

HIV/AIDS

SURVEILLANCE

U.S. AIDS cases reported through October 1991

Issued November 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 November 1990 through October 1991, United States

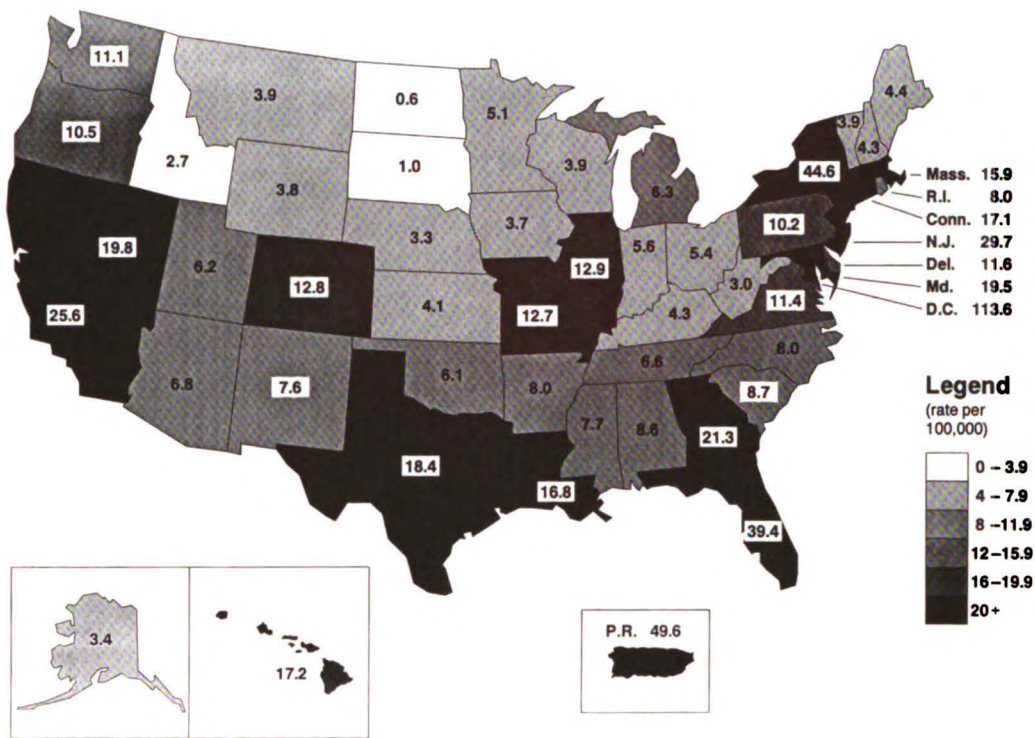


Figure 2. Adult/adolescent and pediatric AIDS cases, reported November 1990 through October 1991, United States

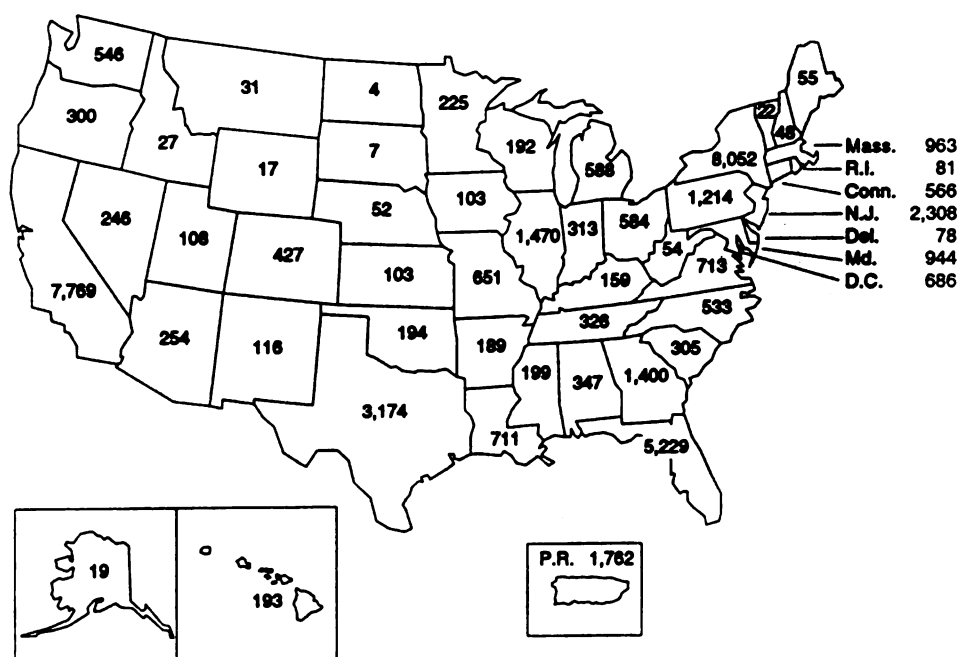


Figure 3. Pediatric AIDS cases, reported November 1990 through October 1991, United States

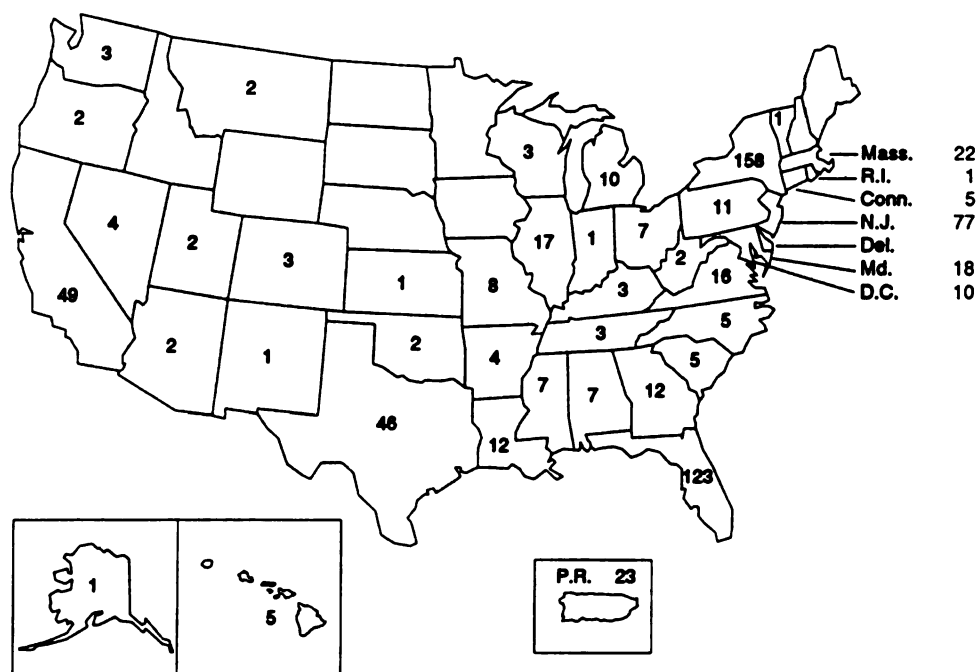


Table 1. AIDS cases and annual rates per 100,000 population, by state, reported November 1989 through October 1990, November 1990 through October 1991; and cumulative totals, by state and age group, through October 1991¹

State of residence	Nov. 1989- Oct. 1990		Nov. 1990- Oct. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children < 13 years old	Total
Alabama	213	5.3	347	8.6	1,167	27	1,194
Alaska	24	4.4	19	3.4	114	3	117
Arizona	372	10.1	254	6.8	1,494	9	1,503
Arkansas	196	8.3	189	8.0	603	14	617
California	7,078	23.8	7,769	25.6	36,920	250	37,170
Colorado	365	11.1	427	12.8	1,952	11	1,963
Connecticut	435	13.2	566	17.1	2,290	68	2,358
Delaware	87	13.1	78	11.6	375	4	379
District of Columbia	694	114.4	686	113.6	3,202	44	3,246
Florida	4,178	32.3	5,229	39.4	18,239	492	18,731
Georgia	1,253	19.3	1,400	21.3	5,463	56	5,519
Hawaii	158	14.3	193	17.2	787	7	794
Idaho	24	2.4	27	2.7	97	2	99
Illinois	1,239	10.8	1,470	12.9	5,884	81	5,965
Indiana	360	6.5	313	5.6	1,298	11	1,309
Iowa	47	1.7	103	3.7	305	3	308
Kansas	139	5.6	103	4.1	524	4	528
Kentucky	170	4.6	159	4.3	628	8	636
Louisiana	700	16.6	711	16.8	2,853	47	2,900
Maine	59	4.8	55	4.4	258	2	260
Maryland	983	20.6	944	19.5	3,851	83	3,934
Massachusetts	811	13.5	963	15.9	4,048	89	4,137
Michigan	545	5.9	588	6.3	2,456	40	2,496
Minnesota	172	3.9	225	5.1	994	8	1,002
Mississippi	278	10.8	199	7.7	814	18	832
Missouri	601	11.7	651	12.7	2,386	20	2,406
Montana	12	1.5	31	3.9	79	2	81
Nebraska	55	3.5	52	3.3	227	2	229
Nevada	179	14.9	246	19.8	833	9	842
New Hampshire	54	4.9	48	4.3	225	5	230
New Jersey	2,488	32.2	2,308	29.7	11,986	351	12,337
New Mexico	105	6.9	116	7.6	441	3	444
New York	8,267	46.0	8,052	44.6	40,651	937	41,588
North Carolina	604	9.1	533	8.0	2,101	37	2,138
North Dakota	4	0.6	4	0.6	24	—	24
Ohio	627	5.8	584	5.4	2,737	43	2,780
Oklahoma	211	6.7	194	6.1	860	12	872
Oregon	288	10.1	300	10.5	1,242	7	1,249
Pennsylvania	1,149	9.7	1,214	10.2	5,400	84	5,484
Rhode Island	103	10.3	81	8.0	444	9	453
South Carolina	366	10.5	305	8.7	1,301	26	1,327
South Dakota	5	0.7	7	1.0	28	—	28
Tennessee	366	7.5	326	6.6	1,374	17	1,391
Texas	3,259	19.2	3,174	18.4	13,902	152	14,054
Utah	109	6.3	108	6.2	434	10	444
Vermont	22	3.9	22	3.9	91	2	93
Virginia	622	10.1	713	11.4	2,580	49	2,629
Washington	649	13.3	546	11.1	2,650	15	2,665
West Virginia	67	3.7	54	3.0	226	4	230
Wisconsin	210	4.3	192	3.9	793	7	800
Wyoming	5	1.1	17	3.8	51	—	51
U.S. total	41,007	16.5	42,895	17.1	189,682	3,184	192,866
Guam	2	1.5	2	1.5	10	—	10
Pacific Islands, U.S.	1	0.4	—	—	2	—	2
Puerto Rico	1,868	53.0	1,762	49.6	6,252	184	6,436
Virgin Islands, U.S.	12	11.8	13	12.7	88	4	92
Total	42,890	17.0	44,672	17.5	196,034	3,372	199,406

¹ During October 1990, 3,628 cases and 2,111 deaths among adults/adolescents and 60 cases and 19 deaths among children were reported to the CDC.

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

Metropolitan area of residence	Nov. 1989- Oct. 1990		Nov. 1990- Oct. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Akron, Ohio	27	4.1	28	4.3	130	—	130
Albany-Schenectady, N.Y.	96	11.0	77	8.8	392	6	398
Allentown, Pa.	59	8.6	38	5.5	189	5	194
Anaheim, Calif.	366	15.2	331	13.5	1,580	10	1,590
Atlanta, Ga.	974	34.4	1,060	36.5	4,181	33	4,214
Austin, Tex.	230	29.4	213	26.4	887	11	898
Bakersfield, Calif.	27	5.0	58	10.4	160	2	162
Baltimore, Md.	659	27.7	561	23.4	2,318	62	2,380
Baton Rouge, La.	55	10.4	70	13.2	250	4	254
Bergen-Passaic, N.J.	335	26.2	254	19.9	1,524	39	1,563
Birmingham, Ala.	69	7.6	100	11.0	369	7	376
Boston, Mass.	587	15.5	661	17.4	3,084	63	3,147
Bridgeport, Conn.	115	13.9	163	19.6	679	23	702
Buffalo, N.Y.	108	11.2	82	8.5	334	3	337
Charleston, S.C.	81	16.0	62	12.0	286	3	289
Charlotte, N.C.	104	8.9	69	5.8	382	7	389
Chicago, Ill.	1,031	17.0	1,183	19.5	4,911	63	4,974
Cincinnati, Ohio	136	9.4	85	5.8	425	6	431
Cleveland, Ohio	123	6.7	176	9.6	713	12	725
Columbus, Ohio	137	9.9	115	8.3	589	4	593
Dallas, Tex.	814	31.9	728	27.9	3,389	21	3,410
Dayton, Ohio	58	6.1	57	6.0	272	6	278
Denver, Colo.	303	18.7	361	22.0	1,608	7	1,615
Detroit, Mich.	375	8.6	415	9.5	1,727	28	1,755
El Paso, Tex.	32	5.4	52	8.6	152	1	153
Fort Lauderdale, Fla.	880	70.1	847	66.2	3,215	67	3,282
Fort Worth, Tex.	185	13.9	191	14.0	786	12	798
Fresno, Calif.	54	8.1	70	10.3	249	2	251
Gary, Ind.	33	5.5	35	5.8	123	1	124
Grand Rapids, Mich.	27	3.9	39	5.6	132	1	133
Greensboro, N.C.	103	10.9	93	9.8	337	7	344
Greenville, S.C.	44	6.9	43	6.6	166	—	166
Harrisburg, Pa.	36	6.1	40	6.8	194	4	198
Hartford, Conn.	147	13.1	176	15.6	689	15	704
Honolulu, Hawaii	110	13.2	140	16.6	593	4	597
Houston, Tex.	1,270	38.5	1,288	38.3	5,776	59	5,835
Indianapolis, Ind.	176	14.1	151	12.0	614	3	617
Jacksonville, Fla.	293	32.3	227	24.5	943	28	971
Jersey City, N.J.	357	64.5	410	74.2	2,050	57	2,107
Kansas City, Mo.	299	19.1	236	14.9	1,184	4	1,188
Knoxville, Tenn.	28	4.6	31	5.1	136	1	137
Lake County, Ill.	17	3.3	39	7.4	110	3	113
Las Vegas, Nev.	143	19.3	178	23.1	615	9	624
Little Rock, Ark.	77	15.0	70	13.5	238	7	245
Los Angeles, Calif.	2,264	25.5	2,884	32.0	13,193	107	13,300
Louisville, Ky.	67	7.0	68	7.1	261	5	266
Memphis, Tenn.	115	11.7	94	9.5	430	6	436
Miami, Fla.	1,100	56.8	1,960	99.6	5,845	192	6,037
Middlesex, N.J.	163	16.0	206	19.9	969	27	996
Milwaukee, Wis.	120	8.4	86	6.0	435	3	438
Minneapolis-Saint Paul, Minn.	157	6.4	191	7.6	883	6	889
Monmouth-Ocean City, N.J.	198	20.1	177	17.7	795	29	824
Nashville, Tenn.	121	12.3	120	12.0	467	8	475
Nassau-Suffolk, N.Y.	405	15.5	332	12.7	1,880	47	1,927
New Bedford, Mass.	47	9.3	77	15.1	215	5	220
New Haven, Conn.	141	17.5	195	24.1	747	28	775
New Orleans, La.	408	32.9	413	33.4	1,782	26	1,808
New York, N.Y.	7,077	82.8	6,921	80.7	35,306	845	36,151

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

Metropolitan area of residence	Nov. 1989- Oct. 1990		Nov. 1990- Oct. 1991		Cumulative totals		
	No.	Rate	No.	Rate	Adults/ adolescents	Children <13 years old	Total
Newark, N.J.	1,044	57.2	890	48.9	4,953	158	5,111
Norfolk, Va.	155	11.1	164	11.6	570	12	582
Oakland, Calif.	626	30.1	363	17.2	2,353	17	2,370
Oklahoma City, Okla.	108	11.3	93	9.6	436	—	436
Omaha, Neb.	35	5.7	38	6.1	157	1	158
Orlando, Fla.	269	25.1	371	33.4	1,070	15	1,085
Oxnard-Ventura, Calif.	39	5.8	38	5.6	177	—	177
Philadelphia, Pa.	843	17.4	937	19.2	4,094	58	4,152
Phoenix, Ariz.	272	12.8	196	9.0	1,101	5	1,106
Pittsburgh, Pa.	129	6.3	120	5.9	646	4	650
Portland, Oreg.	229	18.5	234	18.7	973	4	977
Providence, R.I.	100	10.9	76	8.2	418	8	426
Raleigh-Durham, N.C.	126	17.1	115	15.3	459	10	469
Richmond, Va.	115	13.3	135	15.4	493	10	503
Riverside-San Bernardino, Calif.	255	9.9	348	12.9	1,297	18	1,315
Rochester, N.Y.	92	9.2	89	8.9	421	5	426
Sacramento, Calif.	120	8.1	215	14.2	803	11	814
Saint Louis, Mo.	285	11.7	356	14.5	1,133	14	1,147
Salt Lake City, Utah	99	9.2	94	8.6	382	7	389
San Antonio, Tex.	231	17.7	203	15.3	968	12	980
San Diego, Calif.	688	27.5	594	23.2	2,805	20	2,825
San Francisco, Calif.	2,039	127.1	2,058	127.4	11,086	18	11,104
San Jose, Calif.	179	12.0	169	11.1	847	8	855
San Juan, P.R.	1,194	70.7	1,093	64.0	3,905	118	4,023
Scranton, Pa.	48	6.5	37	5.0	157	3	160
Seattle, Wash.	482	24.4	386	19.2	1,981	10	1,991
Springfield, Mass.	88	14.6	89	14.7	275	13	288
Syracuse, N.Y.	42	6.4	39	5.9	187	6	193
Tacoma, Wash.	42	7.2	44	7.4	180	5	185
Tampa-Saint Petersburg, Fla.	421	20.4	492	23.3	1,958	37	1,995
Toledo, Ohio	42	6.8	36	5.9	148	3	151
Tucson, Ariz.	68	10.2	39	5.7	275	3	278
Tulsa, Okla.	55	7.8	59	8.3	247	4	251
Washington, D.C.	1,185	30.2	1,276	32.0	5,533	76	5,609
West Palm Beach, Fla.	355	41.1	374	41.9	1,686	66	1,752
Wilmington, Del.	81	14.0	58	9.9	308	3	311
Worcester, Mass.	37	5.2	79	11.0	226	4	230
Metropolitan areas with 500,000 or more population	35,781	24.3	37,024	24.9	166,597	2,810	169,407
Metropolitan areas with 50,000 to 500,000 population	4,435	9.1	4,809	9.8	18,331	340	18,671
Non-metropolitan areas	2,513	4.4	2,677	4.7	10,549	203	10,752
Total¹	42,890	17.0	44,672	17.5	196,034	3,372	199,406

¹ Totals include 576 patients whose area of residence is unknown.

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

Adult/adolescent exposure category	Males		Females		Totals		
	Nov. 1989- Oct. 1990	Nov. 1990- Oct. 1991	Nov. 1989- Oct. 1990	Nov. 1990- Oct. 1991	Nov. 1989- Oct. 1990	Nov. 1990- Oct. 1991	Cumulative total ¹
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	23,651 (63)	23,861 (62)	—	—	23,651 (56)	23,861 (54)	114,749 (59)
Injecting drug use	7,797 (21)	8,109 (21)	2,370 (49)	2,655 (48)	10,167 (24)	10,764 (24)	43,964 (22)
Men who have sex with men and inject drugs	2,463 (7)	2,338 (6)	—	—	2,463 (6)	2,338 (5)	12,761 (7)
Hemophilia/coagulation disorder	322 (1)	304 (1)	8 (0)	7 (0)	330 (1)	311 (1)	1,655 (1)
Heterosexual contact:	1,057 (3)	1,211 (3)	1,709 (35)	1,974 (36)	2,766 (7)	3,185 (7)	11,330 (6)
<i>Sex with injecting drug user</i>	475	535	1,107	1,162	1,582	1,697	6,027
<i>Sex with bisexual male</i>	-	-	140	149	140	149	635
<i>Sex with person with hemophilia</i>	2	4	31	21	33	25	102
<i>Born in Pattern-II² country</i>	306	323	115	163	421	486	2,445
<i>Sex with person born in Pattern-II country</i>	26	22	20	27	46	49	174
<i>Sex with transfusion recipient with HIV infection</i>	24	29	38	54	62	83	229
<i>Sex with HIV-infected person, risk not specified</i>	224	298	258	398	482	696	1,718
Receipt of blood transfusion, blood components, or tissue ³	504 (1)	458 (1)	359 (7)	257 (5)	863 (2)	715 (2)	4,253 (2)
Other/undetermined ⁴	1,469 (4)	2,222 (6)	397 (8)	582 (11)	1,866 (4)	2,804 (6)	7,322 (4)
Adult/adolescent subtotal	37,263 (100)	38,503 (100)	4,843 (100)	5,475 (100)	42,106 (100)	43,978 (100)	196,034 (100)
Pediatric (<13 years old) exposure category							
Hemophilia/coagulation disorder	31 (8)	25 (7)	—	2 (1)	31 (4)	27 (4)	164 (5)
Mother with/at risk for HIV infection:	338 (82)	323 (85)	344 (92)	277 (88)	682 (87)	600 (86)	2,839 (84)
<i>Injecting drug use</i>	160	147	157	123	317	270	1,395
<i>Sex with injecting drug user</i>	81	56	72	54	153	110	581
<i>Sex with bisexual male</i>	6	4	7	6	13	10	60
<i>Sex with person with hemophilia</i>	1	2	1	-	2	2	11
<i>Born in Pattern-II country</i>	23	24	22	9	45	33	240
<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	13
<i>Sex with HIV-infected person, risk not specified</i>	15	25	22	15	37	40	139
<i>Receipt of blood transfusion, blood components, or tissue</i>	6	7	6	6	12	13	58
<i>Has HIV infection, risk not specified</i>	43	58	54	61	97	1	329
Receipt of blood transfusion, blood components, or tissue	30 (7)	20 (5)	14 (4)	19 (6)	44 (6)	39 (6)	285 (8)
Undetermined	13 (3)	10 (3)	14 (4)	18 (6)	27 (3)	28 (4)	84 (2)
Pediatric subtotal	412 (100)	378 (100)	372 (100)	316 (100)	784 (100)	694 (100)	3,372 (100)
Total	37,675	38,881	5,215	5,791	42,890	44,672	199,406

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 October 1991, 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. (%)
Men who have sex with men	80,820 (76)	19,783 (35)	12,801 (40)	913 (75)	169 (55)	114,749 (59)
Injecting drug use	8,943 (8)	22,076 (40)	12,740 (40)	54 (4)	56 (18)	43,964 (22)
Men who have sex with men and inject drugs	7,355 (7)	3,478 (6)	1,846 (6)	27 (2)	39 (13)	12,761 (7)
Hemophilia/coagulation disorder	1,363 (1)	126 (0)	134 (0)	18 (1)	8 (3)	1,655 (1)
Heterosexual contact:	2,391 (2)	6,743 (12)	2,109 (7)	44 (4)	12 (4)	11,330 (6)
<i>Sex with injecting drug user</i>	1,276	3,132	1,573	19	9	6,027
<i>Sex with bisexual male</i>	336	210	76	10	1	635
<i>Sex with person with hemophilia</i>	84	10	6	2	—	102
<i>Born in Pattern-II¹ country</i>	11	2,411	14	2	—	2,445
<i>Sex with person born in Pattern-II country</i>	50	111	11	1	—	174
<i>Sex with transfusion recipient with HIV infection</i>	139	44	42	2	—	229
<i>Sex with HIV-infected person, risk not specified</i>	495	825	387	8	2	1,718
Receipt of blood transfusion, blood components, or tissue ²	2,946 (3)	750 (1)	459 (1)	82 (7)	6 (2)	4,253 (2)
Other/undetermined ³	2,590 (2)	2,930 (5)	1,657 (5)	80 (7)	15 (5)	7,322 (4)
Adult/adolescent subtotal	106,408(100)	55,886 (100)	31,746(100)	1,218 (100)	305(100)	196,034(100)
Pediatric (<13 years old) exposure category						
Hemophilia/coagulation disorder	112 (16)	23 (1)	26 (3)	3 (18)	—	164 (5)
Mother with/at risk for HIV infection:	448 (62)	1,644 (92)	723 (87)	8 (47)	7(100)	2,839 (84)
<i>Injecting drug use</i>	217	812	359	2	1	1,395
<i>Sex with injecting drug user</i>	87	258	231	2	1	581
<i>Sex with bisexual male</i>	22	23	14	1	—	60
<i>Sex with person with hemophilia</i>	7	3	1	—	—	11
<i>Born in Pattern-II country</i>	1	237	2	—	—	240
<i>Sex with person born in Pattern-II country</i>	—	12	—	—	—	13
<i>Sex with transfusion recipient with HIV infection</i>	4	4	4	—	—	13
<i>Sex with HIV-infected person, risk not specified</i>	30	66	39	1	2	139
<i>Receipt of blood transfusion, blood components, or tissue</i>	20	25	13	—	—	58
<i>Has HIV infection, risk not specified</i>	60	204	60	2	3	329
Receipt of blood transfusion, blood components, or tissue	150 (21)	65 (4)	64 (8)	6 (35)	—	285 (8)
Undetermined	11 (2)	53 (3)	20 (2)	—	—	84 (2)
Pediatric subtotal	721(100)	1,785 (100)	833(100)	17 (100)	7(100)	3,372(100)
Total	107,129	57,671	32,579	1,235	312	199,406

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 480 persons whose race/ethnicity is unknown.

Table 5. Adult/adolescent AIDS cases by sex, exposure category, and race/ethnicity, reported through October 1991, 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. (%)
Men who have sex with men	80,820 (80)	19,783 (44)	12,801 (46)	913 (82)	169 (64)	114,749 (65)
Injecting drug use	6,760 (7)	16,146 (36)	10,629 (39)	38 (3)	33 (13)	33,681 (19)
Men who have sex with men and inject drugs	7,355 (7)	3,478 (8)	1,846 (7)	27 (2)	39 (15)	12,761 (7)
Hemophilia/coagulation disorder	1,335 (1)	118 (0)	132 (0)	18 (2)	8 (3)	1,617 (1)
Heterosexual contact:	770 (1)	3,146 (7)	511 (2)	9 (1)	3 (1)	4,447 (3)
<i>Sex with injecting drug user</i>	464	999	300	5	3	1,772
<i>Sex with person with hemophilia</i>	7	1	2	—	—	10
<i>Born in Pattern-II¹ country</i>	6	1,727	11	2	—	1,752
<i>Sex with person born in Pattern-II country</i>	40	48	9	1	—	98
<i>Sex with transfusion recipient with HIV infection</i>	39	19	16	—	—	75
<i>Sex with HIV-infected person, risk not specified</i>	214	352	173	1	—	740
Receipt of blood transfusion, blood components, or tissue ²	1,907 (2)	408 (1)	247 (1)	51 (5)	1 (0)	2,620 (1)
Other/undetermined ³	2,209 (2)	2,145 (5)	1,379 (5)	63 (6)	10 (4)	5,850 (3)
Male subtotal	101,156 (100)	45,224 (100)	27,545 (100)	1,119 (100)	263 (100)	175,725 (100)
Female exposure category						
Injecting drug use	2,183 (42)	5,930 (56)	2,111 (50)	16 (16)	23 (55)	10,283 (51)
Hemophilia/coagulation disorder	28 (1)	8 (0)	2 (0)	—	—	38 (0)
Heterosexual contact:	1,621 (31)	3,597 (34)	1,598 (38)	35 (35)	9 (21)	6,883 (34)
<i>Sex with injecting drug user</i>	812	2,133	1,273	14	6	4,255
<i>Sex with bisexual male</i>	336	210	76	10	1	635
<i>Sex with person with hemophilia</i>	77	9	4	2	—	92
<i>Born in Pattern-II country</i>	5	684	3	—	—	693
<i>Sex with person born in Pattern-II country</i>	10	63	2	—	—	76
<i>Sex with transfusion recipient with HIV infection</i>	100	25	26	2	—	154
<i>Sex with HIV-infected person, risk not specified</i>	281	473	214	7	2	978
Receipt of blood transfusion, blood components, or tissue	1,039 (20)	342 (3)	212 (5)	31 (31)	5 (12)	1,633 (8)
Other/undetermined	381 (7)	785 (7)	278 (7)	17 (17)	5 (12)	1,472 (7)
Female subtotal	5,252 (100)	10,662 (100)	4,201 (100)	99 (100)	42 (100)	20,309 (100)
Total	106,408	55,886	31,746	1,218	305	196,034

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 418 males and 53 females whose race/ethnicity is unknown.

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

Exposure category	13-19 years old			20-24 years old		
	Nov. 1989- Oct. 1990	Nov. 1990- Oct. 1991	Cumulative total	Nov. 1989- Oct. 1990	Nov. 1990- Oct. 1991	Cumulative total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Men who have sex with men	30 (18)	28 (18)	189 (25)	834 (51)	698 (46)	4,368 (55)
Injecting drug use	21 (13)	23 (15)	96 (13)	301 (18)	298 (20)	1,360 (17)
Men who have sex with men and inject drugs	4 (2)	6 (4)	32 (4)	153 (9)	98 (7)	711 (9)
Hemophilia/coagulation disorder	51 (30)	46 (30)	231 (30)	33 (2)	37 (2)	200 (3)
Heterosexual contact:	41 (24)	20 (13)	104 (14)	201 (12)	208 (14)	825 (10)
<i>Sex with injecting drug user</i>	31	13	71	127	127	478
<i>Sex with bisexual male</i>	—	—	3	9	9	58
<i>Sex with person with hemophilia</i>	1	2	3	5	2	17
<i>Born in Pattern-II¹ country</i>	2	2	14	21	14	122
<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	2	11	30	51	131
Receipt of blood transfusion, blood components, or tissue	9 (5)	8 (5)	53 (7)	21 (1)	20 (1)	113 (1)
Undetermined ²	12 (7)	24 (15)	53 (7)	85 (5)	143 (10)	368 (5)
Total	168 (100)	155 (100)	758 (100)	1,628 (100)	1,502 (100)	7,945 (100)

¹ See technical notes.

² "Undetermined" refers to patients whose mode of exposure to HIV is unknown. This includes patients under investigation; patients who died, were lost to follow-up, or refused interview; and patients whose mode of exposure to HIV remains undetermined after investigation. See Figure 4.

Table 7. AIDS cases by sex, age at diagnosis, and race/ethnicity, reported through October 1991, 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	241 (0)	796 (2)	361 (1)	6 (1)	4 (1)	1,411 (1)
5-12	190 (0)	125 (0)	90 (0)	5 (0)	—	412 (0)
13-19	266 (0)	166 (0)	113 (0)	7 (1)	5 (2)	557 (0)
20-24	3,303 (3)	2,007 (4)	1,232 (4)	38 (3)	13 (5)	6,609 (4)
25-29	15,223 (15)	7,106 (15)	4,676 (17)	155 (14)	58 (22)	27,274 (15)
30-34	23,613 (23)	11,268 (24)	7,062 (25)	224 (20)	70 (26)	42,321 (24)
35-39	22,362 (22)	10,730 (23)	6,190 (22)	257 (23)	54 (20)	39,696 (22)
40-44	15,623 (15)	6,416 (14)	3,864 (14)	187 (17)	33 (12)	26,190 (15)
45-49	9,237 (9)	3,439 (7)	2,014 (7)	112 (10)	16 (6)	14,863 (8)
50-54	5,004 (5)	1,942 (4)	1,133 (4)	60 (5)	5 (2)	8,166 (5)
55-59	3,140 (3)	1,149 (2)	694 (2)	39 (3)	5 (2)	5,044 (3)
60-64	1,813 (2)	608 (1)	345 (1)	12 (1)	3 (1)	2,785 (2)
65 or older	1,572 (2)	393 (1)	222 (1)	28 (2)	1 (0)	2,220 (1)
Male subtotal	101,587 (100)	46,145 (100)	27,996 (100)	1,130(100)	267 (100)	177,548 (100)
Females						
Age at diagnosis (years)						
Under 5	234 (4)	753 (7)	318 (7)	1 (1)	3 (7)	1,312 (6)
5-12	56 (1)	111 (1)	64 (1)	5 (5)	—	237 (1)
13-19	56 (1)	114 (1)	29 (1)	1 (1)	1 (2)	201 (1)
20-24	327 (6)	659 (6)	332 (7)	6 (6)	5 (11)	1,336 (6)
25-29	977 (18)	2,006 (17)	951 (21)	8 (8)	5 (11)	3,958 (18)
30-34	1,202 (22)	3,016 (26)	1,099 (24)	20 (19)	14 (31)	5,362 (25)
35-39	859 (15)	2,407 (21)	840 (18)	14 (13)	5 (11)	4,136 (19)
40-44	505 (9)	1,165 (10)	446 (10)	19 (18)	5 (11)	2,143 (10)
45-49	263 (5)	539 (5)	214 (5)	8 (8)	3 (7)	1,032 (5)
50-54	197 (4)	322 (3)	126 (3)	7 (7)	1 (2)	654 (3)
55-59	212 (4)	183 (2)	72 (2)	4 (4)	—	473 (2)
60-64	180 (3)	118 (1)	42 (1)	7 (7)	2 (4)	349 (2)
65 or older	474 (9)	133 (1)	50 (1)	5 (5)	1 (2)	665 (3)
Female subtotal	5,542 (100)	11,526 (100)	4,583 (100)	105(100)	45 (100)	21,858 (100)
Total	107,129	57,671	32,579	1,235	312	199,406

¹ Includes 480 persons whose race/ethnicity is unknown.

Table 8. AIDS cases, case-fatality rates, and deaths by half-year and age group, through October 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	86.1	30	6	66.7	1
1981 Jan.-June	91	91.2	38	9	77.8	2
July-Dec.	207	90.8	86	5	100.0	7
1982 Jan.-June	392	91.8	151	14	78.6	7
July-Dec.	690	89.3	284	15	80.0	5
1983 Jan.-June	1,280	93.0	520	34	97.1	13
July-Dec.	1,644	92.4	927	42	83.3	16
1984 Jan.-June	2,558	90.6	1,386	49	85.7	26
July-Dec.	3,382	91.5	1,945	62	80.6	24
1985 Jan.-June	4,848	90.5	2,793	97	74.2	44
July-Dec.	6,271	89.4	3,819	129	77.5	69
1986 Jan.-June	8,259	88.0	5,030	136	77.9	66
July-Dec.	9,893	85.2	6,422	188	68.6	90
1987 Jan.-June	12,831	85.1	7,451	221	68.8	117
July-Dec.	14,221	80.7	7,817	252	62.3	163
1988 Jan.-June	16,241	76.4	9,142	241	56.4	132
July-Dec.	16,642	73.3	10,398	326	53.7	164
1989 Jan.-June	18,674	65.4	11,915	331	50.2	165
July-Dec.	18,553	59.5	13,586	312	45.5	178
1990 Jan.-June	19,221	49.3	13,078	318	36.2	176
July-Dec.	17,784	38.5	13,402	311	29.3	167
1991 Jan.-June	16,863	24.3	12,178	226	24.3	127
July-Oct.	5,410	12.4	3,895	48	6.3	33
Total¹	196,034	64.5	126,491	3,372	53.3	1,798

¹ Death totals include 198 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 October 1991, United States

Definition category ¹	Year of diagnosis					Cumulative total
	Before Nov. 1987	Nov. 1987-Oct. 1988	Nov. 1988-Oct. 1989	Nov. 1989-Oct. 1990	Nov. 1990-Oct. 1991	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Pre-1987 definition	56,200 (89)	23,599 (72)	26,200 (70)	25,125 (66)	17,527 (62)	148,651 (75)
1987 definition: ²	6,859 (11)	8,961 (28)	11,368 (30)	12,766 (34)	10,801 (38)	50,755 (25)
<i>Specific disease</i>						
<i>presumptively diagnosed</i>	3,657	5,062	6,524	7,842	6,703	29,788
<i>Specific disease</i>						
<i>definitively diagnosed</i>	837	615	764	826	654	3,696
<i>HIV encephalopathy</i>	823	1,111	1,341	1,332	961	5,568
<i>HIV wasting syndrome</i>	1,542	2,173	2,739	2,766	2,483	11,703
Total	63,059 (100)	32,560 (100)	37,568 (100)	37,891 (100)	28,328 (100)	199,406 (100)

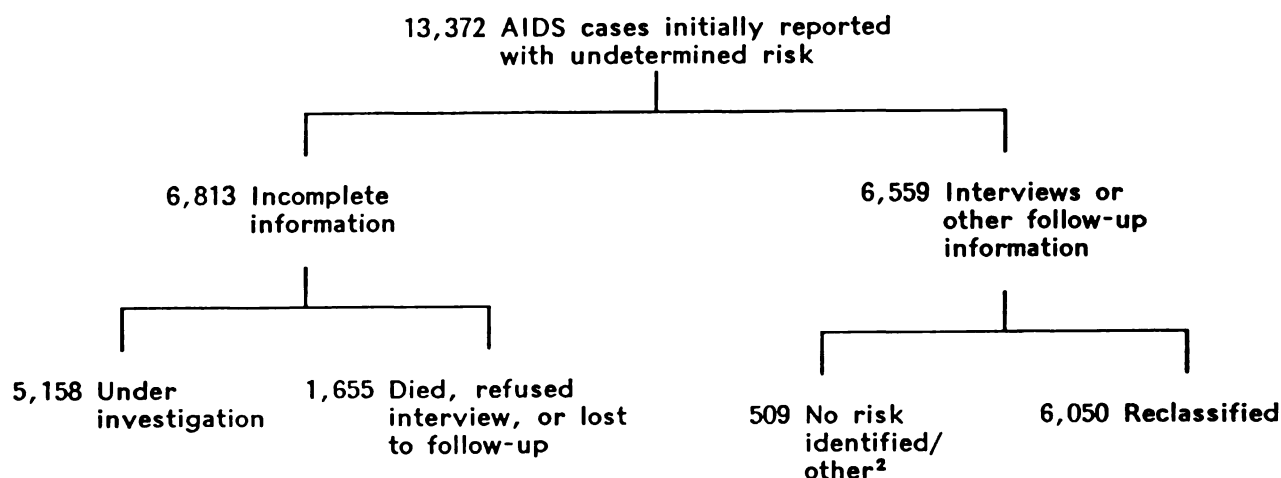
¹ Persons who meet the criteria for more than one definition category are classified in the definition category listed first.

² Persons who meet only the 1987 AIDS case definition and whose date of diagnosis is before September 1987 were diagnosed retrospectively.

Table 10. Adult/adolescent AIDS cases by single and multiple exposure categories, reported through October 1991, United States

Exposure category	AIDS cases	
	No.	(%)
Single mode of exposure		
Men who have sex with men	110,361	(56)
Injecting drug use	37,575	(19)
Hemophilia/coagulation disorder	1,059	(1)
Heterosexual contact	10,850	(6)
Receipt of transfusion of blood, blood component, or tissue	4,253	(2)
Other/undetermined	7,322	(4)
Single mode of exposure subtotal	171,420	(87)
Multiple modes of exposure		
Men who have sex with men; injecting drug use	11,458	(6)
Men who have sex with men; hemophilia	41	(0)
Men who have sex with men; heterosexual contact	2,334	(1)
Men who have sex with men; receipt of transfusion	1,877	(1)
Injecting drug use; hemophilia	44	(0)
Injecting drug use; heterosexual contact	5,260	(3)
Injecting drug use; receipt of transfusion	805	(0)
Hemophilia; heterosexual contact	9	(0)
Hemophilia; receipt of transfusion	574	(0)
Heterosexual contact; receipt of transfusion	480	(0)
Men who have sex with men; injecting drug use; hemophilia	9	(0)
Men who have sex with men; injecting drug use; heterosexual contact	960	(0)
Men who have sex with men; injecting drug use; receipt of transfusion	286	(0)
Men who have sex with men; hemophilia; heterosexual contact	3	(0)
Men who have sex with men; hemophilia; receipt of transfusion	20	(0)
Men who have sex with men; heterosexual contact; receipt of transfusion	113	(0)
Injecting drug use; hemophilia; heterosexual contact	6	(0)
Injecting drug use; hemophilia; receipt of transfusion	21	(0)
Injecting drug use; heterosexual contact; receipt of transfusion	246	(0)
Hemophilia; heterosexual contact; receipt of transfusion	13	(0)
Men who have sex with men; injecting drug use; hemophilia; heterosexual contact	1	(0)
Men who have sex with men; injecting drug use; hemophilia; receipt of transfusion	6	(0)
Men who have sex with men; injecting drug use; heterosexual contact; receipt of transfusion	41	(0)
Injecting drug use; hemophilia; heterosexual contact; receipt of transfusion	7	(0)
Multiple modes of exposure subtotal	24,614	(13)
Total	196,034	(100)

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



¹ Excludes 84 children under 13 years of age who have an undetermined risk: 74 children are under investigation and 10 have died, refused interview, or were lost to follow-up. An additional 121 children who were initially reported with an undetermined risk have been reclassified after investigation.

² Of the 509 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 505, the mode of exposure to HIV remains undetermined after investigation.

Health-care workers. 83 of the 505 patients who had no risk identified after follow-up are health-care workers, 75 of whom responded to a standardized questionnaire. 44 (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. 438 of the 505 patients who had no risk identified after follow-up responded to a standardized questionnaire; 139 (34%) of 403 persons responding to questions related to sexually transmitted disease gave a history of such disease and 96 (35%) of 275 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 injecting 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 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 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-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.

**DEPARTMENT OF
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