

HIV/AIDS

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HIV/AIDS in Urban and Nonurban Areas of the United States



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The *HIV/AIDS Surveillance Supplemental Report* is published by the Surveillance Branch of the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC). This report describes the distribution of AIDS cases in metropolitan and nonmetropolitan areas of the United States. All data are provisional.

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Commentary

Where persons diagnosed as having HIV infection or AIDS reside has been an important question throughout the epidemic. Along with the identification of early epicenters of HIV transmission, HIV/AIDS surveillance data have allowed the Centers for Disease Control and Prevention (CDC) to monitor the spread of HIV in the United States and guide efforts to prevent and control the disease. Over the years, careful attention has been paid to the presence of HIV/AIDS beyond large metropolitan areas in the Northeast and on the West coast, the areas that were initially severely affected by HIV. The spread of HIV/AIDS into nonmetropolitan areas is monitored through national, state, and local public health surveillance systems. This report focuses on the geographic distribution of HIV/AIDS in metropolitan and nonmetropolitan areas of the United States.

There are many ways to characterize and define metropolitan areas; this report uses the Office of Management and Budget designations for metropolitan statistical areas (MSAs). Most case records for persons diagnosed and reported with either HIV or AIDS are assigned, based on the place of residence at diagnosis, to either a large metropolitan area of >500,000 population, a medium size metropolitan area of 50,000 to 500,000 population, or a nonmetropolitan area.

Over 85% of cumulative adult/adolescent AIDS cases have been reported from large MSAs and approximately 6% from nonmetropolitan areas. In 1999, 82% were reported from large MSAs and 7% from nonmetropolitan areas. In contrast, 62% of the general adult population of the United States lives in large metropolitan areas, 17% in medium size metropolitan areas, and 20% of the population lives in nonmetropolitan areas.

This report includes data on the distribution of AIDS among racial/ethnic and risk exposure groups by the size of the place of residence for the reported cases.

Data are presented either by state or region of the United States to highlight additional geographic similarities and differences. Although the larger numbers of cases generally correspond to the large metropolitan areas, the significance of the smaller numbers in the medium-size metropolitan and nonmetropolitan areas should be noted. In many states, persons with HIV or AIDS who reside in nonmetropolitan areas are geographically dispersed throughout an entire state and the geographic distribution may pose unique challenges to the delivery of HIV-related services.

Although the proportional distribution of persons with HIV and AIDS between metropolitan and nonmetropolitan areas has not changed much over time, national and local HIV/AIDS surveillance systems will continue to monitor the epidemic for shifting patterns. Even small changes, such as the introduction of HIV into a previously uninfected community or demographic subgroup, may represent significant public health challenges at the local level. Surveillance data at the state and local level should help guide the prevention, education, treatment and social services responses in these areas.

Suggested reading:

CDC. HIV/AIDS Surveillance Report, 2000;12 (No. 1):1-41.

CDC. Risks for HIV infection among people residing in rural areas and small cities — selected sites, southern United States, 1995-1996. *MMWR* 1998; 47:974-978. Erratum *MMWR* 1998;47:1007.

Lansky A, Nakashima AK, Diaz T, et al. Human immunodeficiency virus infection in rural areas and small cities of the southeast: contributions of migration and behavior. *J Rural Health* 2000;16:20-30.

Steinberg S, Fleming P. The geographic distribution of AIDS in the United States: is there a rural epidemic? *J Rural Health* 2000;16:11-19.

Table 1. Adult/adolescent AIDS cases by state of residence, and size of place of residence,¹ reported in 1999 and cumulative, United States

State of residence	Metropolitan area >500,000 population		Metropolitan area 50,000–500,000 population		Nonmetropolitan area	
	1999	Total	1999	Total	1999	Total
Alabama	232	2,871	134	1,764	107	1,077
Alaska	0	0	9	240	6	124
Arizona	805	6,522	21	147	40	263
Arkansas	67	1,097	51	754	76	887
California	5,136	108,262	222	5,269	69	1,170
Colorado	236	5,370	52	981	31	376
Connecticut	522	9,910	36	570	26	335
Delaware	141	1,791	16	207	25	344
District of Columbia	835	12,062	0	0	0	0
Florida	4,171	60,116	916	10,169	341	3,830
Georgia	1,020	15,097	348	3,553	292	2,754
Hawaii	76	1,702	0	0	24	625
Idaho	0	0	14	273	11	193
Illinois	1,352	20,377	81	1,372	105	1,204
Indiana	239	3,552	71	1,413	50	752
Iowa	2	51	64	787	20	380
Kansas	126	1,539	15	249	28	450
Kentucky	158	1,667	51	682	66	761
Louisiana	602	8,307	147	2,118	104	1,424
Maine	0	0	50	493	30	414
Maryland	1,396	18,723	51	511	46	539
Massachusetts	1,355	14,244	86	669	6	88
Michigan	488	8,301	126	1,710	29	457
Minnesota	177	3,146	4	172	8	237
Mississippi	4	48	218	2,078	194	1,846
Missouri	424	6,853	47	989	58	862
Montana	0	0	6	105	7	195
Nebraska	42	651	11	169	13	183
Nevada	192	3,215	34	648	15	226
New Hampshire	33	576	0	0	11	264
New Jersey	1,779	35,687	234	3,652	0	0
New Mexico	48	1,033	22	482	21	381
New York	7,160	126,249	232	3,898	262	3,577
North Carolina	445	5,227	147	1,956	199	2,440
North Dakota	0	0	3	52	3	51
Ohio	468	9,166	39	702	36	799
Oklahoma	110	2,625	9	172	29	598
Oregon	147	3,375	45	678	33	518
Pennsylvania	1,726	19,323	159	2,278	58	1,066
Rhode Island	96	1,813	0	0	9	118
South Carolina	554	4,867	145	1,369	254	2,397
South Dakota	0	0	10	79	6	75
Tennessee	590	5,765	72	989	96	927
Texas	2,289	41,919	385	5,243	214	1,913
Utah	127	1,565	15	88	12	141
Vermont	0	0	10	149	9	183
Virginia	753	9,753	71	960	115	1,320
Washington	304	7,467	38	954	18	539
West Virginia	8	119	31	484	29	400
Wisconsin	90	1,856	39	1,037	20	454
Wyoming	0	0	7	68	8	94
Total²	36,525	593,859	4,594	63,382	3,269	40,251

¹Based on reported residence at time of diagnosis.

²3,537 cases were excluded from the total due to unknown place of residence.

Table 2. Pediatric AIDS cases by state of residence, and size of place of residence,¹ reported in 1999 and cumulative, United States

State of residence	Metropolitan area >500,000 population		Metropolitan area 50,000–500,000 population		Nonmetropolitan area	
	1999	Total	1999	Total	1999	Total
Alabama	1	35	0	18	0	15
Alaska	0	0	0	2	0	1
Arizona	11	32	1	1	1	3
Arkansas	0	15	0	8	0	14
California	11	533	1	34	0	17
Colorado	0	19	0	8	0	1
Connecticut	0	168	0	5	0	1
Delaware	3	15	1	5	0	2
District of Columbia	3	169	0	0	0	0
Florida	30	1,178	9	155	0	42
Georgia	7	107	4	58	0	33
Hawaii	0	12	0	0	0	3
Idaho	0	0	0	0	0	2
Illinois	18	238	0	13	1	6
Indiana	3	22	0	9	0	9
Iowa	0	0	0	4	0	5
Kansas	1	6	0	1	0	5
Kentucky	2	15	0	3	0	6
Louisiana	1	81	0	22	0	16
Maine	0	0	0	5	0	4
Maryland	10	285	0	3	0	9
Massachusetts	7	200	0	4	0	0
Michigan	3	83	1	14	0	7
Minnesota	0	17	1	3	0	2
Mississippi	0	0	3	33	0	22
Missouri	1	40	0	6	0	10
Montana	0	0	0	0	0	3
Nebraska	0	3	0	3	1	4
Nevada	1	25	0	1	0	0
New Hampshire	1	6	0	0	0	3
New Jersey	22	686	0	49	0	0
New Mexico	0	2	0	0	0	6
New York	35	2,160	0	32	2	24
North Carolina	1	61	1	29	1	23
North Dakota	0	0	1	1	0	0
Ohio	4	97	0	15	0	9
Oklahoma	0	15	0	4	0	6
Oregon	0	8	0	5	0	3
Pennsylvania	22	254	1	42	0	13
Rhode Island	2	20	0	0	0	1
South Carolina	3	36	0	9	1	34
South Dakota	0	0	0	2	0	2
Tennessee	1	37	0	4	0	8
Texas	7	288	4	50	2	31
Utah	0	14	0	3	0	4
Vermont	0	0	1	2	0	3
Virginia	2	120	1	21	0	21
Washington	0	27	0	2	0	3
West Virginia	0	1	1	4	0	4
Wisconsin	0	16	0	7	1	4
Wyoming	0	0	0	1	0	1
Total²	213	7,146	31	700	10	445

¹Based on reported residence at time of diagnosis.

²24 cases were excluded from the cumulative total due to unknown place of residence.

Table 3. AIDS cases and rates per 100,000 population, by age group, size of place of residence¹ and region,² reported in 1999, United States

Region of residence	Metropolitan area >500,000 population		Metropolitan area 50,000–500,000 population		Nonmetropolitan area	
	Number	Rate	Number	Rate	Number	Rate
Adults/adolescents						
New England	2,006	24.0	182	16.9	91	5.3
Mid Atlantic	10,665	42.6	625	16.8	320	11.7
E N Central	2,637	12.3	356	4.9	240	3.2
W N Central	771	12.3	154	5.3	136	2.2
S Atlantic	9,323	37.8	1,725	22.5	1,301	15.5
E S Central	984	21.9	475	13.7	463	8.2
W S Central	3,068	22.4	592	11.7	423	7.7
Mountain	1,408	19.2	171	6.1	145	4.0
Pacific	5,663	20.5	314	6.7	150	5.1
Total	36,525	26.3	4,594	11.9	3,269	7.4
Children < 13 years old						
New England	10	0.6	1	0.5	0	0.0
Mid Atlantic	79	1.5	1	0.1	2	0.3
E N Central	28	0.6	1	0.1	2	0.1
W N Central	2	0.1	2	0.3	1	0.1
S Atlantic	59	1.1	17	1.0	2	0.1
E S Central	4	0.4	3	0.4	0	0.0
W S Central	8	0.2	4	0.3	2	0.2
Mountain	12	0.7	1	0.1	1	0.1
Pacific	11	0.2	1	0.1	0	0.0
Total	213	0.7	31	0.4	10	0.1

¹Based on reported residence at time of diagnosis.

²See technical notes for a list of states that comprise each region.

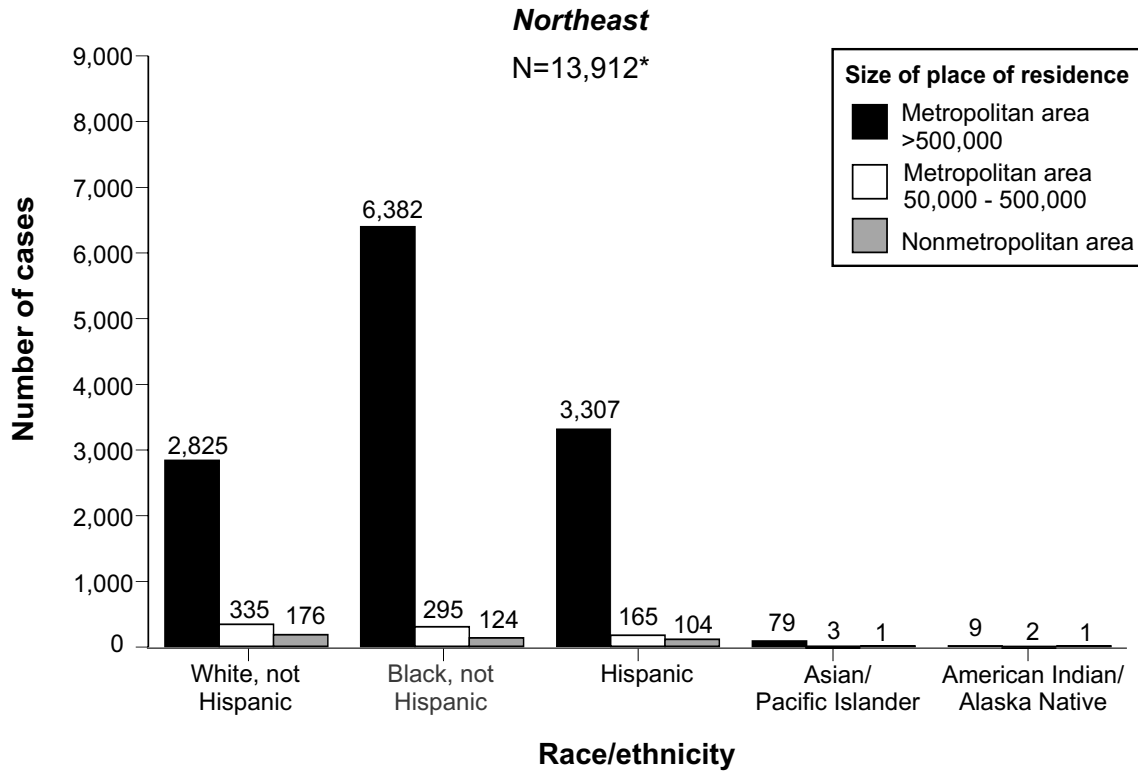
Table 4. Adult/adolescent AIDS cases by race/ethnicity, size of place of residence,¹ and region,² reported through 1999

Region of residence	Metropolitan area >500,000 population	Metropolitan area 50,000–500,000 population	Nonmetropolitan area
New England			
White	12,847	1,478	1,179
Black	7,986	241	105
Hispanic	5,514	137	106
Asian/Pacific Islander	99	8	2
American Indian/Alaska Native	47	14	7
Mid Atlantic			
White	52,360	3,516	1,915
Black	82,679	4,051	1,395
Hispanic	44,643	2,204	1,283
Asian/Pacific Islander	977	22	10
American Indian/Alaska Native	84	4	6
E N Central			
White	19,706	4,382	2,783
Black	19,929	1,579	702
Hispanic	3,373	239	147
Asian/Pacific Islander	173	16	7
American Indian/Alaska Native	62	17	26
W N Central			
White	8,299	1,894	1,819
Black	3,367	411	264
Hispanic	425	152	108
Asian/Pacific Islander	41	12	9
American Indian/Alaska Native	105	25	36
S Atlantic			
White	43,694	8,272	5,009
Black	71,499	10,146	8,480
Hispanic	12,152	731	443
Asian/Pacific Islander	277	35	23
American Indian/Alaska Native	107	21	63
E S Central			
White	5,091	2,735	2,372
Black	5,132	2,678	2,167
Hispanic	103	78	60
Asian/Pacific Islander	16	14	3
American Indian/Alaska Native	7	4	7
W S Central			
White	29,526	4,645	2,696
Black	16,145	2,343	1,613
Hispanic	7,874	1,252	416
Asian/Pacific Islander	181	19	6
American Indian/Alaska Native	198	22	87
Mountain			
White	12,699	2,130	1,357
Black	1,946	162	114
Hispanic	2,704	452	292
Asian/Pacific Islander	105	20	10
American Indian/Alaska Native	236	27	95
Pacific			
White	75,326	5,478	2,298
Black	19,787	560	158
Hispanic	21,995	891	311
Asian/Pacific Islander	2,965	83	123
American Indian/Alaska Native	577	119	80

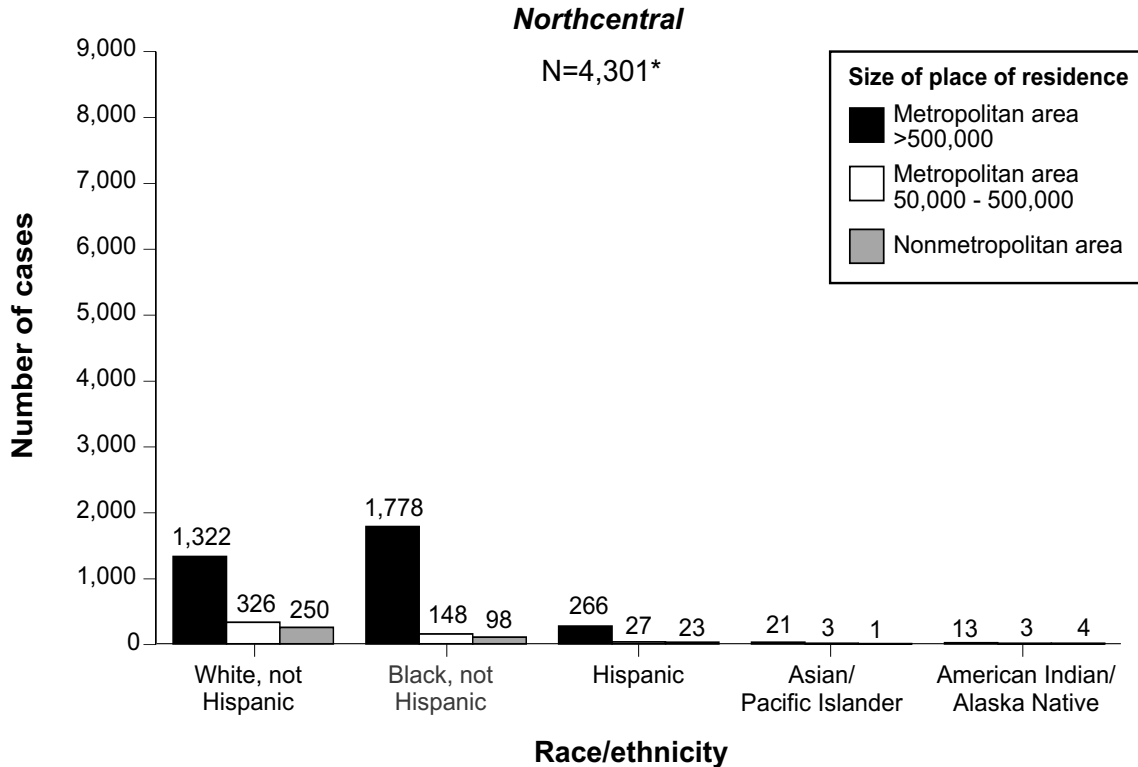
¹1,513 cases were excluded due to unknown place of residence or race.

²See technical notes for a list of states that comprise each region.

Figure 1. Adult/adolescent AIDS cases by size of place of residence and race/ethnicity, by region,¹ reported in 1999, United States



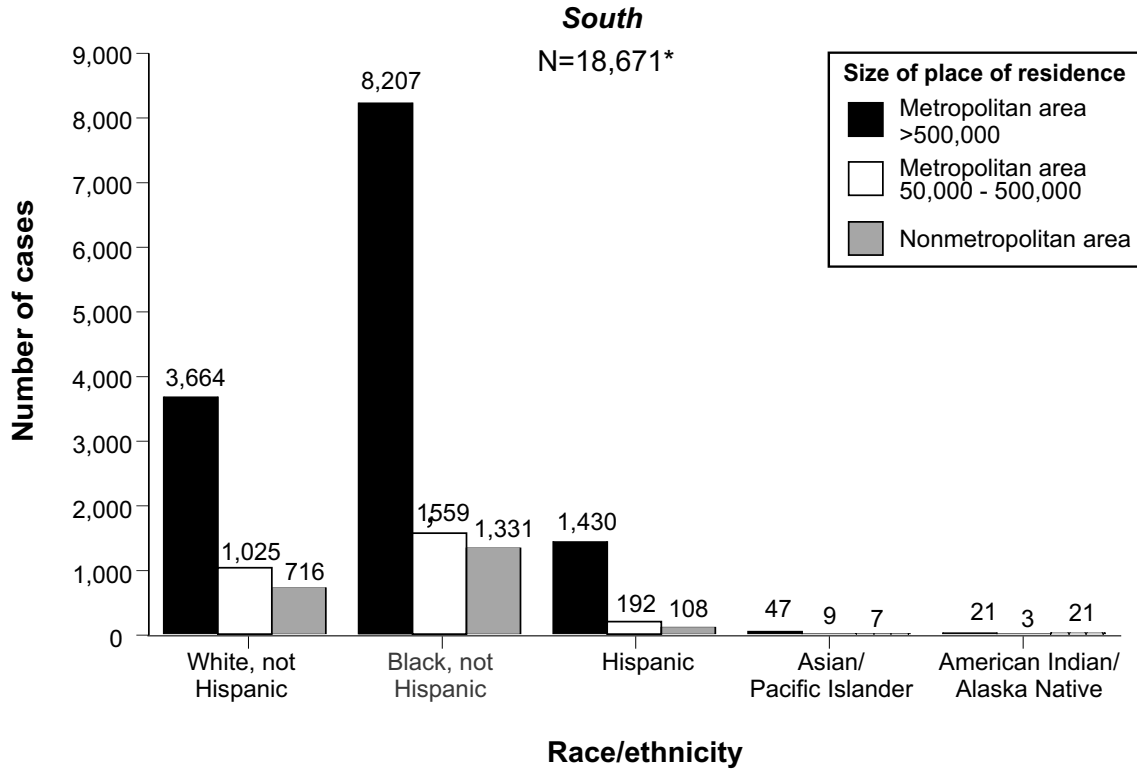
*Total includes 104 cases with unknown race/ethnicity or size of place of residence.



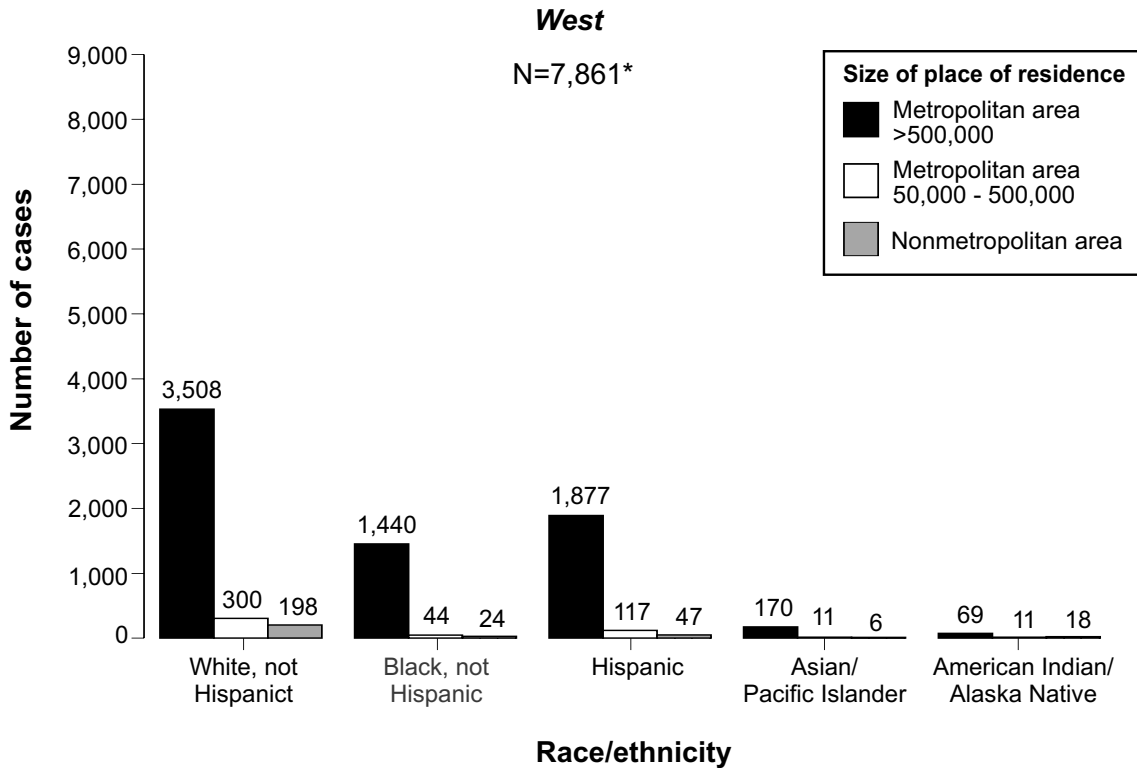
*Total includes 18 cases with unknown race/ethnicity or size of place of residence

¹See technical notes for a list of states that comprise each region.

Figure 1. Adult/adolescent AIDS cases by size of place of residence and race/ethnicity, by region,¹ reported in 1999, United States — *Continued*



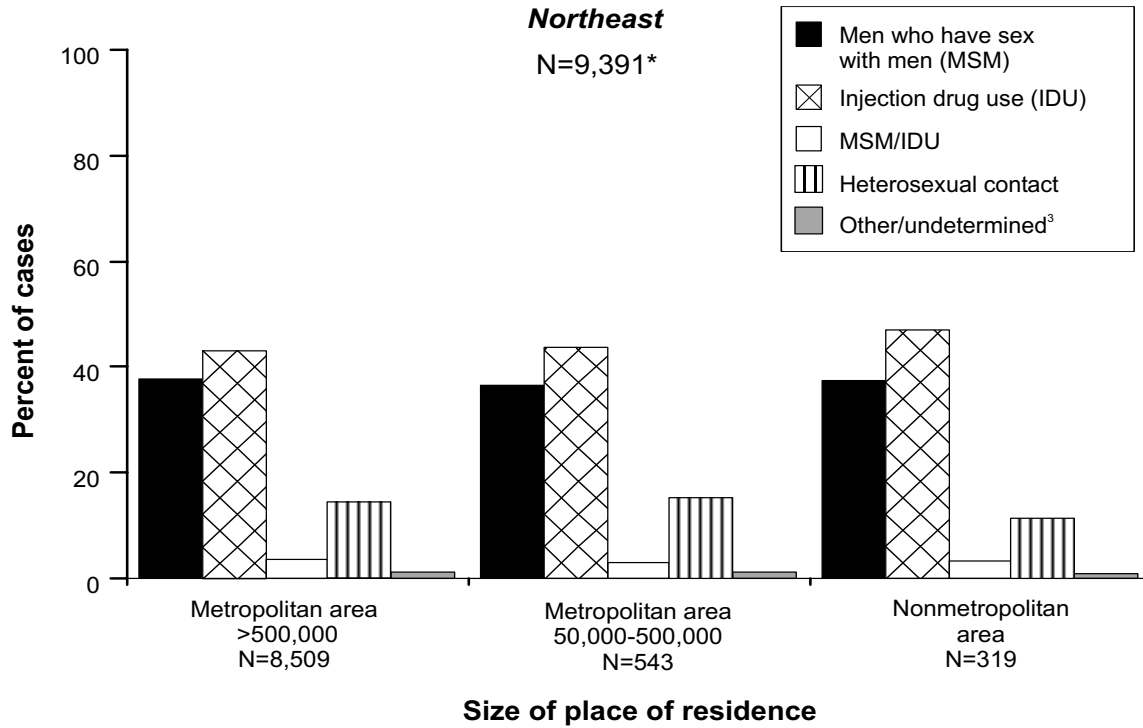
*Total includes 331 cases with unknown race/ethnicity or size of place of residence.



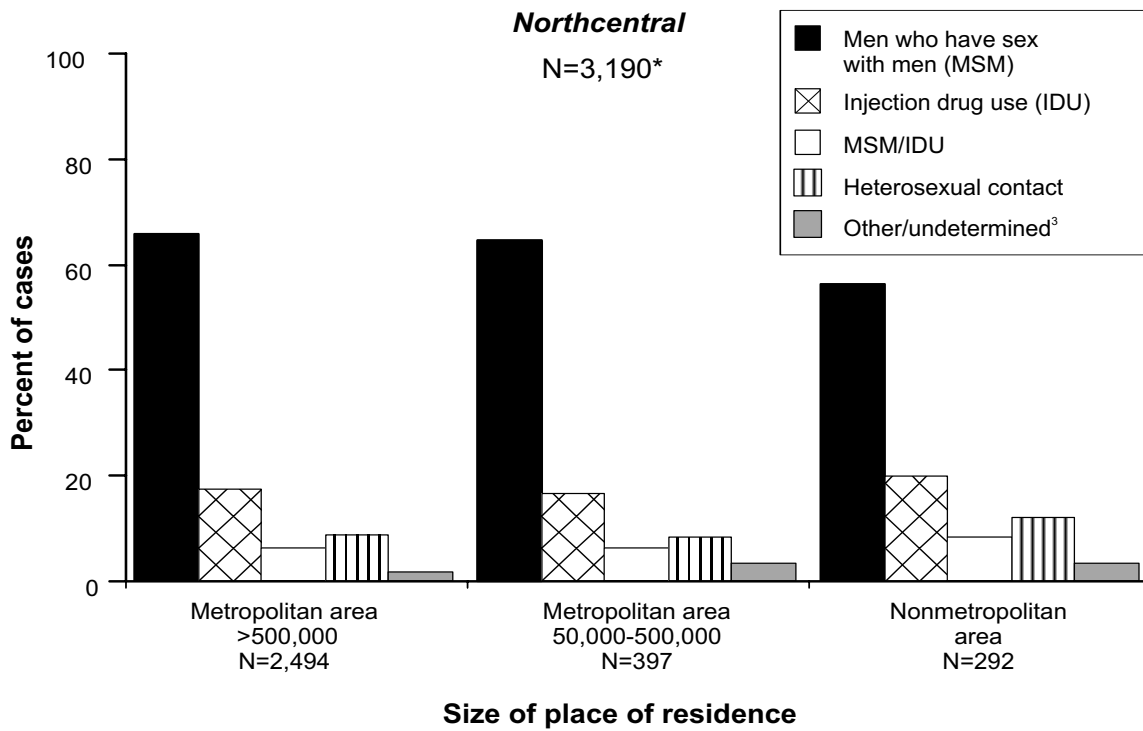
*Total includes 21 cases with unknown race/ethnicity or size of place of residence.

¹See technical notes for a list of states that comprise each region.

Figure 2. Percent distribution of AIDS cases¹ in adult/adolescent men, by risk exposure and size of place of residence, and by region,² diagnosed in 1999, United States



*Total includes 20 men with unknown size of place of residence.



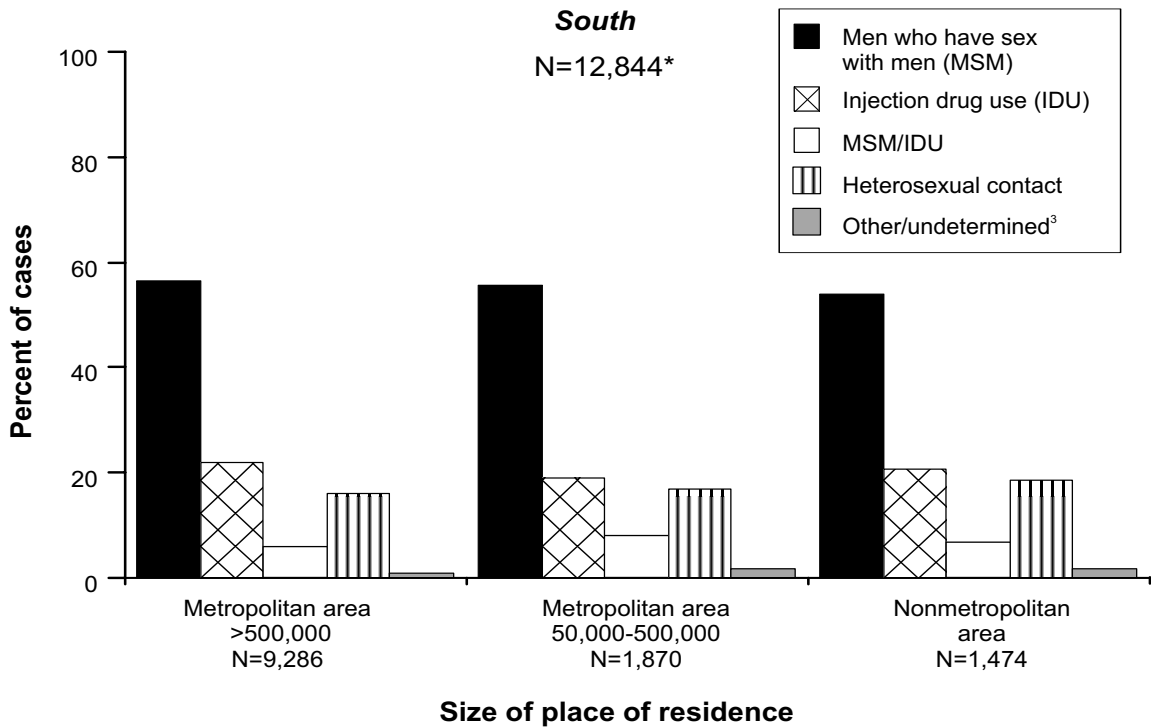
*Total includes 7 men with unknown size of place of residence.

¹Data adjusted for reporting delays and redistribution of cases reported without risk information.

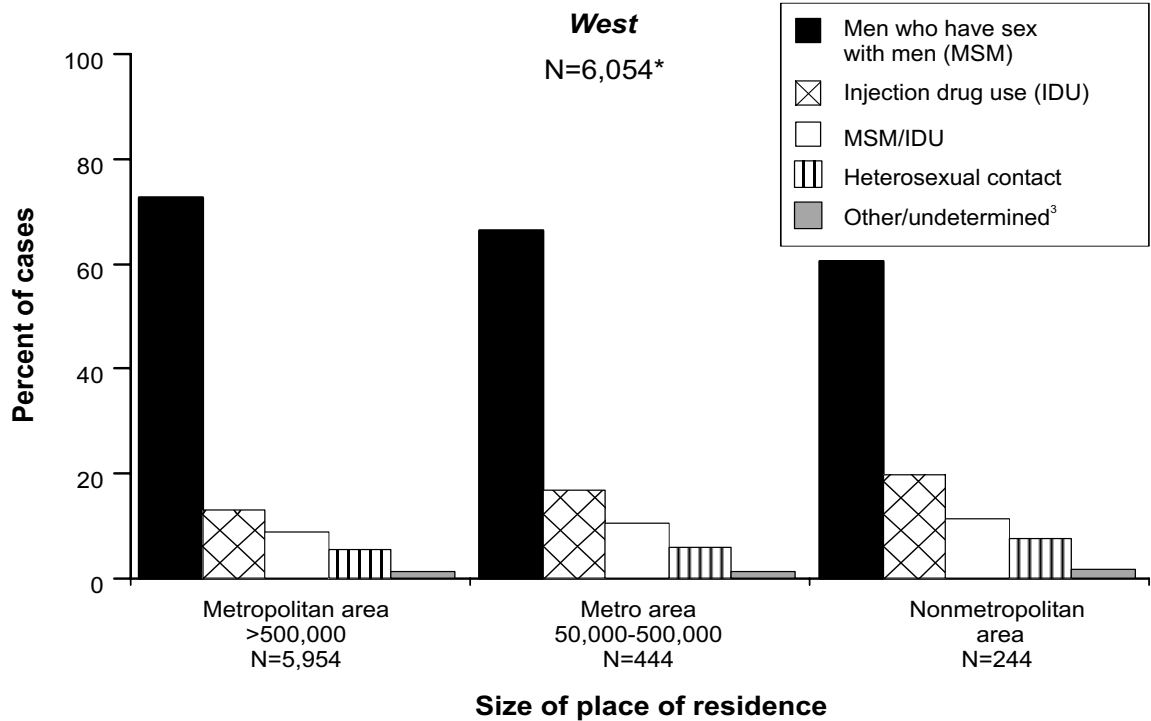
²See technical notes for a list of states that comprise each region.

³Includes hemophilia, receipt of blood or blood products, perinatal and unknown exposures.

Figure 2. Percent distribution of AIDS cases¹ in adult/adolescent men, by risk exposure and size of place of residence, and by region,² diagnosed in 1999, United States — *Continued*



*Total includes 214 men with unknown size of place of residence.



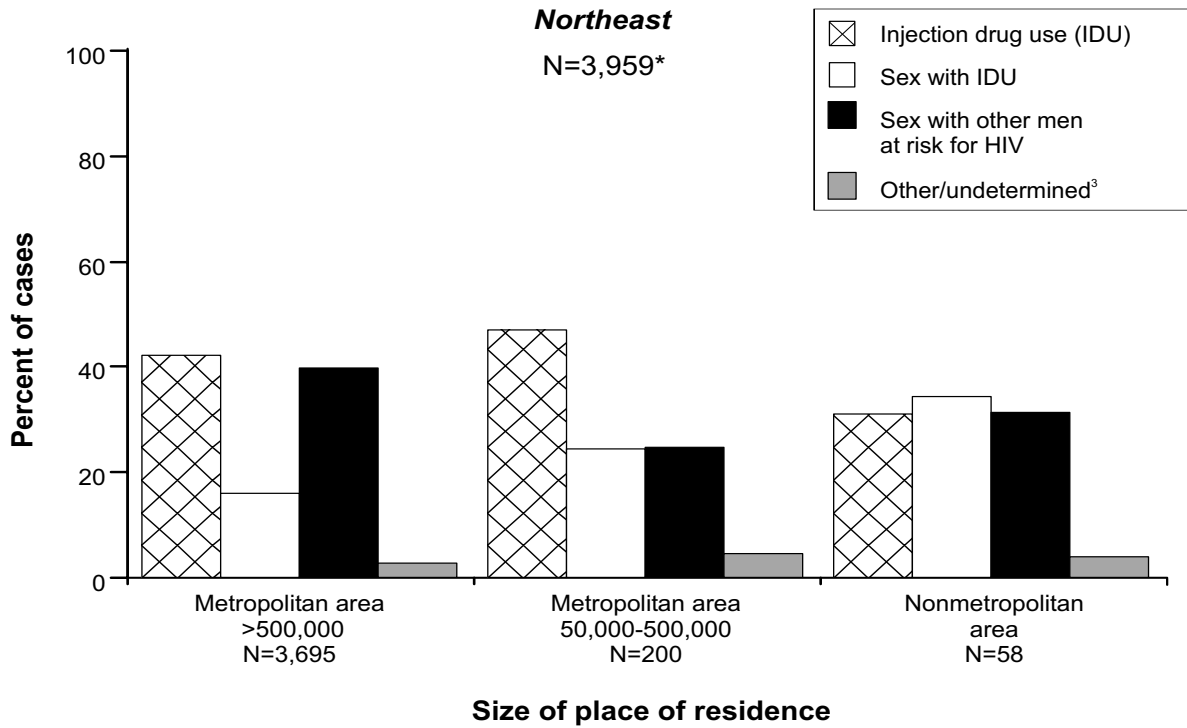
*Total includes 12 men with unknown size of place of residence.

¹Data adjusted for reporting delays and redistribution of cases reported without risk information.

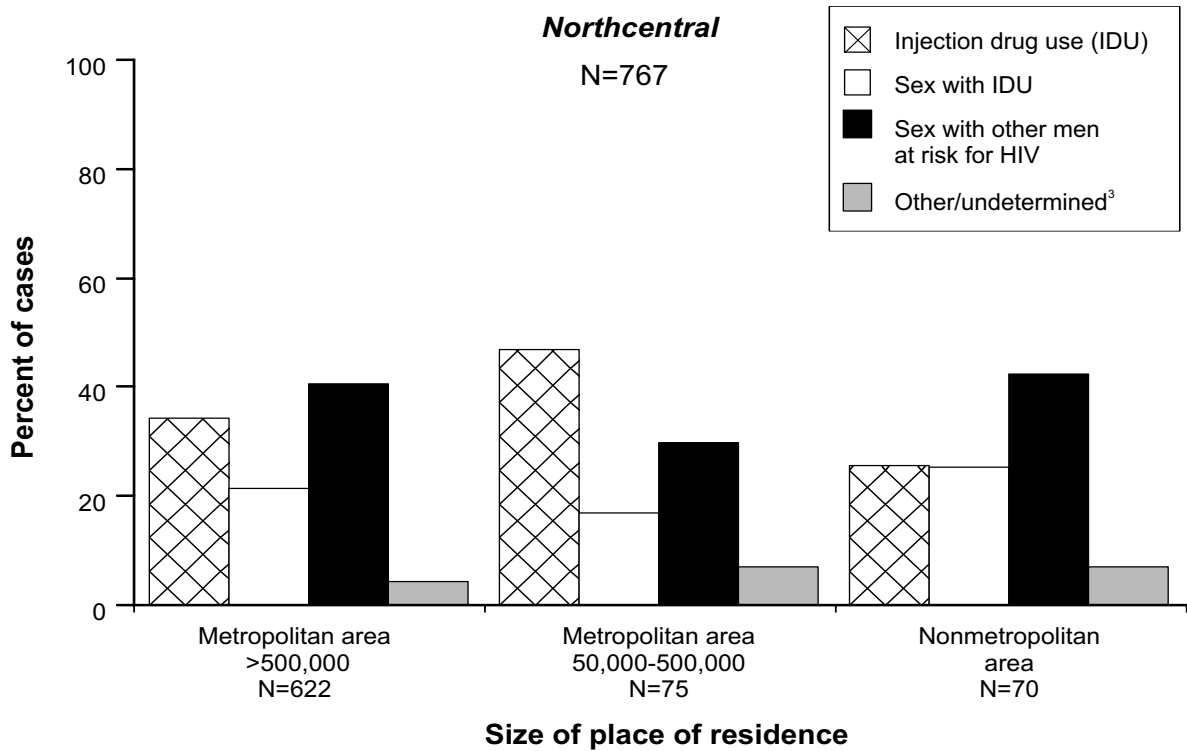
²See technical notes for a list of states that comprise each region.

³Includes hemophilia, receipt of blood or blood products, perinatal and unknown exposures.

Figure 3. Percent distribution of AIDS cases¹ in adult/adolescent women, by risk exposure and size of place of residence, and by region,² diagnosed in 1999, United States



*Total includes 6 women with unknown size of place of residence.

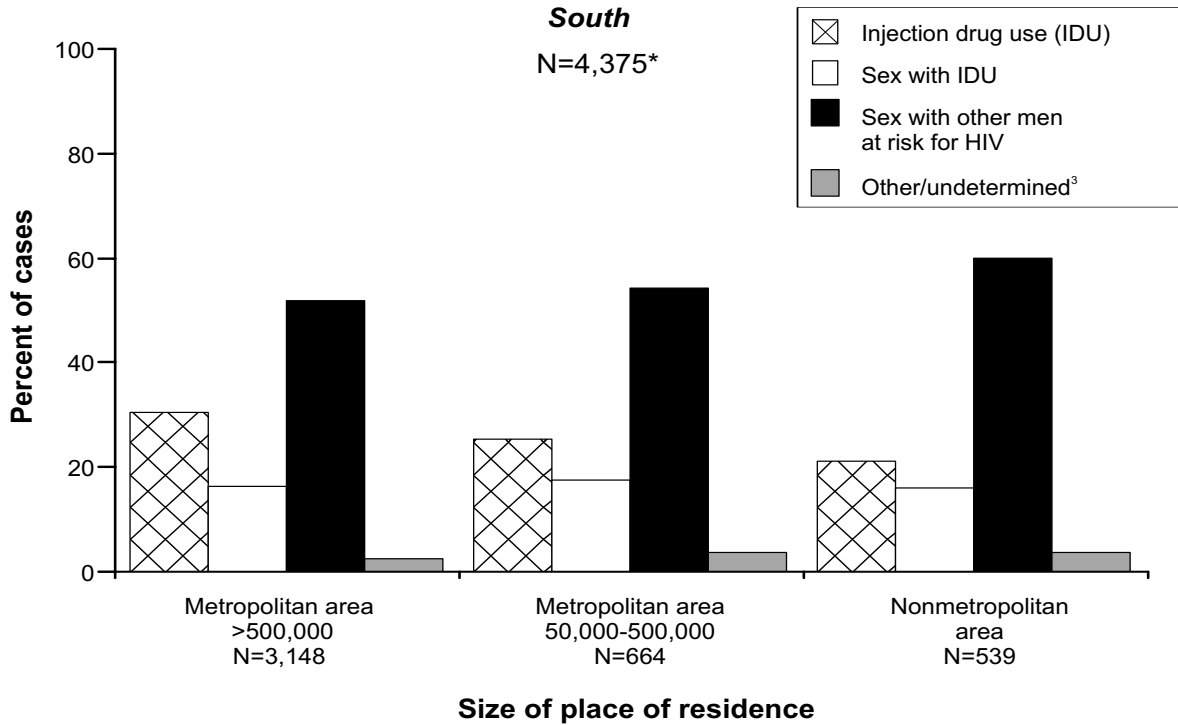


¹Data adjusted for reporting delays and redistribution of cases reported without risk information.

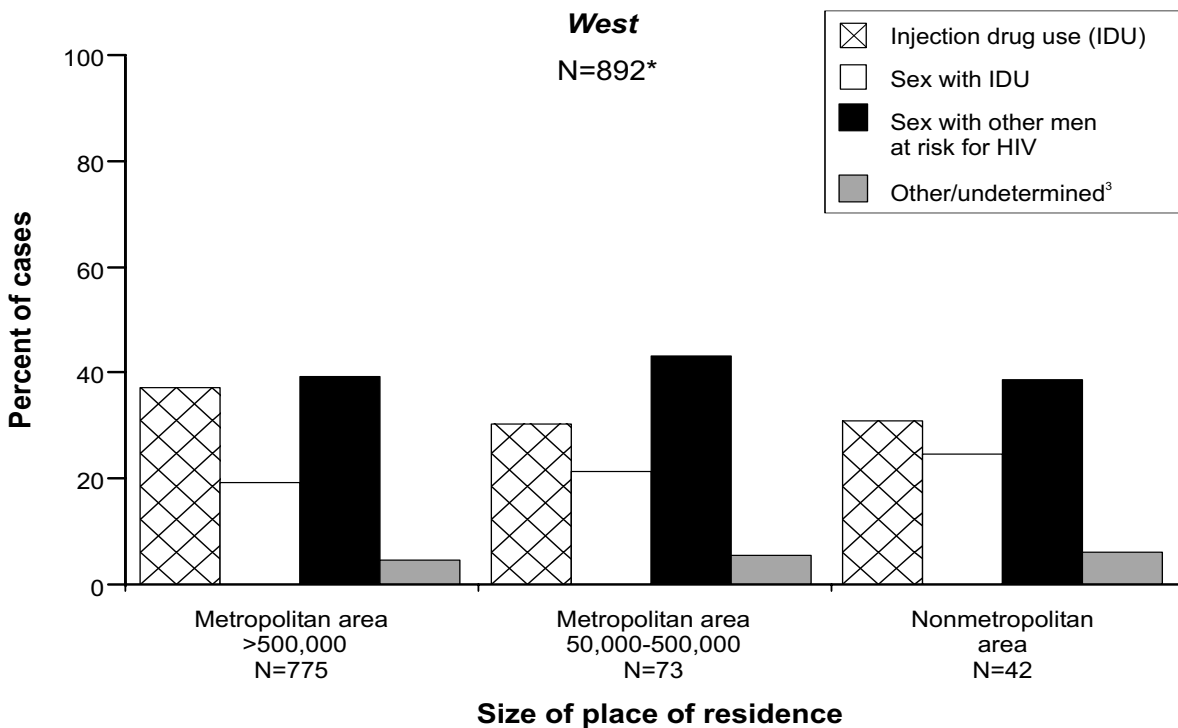
²See technical notes for a list of states that comprise each region.

³Includes hemophilia, receipt of blood or blood products, perinatal and unknown exposures.

Figure 3. Percent distribution of AIDS cases¹ in adult/adolescent women, by risk exposure and size of place of residence, and by region,² diagnosed in 1999, United States — continued



*Total includes 23 women with unknown size of place of residence.



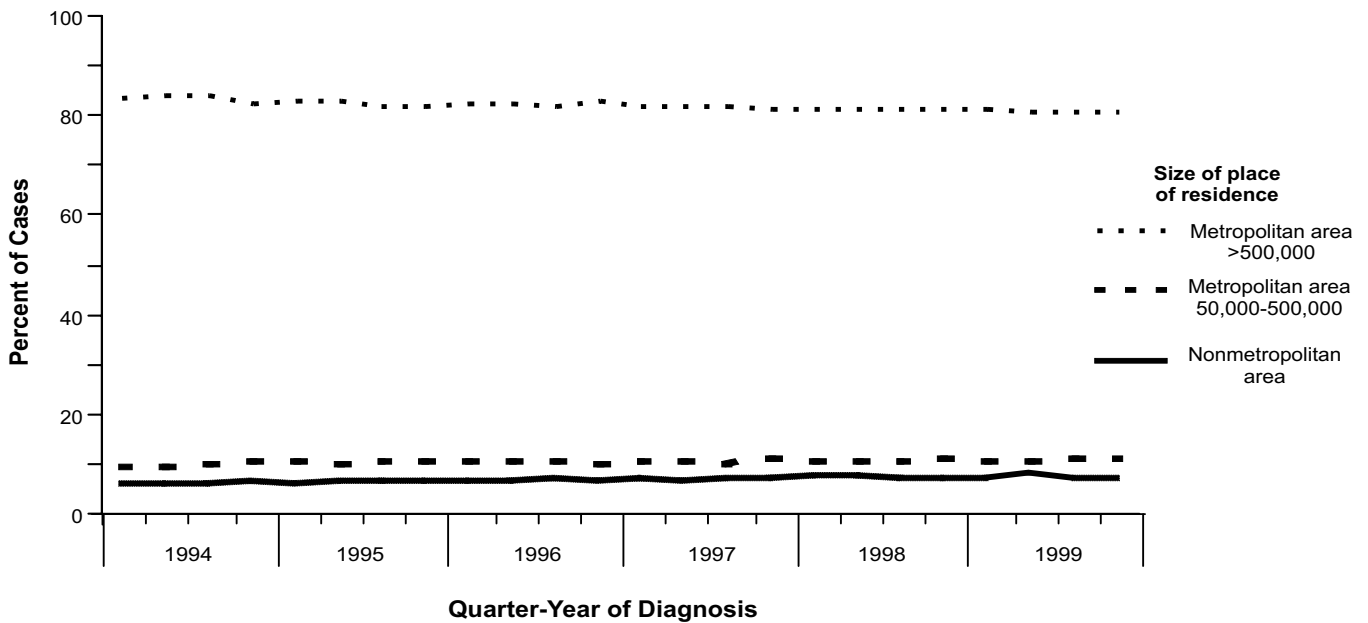
*Total includes 2 women with unknown size of place of residence.

¹Data adjusted for reporting delays and redistribution of cases reported without risk information.

²See technical notes for a list of states that comprise each region.

³Includes hemophilia, receipt of blood or blood products, perinatal and unknown exposures.

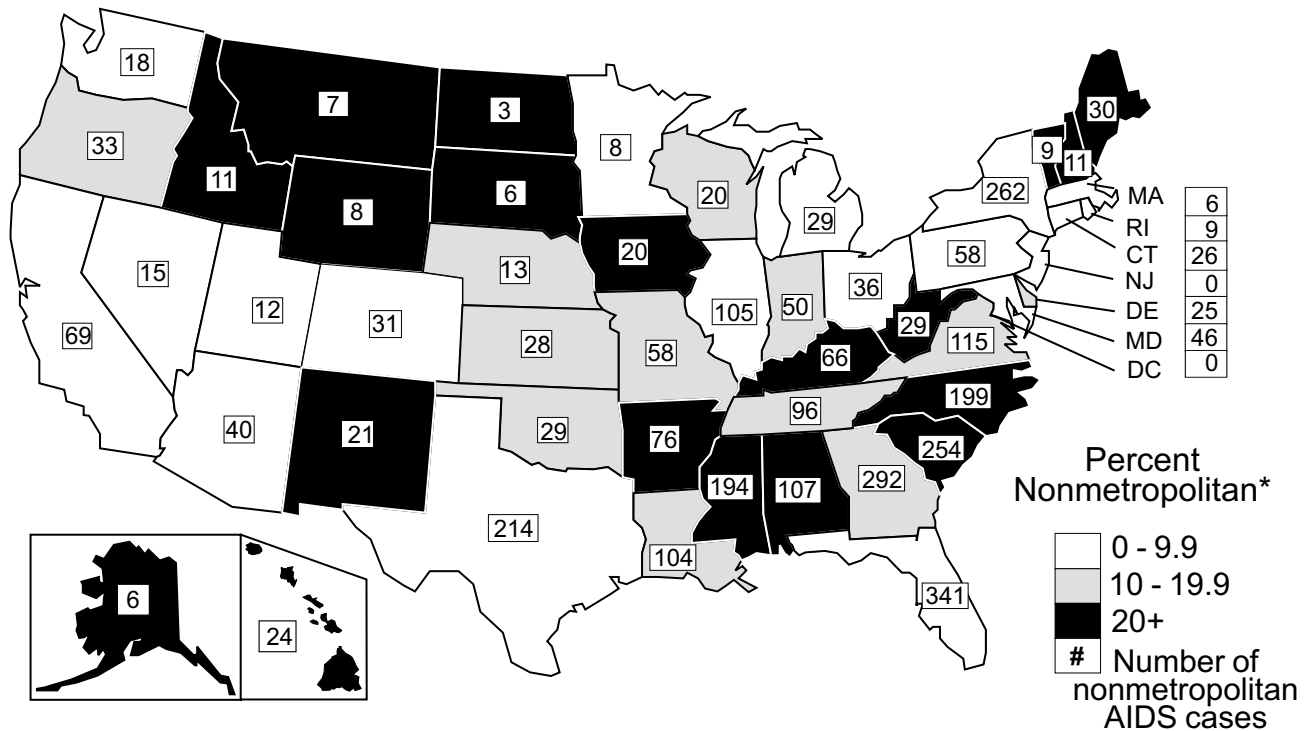
Figure 4. Percent distribution of adult/adolescent AIDS cases¹ by size of place and residence,² 1994–1999, United States



¹Data adjusted for reporting delays.

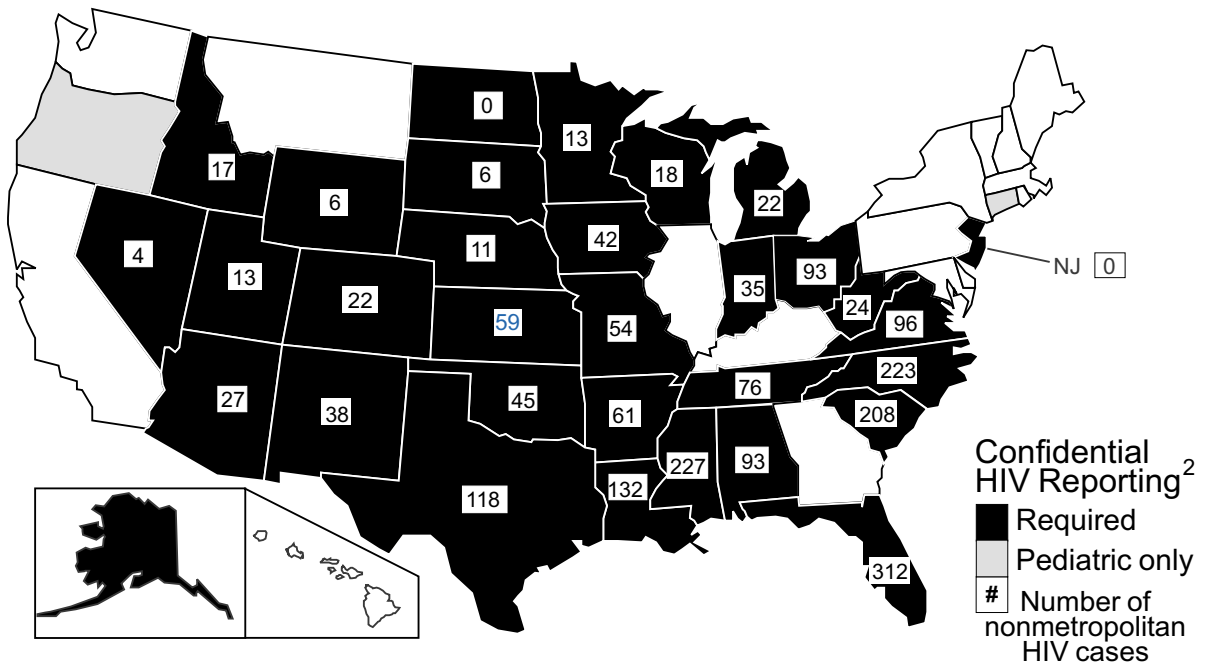
²Based on reported residence at AIDS diagnosis.

Figure 5. Adult/adolescent AIDS cases in nonmetropolitan areas, reported in 1999



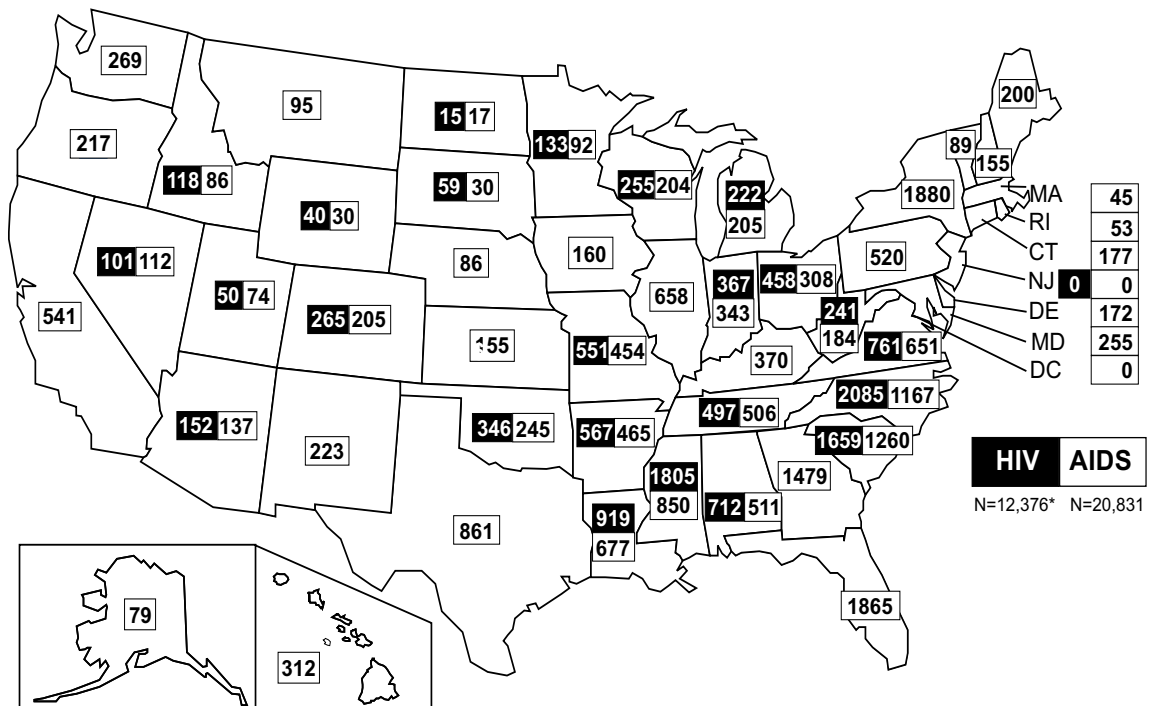
*Based on reported residence at diagnosis: (Nonmetropolitan cases/total cases) x 100.

Figure 6. Adult/adolescent HIV infection cases in nonmetropolitan areas,¹ reported in 1999



¹In states that conduct name-based confidential HIV infection surveillance among adults/adolescents.
²HIV cases reported by patient name.

Figure 7. Estimated number of adults/adolescents living with HIV infection and AIDS in nonmetropolitan areas, 1999



*For areas that have done name-based confidential HIV infection surveillance long enough to produce reliable estimates of prevalence

Technical Notes

This report presents HIV/AIDS surveillance data collected by state and local health departments in the United States and reported to CDC. Although Puerto Rico, the U.S. Virgin Islands, and other U.S. dependencies, possessions and independent nations in free association with the United States¹ participate in the national HIV/AIDS surveillance program, data from those areas are excluded from this report because of the absence of comparable metropolitan area designations in those areas.

Data presented in the tables and figures 1, 5, and 6 in this report represent cases of HIV or AIDS in persons ≥ 13 years of age reported to CDC through December 1999. The data included in figures 2, 3, 4, and 7 have been adjusted for delays in reporting cases and deaths, based on cases diagnosed through December 1999 and reported to CDC through June 2000. In addition, cases initially reported with an unidentified mode of exposure to HIV have been redistributed to the other exposure categories based on historical patterns of reclassification. Cases reported with "heterosexual contact" include persons who report specific heterosexual contact with a person with, or at risk for, HIV infection. For women, heterosexual contact is separated into cases who report sex with an injection drug user and those who report sex with a man who is infected with HIV or at increased risk for HIV infection.

The rates presented for pediatric cases in table 3 should be interpreted with caution as the numbers of cases are very small. Cases are classified by residence at diagnosis of HIV or AIDS. In some states, incarcerated persons are classified by their place of incarceration; this may result in spuriously high numbers of cases of HIV or AIDS in some rural areas.

Regions of residence included in tables 3 and 4 of this report are defined as follows. New England: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont; Middle Atlantic: New Jersey, New York and Pennsylvania; East North Central: Illinois, Indiana, Michigan, Ohio and Wisconsin; West North Central: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota; South Atlantic: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia and West Virginia; East South Central: Alabama, Kentucky, Mississippi and Tennessee; West South Central: Arkansas, Louisiana, Oklahoma and Texas; Mountain: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming; Pacific: Alaska, California, Hawaii, Oregon and Washington.

For figures 1-3, we grouped the regions as follows. Northeast: New England and Middle Atlantic; North-central: East North Central and West North Central; South: South Atlantic, East South Central, and West South Central; and West: Mountain and Pacific.

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, and the Federated States of Micronesia.