hartford, Conn.	117	10.7	140	12.8	400	10	410
Honolulu, Hawaii	82	9.5	129	14.7	373	2	375
Houston, Tex.	887	26.0	910	26.0	3,495	29	3,524
Indianapolis, Ind.	66	5.4	162	13.1	325	2	327
Jacksonville, Fla.	160	18.0	211	23.2	508	11	519
Jersey City, N.J.	485	87.2	301	54.1	1,365	33	1,398
Kansas City, Mo.	234	15.2	262	16.9	732	3	735
Knoxville, Tenn.	25	4.1	25	4.1	83	—	83
Las Vegas, Nev.	97	16.0	125	20.1	330	4	334
Little Rock, Ark.	34	6.6	31	6.0	105	1	106
Los Angeles, Calif.	1,905	22.5	2,308	26.9	8,295	73	8,368
Louisville, Ky.	51	5.3	50	5.2	143	2	145
Memphis, Tenn.	85	8.8	89	9.2	248	4	252
Miami, Fla.	729	40.4	906	49.9	2,919	124	3,043
Middlesex, N.J.	214	22.3	188	19.4	646	20	666
Milwaukee, Wis.	64	4.7	81	5.9	253	1	254
Minneapolis-Saint Paul, Minn.	131	5.6	169	7.1	550	6	556
Monmouth-Ocean City, N.J.	147	15.1	187	19.0	469	16	485
Nashville, Tenn.	127	13.4	91	9.5	259	6	265
Nassau-Suffolk, N.Y.	359	13.4	393	14.7	1,279	37	1,316
New Haven, Conn.	156	19.8	115	14.6	449	26	475
New Orleans, La.	235	17.4	342	25.1	1,070	16	1,086
New York, N.Y.	6,081	71.0	5,381	62.6	22,912	557	23,469
Newark, N.J.	1,091	58.0	951	50.6	3,339	99	3,438
Norfolk, Va.	92	6.7	117	8.4	310	6	316

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

Metropolitan area of residence	Feb. 1988- Jan. 1989		Feb. 1989- Jan. 1990		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Oakland, Calif.	345	17.3	397	19.6	1,410	10	1,420
Oklahoma City, Okla.	23	2.3	23	2.2	151	—	151
Omaha, Neb.	32	5.1	27	4.3	92	—	92
Orlando, Fla.	189	19.5	168	16.8	492	5	497
Oxnard-Ventura, Calif.	39	6.1	35	5.4	112	—	112
Philadelphia, Pa.	683	14.2	813	16.8	2,505	36	2,541
Phoenix, Ariz.	184	8.9	260	12.1	738	4	742
Pittsburgh, Pa.	96	4.6	170	8.2	433	1	434
Portland, Oreg.	135	11.5	165	14.0	546	1	547
Providence, R.I.	82	9.1	76	8.4	268	6	274
Raleigh-Durham, N.C.	62	9.1	112	16.1	257	7	264
Richmond, Va.	66	8.0	109	13.1	278	1	279
Riverside-San Bernardino, Calif.	184	8.6	285	12.9	766	12	778
Rochester, N.Y.	89	9.0	67	6.8	273	1	274
Sacramento, Calif.	153	11.3	157	11.3	499	5	504
Saint Louis, Mo.	171	7.0	202	8.2	552	6	558
Salt Lake City, Utah	64	5.9	64	5.8	214	4	218
San Antonio, Tex.	254	19.1	212	15.6	596	9	605
San Diego, Calif.	442	19.2	521	22.1	1,668	15	1,683
San Francisco, Calif.	1,702	103.4	1,862	111.8	7,545	15	7,560
San Jose, Calif.	145	9.9	136	9.2	539	5	544
San Juan, P.R.	793	70.8	966	86.0	2,057	73	2,130
Scranton, Pa.	21	2.9	28	3.9	82	3	85
Seattle, Wash.	306	17.0	377	20.6	1,204	9	1,213
Springfield, Mass.	30	5.1	46	7.8	121	1	122
Syracuse, N.Y.	25	3.8	41	6.2	122	4	126
Tacoma, Wash.	25	4.6	37	6.7	100	1	101
Tampa, Fla.	430	21.4	387	18.8	1,155	21	1,176
Toledo, Ohio	25	4.1	25	4.2	77	1	78
Tucson, Ariz.	32	5.2	65	10.3	192	2	194
Tulsa, Okla.	46	6.0	58	7.5	150	2	152
Washington, D.C.	821	22.6	909	24.7	3,370	51	3,421
West Palm Beach, Fla.	308	38.2	336	40.3	1,042	44	1,086
Wilmington, Del.	63	11.3	60	10.7	184	3	187
Worcester, Mass.	48	7.2	37	5.5	124	3	127
Metropolitan area subtotal¹	27,569	19.4	29,790	20.7	101,725	1,721	103,446
All other areas	5,083	4.7	6,892	6.4	17,865	334	18,199
Total	32,652	13.1	36,682	14.6	119,590	2,055	121,645

¹ Only 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 February 1988 through January 1989, February 1989 through January 1990; and cumulative totals, by age group and exposure category, through January 1990, United States

Adult/adolescent exposure category	Males		Females		Totals		Cumulative total ¹
	Feb. 1988-Jan. 1989	Feb. 1989-Jan. 1990	Feb. 1988-Jan. 1989	Feb. 1989-Jan. 1990	Feb. 1988-Jan. 1989	Feb. 1989-Jan. 1990	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Male homosexual/bisexual contact	18,291 (64)	20,330 (63)	—	—	18,291 (57)	20,330 (56)	72,153 (60)
Intravenous (IV) drug use (female and heterosexual male)	5,982 (21)	6,463 (20)	1,813 (54)	1,918 (50)	7,795 (24)	8,381 (23)	25,200 (21)
Male homosexual/bisexual contact and IV drug use	2,154 (8)	2,188 (7)	—	—	2,154 (7)	2,188 (6)	8,326 (7)
Hemophilia/coagulation disorder	299 (1)	295 (1)	5 (0)	9 (0)	304 (1)	304 (1)	1,099 (1)
Heterosexual contact:	621 (2)	822 (3)	1,025 (30)	1,236 (32)	1,646 (5)	2,058 (6)	5,853 (5)
<i>Sex with IV drug user</i>	256	390	666	784	922	1,174	2,992
<i>Sex with bisexual male</i>	—	—	100	96	100	96	361
<i>Sex with person with hemophilia</i>	1	2	11	22	12	24	54
<i>Born in Pattern-II² country</i>	257	293	116	137	373	430	1,690
<i>Sex with person born in Pattern-II country</i>	19	13	5	12	24	25	87
<i>Sex with transfusion recipient with HIV infection</i>	9	11	19	21	28	32	85
<i>Sex with HIV-infected person, risk not specified</i>	79	113	108	164	187	277	584
Receipt of blood transfusion, blood components, or tissue ³	507 (2)	486 (2)	347 (10)	329 (9)	854 (3)	815 (2)	2,923 (2)
Other/undetermined ⁴	826 (3)	1,603 (5)	185 (5)	345 (9)	1,011 (3)	1,948 (5)	4,036 (3)
Adult/adolescent subtotal	28,680 (100)	32,187 (100)	3,375 (100)	3,837 (100)	32,055 (100)	36,024 (100)	119,590 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	37 (11)	26 (8)	—	1 (0)	37 (6)	27 (4)	108 (5)
Mother with/at risk for HIV infection:	252 (73)	276 (81)	230 (91)	285 (90)	482 (81)	561 (85)	1,675 (82)
<i>IV drug use</i>	133	138	122	121	255	259	857
<i>Sex with IV drug user</i>	51	64	41	60	92	124	342
<i>Sex with bisexual male</i>	5	6	6	6	11	12	39
<i>Sex with person with hemophilia</i>	—	—	1	—	1	—	7
<i>Born in Pattern-II country</i>	25	28	20	29	45	57	178
<i>Sex with person born in Pattern-II country</i>	1	1	—	3	1	4	7
<i>Sex with transfusion recipient with HIV infection</i>	2	1	3	4	5	5	10
<i>Sex with HIV-infected person, risk not specified</i>	14	9	6	17	20	26	65
<i>Receipt of blood transfusion, blood components, or tissue</i>	2	4	8	7	10	11	35
<i>Has HIV infection, risk not specified</i>	19	25	23	38	42	63	135
Receipt of blood transfusion, blood components, or tissue	44 (13)	27 (8)	18 (7)	15 (5)	62 (10)	42 (6)	217 (11)
Undetermined	10 (3)	11 (3)	6 (2)	17 (5)	16 (3)	28 (4)	55 (3)
Pediatric subtotal	343 (100)	340 (100)	254 (100)	318 (100)	597 (100)	658 (100)	2,055 (100)
Total	29,023	32,527	3,629	4,155	32,652	36,682	121,645

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 6 transfusion recipients who received blood screened for HIV antibody, and 1 tissue recipient.

⁴ "Other" refers to 2 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 January 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	51,873 (77)	11,887 (37)	7,610 (41)	555 (74)	80 (52)	72,153 (60)
Intravenous (IV) drug use (female and heterosexual male)	5,085 (8)	12,567 (39)	7,424 (40)	30 (4)	26 (17)	25,200 (21)
Male homosexual/bisexual contact and IV drug use	4,911 (7)	2,174 (7)	1,196 (6)	12 (2)	21 (14)	8,326 (7)
Hemophilia/coagulation disorder	917 (1)	73 (0)	84 (0)	15 (2)	6 (4)	1,099 (1)
Heterosexual contact:	1,179 (2)	3,642 (11)	982 (5)	28 (4)	9 (6)	5,853 (5)
<i>Sex with IV drug user</i>	653	1,519	799	11	4	2,992
<i>Sex with bisexual male</i>	189	118	46	6	1	361
<i>Sex with person with hemophilia</i>	48	4	1	1	—	54
<i>Born in Pattern-II¹ country</i>	3	1,669	9	4	—	1,690
<i>Sex with person born in Pattern-II country</i>	26	58	3	—	—	87
<i>Sex with transfusion recipient with HIV infection</i>	63	12	8	1	—	85
<i>Sex with HIV-infected person, risk not specified</i>	197	262	116	5	4	584
Receipt of blood transfusion, blood components, or tissue ²	2,111 (3)	464 (1)	280 (2)	59 (8)	3 (2)	2,923 (2)
Other/undetermined ³	1,504 (2)	1,536 (5)	897 (5)	49 (7)	10 (6)	4,036 (3)
Adult/adolescent subtotal	67,580(100)	32,343 (100)	18,473(100)	748(100)	155(100)	119,590(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	75 (17)	15 (1)	14 (3)	3 (33)	—	108 (5)
Mother with/at risk for HIV infection:	247 (54)	986 (92)	431 (85)	3 (33)	4(100)	1,675 (82)
<i>IV drug use</i>	120	500	233	1	2	857
<i>Sex with IV drug user</i>	50	158	133	—	—	342
<i>Sex with bisexual male</i>	14	17	8	—	—	39
<i>Sex with person with hemophilia</i>	5	1	1	—	—	7
<i>Born in Pattern-II country</i>	2	175	1	—	—	178
<i>Sex with person born in Pattern-II country</i>	—	6	—	—	—	7
<i>Sex with transfusion recipient with HIV infection</i>	5	3	2	—	—	10
<i>Sex with HIV-infected person, risk not specified</i>	11	28	23	1	1	65
<i>Receipt of blood transfusion, blood components, or tissue</i>	12	13	10	—	—	35
<i>Has HIV infection, risk not specified</i>	28	85	20	1	1	135
Receipt of blood transfusion, blood components, or tissue	123 (27)	46 (4)	45 (9)	3 (33)	—	217 (11)
Undetermined	9 (2)	29 (3)	17 (3)	—	—	55 (3)
Pediatric subtotal	454(100)	1,076 (100)	507(100)	9(100)	4(100)	2,055(100)
Total	68,034	33,419	18,980	757	159	121,645

¹ See technical notes.

² Includes 6 transfusion recipients who received blood screened for HIV antibody, and 1 tissue recipient.

³ "Other" refers to 2 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 296 persons whose race/ethnicity is unknown.

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

Male exposure category	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native	Total ⁴
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	51,873 (80)	11,887 (45)	7,610 (47)	555 (81)	80 (62)	72,153 (66)
Intravenous (IV) drug use (heterosexual)	3,869 (6)	9,270 (35)	6,262 (39)	19 (3)	12 (9)	19,489 (18)
Male homosexual/bisexual contact and IV drug use	4,911 (8)	2,174 (8)	1,196 (7)	12 (2)	21 (16)	8,326 (8)
Hemophilia/coagulation disorder	893 (1)	70 (0)	83 (1)	15 (2)	6 (5)	1,071 (1)
Heterosexual contact:	371 (1)	1,841 (7)	177 (1)	5 (1)	1 (1)	2,399 (2)
<i>Sex with IV drug user</i>	241	479	122	1	1	844
<i>Sex with person with hemophilia</i>	3	1	—	—	—	4
<i>Born in Pattern-II¹ country</i>	2	1,223	7	3	—	1,238
<i>Sex with person born in Pattern-II country</i>	24	24	3	—	—	51
<i>Sex with transfusion recipient with HIV infection</i>	14	7	1	—	—	23
<i>Sex with HIV-infected person, risk not specified</i>	87	107	44	1	—	239
Receipt of blood transfusion, blood components, or tissue ²	1,376 (2)	246 (1)	150 (1)	36 (5)	1 (1)	1,814 (2)
Other/undetermined ³	1,291 (2)	1,136 (4)	780 (5)	40 (6)	9 (7)	3,286 (3)
Male subtotal	64,584 (100)	26,624 (100)	16,258 (100)	682 (100)	130 (100)	108,538 (100)
Female						
exposure category						
IV drug use	1,216 (41)	3,297 (58)	1,162 (52)	11 (17)	14 (56)	5,711 (52)
Hemophilia/coagulation disorder	24 (1)	3 (0)	1 (0)	—	—	28 (0)
Heterosexual contact:	808 (27)	1,801 (31)	805 (36)	23 (35)	8 (32)	3,454 (31)
<i>Sex with IV drug user</i>	412	1,040	677	10	3	2,148
<i>Sex with bisexual male</i>	189	118	46	6	1	361
<i>Sex with person with hemophilia</i>	45	3	1	1	—	50
<i>Born in Pattern-II country</i>	1	446	2	1	—	452
<i>Sex with person born in Pattern-II country</i>	2	34	—	—	—	36
<i>Sex with transfusion recipient with HIV infection</i>	49	5	7	1	—	62
<i>Sex with HIV-infected person, risk not specified</i>	110	155	72	4	4	345
Receipt of blood transfusion, blood components, or tissue	735 (25)	218 (4)	130 (6)	23 (35)	2 (8)	1,109 (10)
Other/undetermined	213 (7)	400 (7)	117 (5)	9 (14)	1 (4)	750 (7)
Female subtotal	2,996 (100)	5,719 (100)	2,215 (100)	66 (100)	25 (100)	11,052 (100)
Total	67,580	32,343	18,473	748	155	119,590

¹ See technical notes.

² Includes 6 transfusion recipients who received blood screened for HIV antibody, and 1 tissue recipient.

³ "Other" refers to 2 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 260 males and 31 females whose race/ethnicity is unknown.

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

Exposure category	13-19 years old			20-24 years old		
	Feb. 1988- Jan. 1989	Feb. 1989- Jan. 1990	Cumulative total	Feb. 1988- Jan. 1989	Feb. 1989- Jan. 1990	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male homosexual/bisexual contact	33 (27)	34 (25)	138 (29)	801 (57)	790 (52)	3,036 (58)
Intravenous (IV) drug use (female and heterosexual male)	23 (19)	14 (10)	54 (11)	248 (18)	277 (18)	814 (16)
Male homosexual/bisexual contact and IV drug use	6 (5)	3 (2)	23 (5)	126 (9)	126 (8)	492 (9)
Hemophilia/coagulation disorder	33 (27)	45 (33)	148 (31)	47 (3)	34 (2)	138 (3)
Heterosexual contact:	13 (11)	20 (15)	54 (11)	115 (8)	166 (11)	454 (9)
<i>Sex with IV drug user</i>	7	15	32	69	95	242
<i>Sex with bisexual male</i>	—	1	3	13	10	43
<i>Sex with person with hemophilia</i>	—	1	1	1	8	12
<i>Born in Pattern-II¹ country</i>	3	—	11	12	19	91
<i>Sex with person born in Pattern-II country</i>	—	—	—	—	2	5
<i>Sex with transfusion recipient with HIV infection</i>	—	—	—	—	2	3
<i>Sex with HIV-infected person, risk not specified</i>	3	3	7	20	30	58
Receipt of blood transfusion, blood components, or tissue	13 (11)	6 (4)	38 (8)	26 (2)	12 (1)	79 (2)
Undetermined ²	1 (1)	14 (10)	24 (5)	52 (4)	102 (7)	220 (4)
Total	122 (100)	136 (100)	479 (100)	1,415 (100)	1,507 (100)	5,233 (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 January 1990, United States

Males	White, not Hispanic	Black, not Hispanic	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native	Total¹
Age at diagnosis (years)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Under 5	156 (0)	479 (2)	238 (1)	3 (0)	2 (2)	880 (1)
5-12	126 (0)	65 (0)	42 (0)	3 (0)	—	238 (0)
13-19	192 (0)	111 (0)	68 (0)	5 (1)	3 (2)	380 (0)
20-24	2,337 (4)	1,305 (5)	782 (5)	26 (4)	9 (7)	4,467 (4)
25-29	9,845 (15)	4,429 (16)	2,836 (17)	96 (14)	25 (19)	17,263 (16)
30-34	15,304 (24)	6,917 (25)	4,298 (26)	144 (21)	34 (26)	26,759 (24)
35-39	14,144 (22)	6,186 (23)	3,583 (22)	148 (22)	23 (17)	24,147 (22)
40-44	9,597 (15)	3,464 (13)	2,233 (14)	105 (15)	16 (12)	15,459 (14)
45-49	5,699 (9)	1,923 (7)	1,119 (7)	72 (10)	11 (8)	8,843 (8)
50-54	3,228 (5)	1,098 (4)	643 (4)	38 (6)	3 (2)	5,022 (5)
55-59	2,062 (3)	661 (2)	416 (3)	22 (3)	4 (3)	3,176 (3)
60-64	1,130 (2)	336 (1)	168 (1)	7 (1)	2 (2)	1,648 (2)
65 or older	1,046 (2)	194 (1)	112 (1)	19 (3)	—	1,374 (1)
Male subtotal	64,866 (100)	27,168 (100)	16,538 (100)	688 (100)	132 (100)	109,656 (100)
Females						
Age at diagnosis (years)						
Under 5	143 (5)	469 (8)	197 (8)	1 (1)	2 (7)	813 (7)
5-12	29 (1)	63 (1)	30 (1)	2 (3)	—	124 (1)
13-19	22 (1)	57 (1)	18 (1)	1 (1)	1 (4)	99 (1)
20-24	220 (7)	352 (6)	186 (8)	3 (4)	1 (4)	766 (6)
25-29	578 (18)	1,167 (19)	540 (22)	6 (9)	5 (19)	2,305 (19)
30-34	685 (22)	1,740 (28)	601 (25)	15 (22)	9 (33)	3,057 (25)
35-39	454 (14)	1,233 (20)	434 (18)	7 (10)	4 (15)	2,138 (18)
40-44	245 (8)	568 (9)	223 (9)	13 (19)	2 (7)	1,051 (9)
45-49	129 (4)	249 (4)	93 (4)	6 (9)	—	481 (4)
50-54	109 (3)	141 (2)	44 (2)	4 (6)	1 (4)	299 (2)
55-59	119 (4)	91 (1)	34 (1)	3 (4)	—	248 (2)
60-64	118 (4)	56 (1)	19 (1)	5 (7)	1 (4)	199 (2)
65 or older	317 (10)	65 (1)	23 (1)	3 (4)	1 (4)	409 (3)
Female subtotal	3,168 (100)	6,251 (100)	2,442 (100)	69 (100)	27 (100)	11,989 (100)
Total	68,034	33,419	18,980	757	159	121,645

¹ Includes 296 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through January 1990, United States¹

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	77	83.1	30	6	66.7	1
1981 Jan.-June	91	90.1	38	8	62.5	2
July-Dec.	196	91.8	83	5	100.0	6
1982 Jan.-June	384	90.6	151	13	76.9	9
July-Dec.	664	89.3	277	14	78.6	4
1983 Jan.-June	1,250	91.5	506	33	93.9	13
July-Dec.	1,614	91.2	902	40	75.0	16
1984 Jan.-June	2,518	88.0	1,363	47	83.0	24
July-Dec.	3,305	88.6	1,894	62	74.2	24
1985 Jan.-June	4,733	87.5	2,700	97	71.1	43
July-Dec.	6,110	85.6	3,674	127	74.0	68
1986 Jan.-June	7,983	82.8	4,820	131	71.8	64
July-Dec.	9,562	78.4	6,109	164	66.5	82
1987 Jan.-June	12,244	74.4	7,068	207	58.9	111
July-Dec.	13,505	64.1	7,386	242	55.0	153
1988 Jan.-June	14,876	53.3	8,498	213	45.1	122
July-Dec.	14,838	43.9	9,510	275	37.5	146
1989 Jan.-June	15,145	31.3	9,212	240	35.0	135
July-Dec.	10,377	19.3	7,017	130	21.5	85
1990 Jan.-Jan.	118	7.6	64	1	0.0	1
Total²	119,590	59.8	71,465	2,055	54.2	1,113

¹ Reporting of diagnosed AIDS cases and deaths in more recent time periods is incomplete. See technical notes.

² Death totals include 163 adults/adolescents and 4 children known to have died, but whose date of death is unknown.

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

Definition category ¹	Year of diagnosis					Cumulative total
	Before Feb. 1986	Feb. 1986-Jan. 1987	Feb. 1987-Jan. 1988	Feb. 1988-Jan. 1989	Feb. 1989-Jan. 1990	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	21,850 (96)	16,587 (90)	21,215 (80)	21,476 (70)	15,795 (68)	96,923 (80)
1987 definition: ²	832 (4)	1,931 (10)	5,412 (20)	9,015 (30)	7,532 (32)	24,722 (20)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	441	1,031	2,902	5,092	4,242	13,708
<i>Specific disease</i>						
<i>definitively diagnosed</i>	165	276	496	613	526	2,076
<i>HIV encephalopathy</i>	63	198	717	1,087	830	2,895
<i>HIV wasting syndrome</i>	163	426	1,297	2,223	1,934	6,043
Total	22,682 (100)	18,518 (100)	26,627 (100)	30,491 (100)	23,327 (100)	121,645 (100)

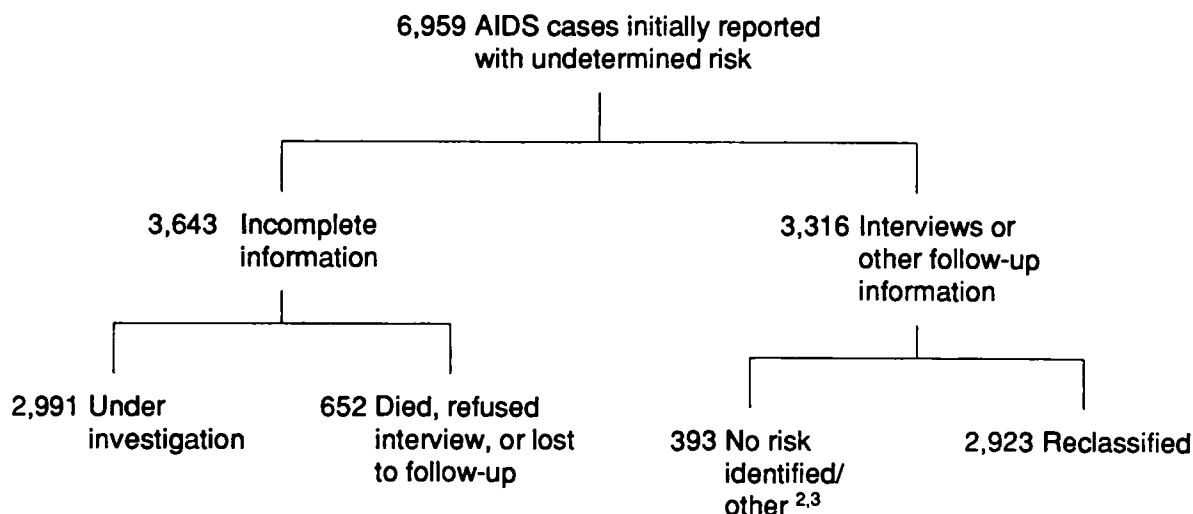
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

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 January 1990, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Male homosexual/bisexual contact	69,243	(58)
Intravenous (IV) drug use (female and heterosexual male)	21,523	(18)
Hemophilia/coagulation disorder	657	(1)
Heterosexual contact	5,568	(5)
Receipt of transfusion of blood, blood component, or tissue	2,923	(2)
Other/undetermined	4,036	(3)
Single mode of exposure subtotal	103,950	(87)
Multiple modes of exposure		
Male homosexual/bisexual contact; IV drug use	7,518	(6)
Male homosexual/bisexual contact; hemophilia	28	(0)
Male homosexual/bisexual contact; heterosexual contact	1,407	(1)
Male homosexual/bisexual contact; receipt of transfusion	1,380	(1)
IV drug use; hemophilia	30	(0)
IV drug use; heterosexual contact	2,865	(2)
IV drug use; receipt of transfusion	589	(0)
Hemophilia; heterosexual contact	5	(0)
Hemophilia; receipt of transfusion	428	(0)
Heterosexual contact; receipt of transfusion	285	(0)
Male homosexual/bisexual contact; IV drug use; hemophilia	12	(0)
Male homosexual/bisexual contact; IV drug use; heterosexual contact	540	(0)
Male homosexual/bisexual contact; IV drug use; receipt of transfusion	224	(0)
Male homosexual/bisexual contact; hemophilia; heterosexual contact	1	(0)
Male homosexual/bisexual contact; hemophilia; receipt of transfusion	19	(0)
Male homosexual/bisexual contact; heterosexual contact; receipt of transfusion	75	(0)
IV drug use; hemophilia; heterosexual contact	4	(0)
IV drug use; hemophilia; receipt of transfusion	17	(0)
IV drug use; heterosexual contact; receipt of transfusion	168	(0)
Hemophilia; heterosexual contact; receipt of transfusion	9	(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	25	(0)
IV drug use; hemophilia; heterosexual contact; receipt of transfusion	4	(0)
Multiple modes of exposure subtotal	15,640	(13)
Total	119,590	(100)

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



¹ Excludes 55 children under 13 years of age who have an undetermined risk: 48 children are under investigation and 7 have died, refused interview, or were lost to follow-up. An additional 78 children who were initially reported with an undetermined risk have been reclassified after investigation.

² **Health-care workers.** 2 of the 393 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 391, the mode of exposure to HIV remains undetermined after investigation. 66 of these are health-care workers, 58 of whom responded to a standardized questionnaire. 33 (57%) reported needlesticks and/or mucous membrane exposures to blood and other body fluids of patients. None of the source patients was known to be infected with HIV at the time of the exposure and none of the health-care workers was evaluated at the time of the exposure to document seroconversion to HIV antibody. See *MMWR*, "Update: Acquired Immunodeficiency Syndrome and Human Immunodeficiency Virus Infection Among Health-Care Workers," (April 22, 1988)37:229-234,239.

³ **Heterosexual transmission.** 325 of the 391 patients who had no risk identified after follow-up responded to a standardized questionnaire; 107 (37%) of 290 persons responding to questions related to sexually transmitted disease gave a history of such disease and 69 (34%) of 204 interviewed men reported sexual contact with a prostitute. Some of these persons may represent unreported or unrecognized heterosexual transmission of HIV. See *MMWR*, "Update: Heterosexual Transmission of AIDS and HIV Infection — U.S.," (June 23, 1989) 38:423-424,429-434.

Technical notes

Surveillance and reporting of AIDS

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

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

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

Metropolitan areas are defined as the Metropolitan Statistical Areas (MSA) for all areas except the 6 New England states. For these states, the New England County Metropolitan Areas (NECMA) are used. Metropolitan areas are named for a central

city in the MSA or NECMA, may include several counties, and may cross state boundaries. For example, AIDS cases and annual rates presented for the District of Columbia in Table 1 include only persons residing within the geographic boundaries of the District. AIDS cases and annual rates for Washington, D.C., in Table 2 include persons residing within several counties in the metropolitan area. State or metropolitan area data tabulations are based on the person's residence at diagnosis of the first AIDS-indicator disease(s).

Data in this report are provisional. Fifty percent of patients are reported to CDC within 3 months of diagnosis. However, reporting delays vary widely and have been as long as several years for some cases. The median delay in reporting appears to have increased, from about 2 months in 1982 to about 3 months in 1988; however, recent analyses suggests that reporting delay may be decreasing.

Completeness of reporting of diagnosed cases to state and local health departments varies by geographic region and patient population; however, mortality studies suggest that 70 to 90 percent of HIV-related deaths in men 25 to 44 years old are identified through national surveillance of AIDS (*MMWR* 1989;38:561-3). In addition, multiple routes of exposure, opportunistic diseases diagnosed after the initial case report was submitted to CDC, and vital status may not be determined or reported for all cases. Caution should be used in interpreting case-fatality rates because reporting of deaths is known to be incomplete.

Exposure categories

For surveillance purposes, AIDS cases are counted only once in a hierarchy of exposure categories. Persons with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy, except for persons with a history of both homosexual/bisexual contact and intravenous drug use. They make up a separate exposure category.

"Heterosexual contact" cases include persons who report either specific heterosexual contact with a person with, or at increased risk for, HIV infection

¹Included among the dependencies, possessions, and independent nations are Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, the Republic of Palau, the Republic of the Marshall Islands, the Commonwealth of the Northern Mariana Islands, and the Federated States of Micronesia. The latter 5 comprise the category "Pacific Islands, U.S." listed in Table 1.

(e.g., an intravenous drug user), or persons presumed to have acquired HIV infection through heterosexual contact because they were born in countries with a distinctive pattern of transmission termed "Pattern II" by the World Health Organization (*MMWR* 1988;37:286-8,293-5). Pattern II transmission is observed in areas of central, eastern, and southern Africa and in some Caribbean countries. In these countries, most of the reported cases occur in heterosexuals and the male-to-female ratio is approximately 1:1. Intravenous drug use and homosexual transmission either do not occur or occur at a low level.

"Undetermined" cases are in 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 1988 or 1989 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.