

# **HIV/AIDS**

## **Surveillance Supplemental Report**

==== Volume 11, Number 2 ====

### **Reported CD4+ T-Lymphocyte Results for Adults and Adolescents with HIV/AIDS—33 States, 2005**



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Centers for Disease Control and Prevention  
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Since the beginning of the HIV/AIDS epidemic in the 1980s, the course of HIV disease has evolved from an acute illness to a chronic condition. Since the mid-1990s, when highly active antiretroviral therapy became widely available, HIV-infected persons have been able to live longer and more productive lives.

## **Surveillance Purposes of Laboratory Results**

The surveillance of HIV/AIDS has also evolved. Laboratory data now offer many opportunities to enhance the quality of HIV/AIDS surveillance information. HIV and HIV-related laboratory test results can be used for many surveillance purposes:

- identify cases
- mark access to care and treatment
- determine the stage of the disease
- measure unmet health care needs among HIV-infected persons
- evaluate HIV testing and screening activities

### **Identify cases**

By the mid-1980s, AIDS was a reportable condition in all 50 states, the District of Columbia, and U.S. territories and possessions. Initially, AIDS case surveillance was limited to clinical information. Beginning in the early 1990s, CD4+ T-lymphocyte (CD4) test results began to be collected as part of routine HIV surveillance activities. The expansion of the AIDS definition in 1993 to include an immunologic definition of AIDS—CD4 counts of fewer than 200 cells/ $\mu$ L or a CD4 percentage of less than 14% of total lymphocytes [1]—and the implementation of state-mandated reporting of CD4 results by laboratories led to increased national CD4 reporting [2].

Laboratory results that identify a new case of HIV infection or mark the progression of HIV to AIDS have been reported to CDC, as part of routine case reporting, by confidential name-based HIV infection reporting states. As HIV-infected persons live longer, through initiation of, and adherence to, antiretroviral medications, the national focus on AIDS has shifted to overall HIV infection and HIV incidence. States, which have until now focused on AIDS-defining CD4 test results, are being encouraged to collect and report

ongoing CD4 test results, beginning at the time of HIV diagnosis.

### **Mark access to care and treatment**

The availability and the use of antiretroviral medications have changed the course of HIV disease. To help guide the initiation and the management of highly active antiretroviral therapy, CD4 counts and HIV viral load levels are monitored routinely. Current HIV clinical management guidelines include monitoring CD4 counts throughout the disease course: at the time of HIV diagnosis and every 3–6 months thereafter [3]. Because of the clinical use of CD4 and viral load testing, these test results in surveillance data are often used as markers for HIV-infected persons' receipt of health care.

In 2001, CDC outlined an objective to increase the proportion of HIV-infected persons who are linked to appropriate prevention, care, and treatment services within 3 months after HIV diagnosis [4].

### **Determine stage of disease**

In addition to marking the progression of HIV infection to AIDS, CD4 test results at the time of HIV diagnosis can be used at the population level to determine the level of immunosuppression and the stage of disease after HIV diagnosis. The level of immunosuppression, in turn, reflects the time elapsed from initial infection to diagnosis: in general, the longer the time, or delay, to HIV testing, the greater the immunosuppression and the lower the CD4 count. The median time between untreated HIV infection and the development of AIDS is believed to be approximately 8–10 years [5].

### **Measure unmet health care needs among HIV-infected persons**

Surveillance data can be used to provide estimates of the number of HIV-infected persons not in care and thereby to estimate unmet health care needs. Persons without reported CD4 or viral load test results after HIV diagnosis may represent persons with unmet health care needs. Although the reasons that persons with a recent diagnosis may not access health care are often complex, surveillance data should enable the

identification of risk factors associated with the absence of CD4 or viral load testing.

### **Evaluate HIV testing and screening activities**

The information in this report can also be used to evaluate prevention activities. In 2003, CDC announced a new initiative, Advancing HIV Prevention (AHP), with the goal of reducing HIV transmission [6]. One of the strategies of AHP is to make voluntary HIV testing a routine part of medical care. As this strategy is implemented, the number of persons with undiagnosed HIV infection should decrease; also, the distribution of persons throughout the spectrum of HIV disease should change, shifting toward persons whose HIV disease is in earlier stages. As more diagnoses are made earlier, the median CD4 count should increase.

### **Tips for Reading This Report**

This report complements traditional HIV/AIDS surveillance data for persons aged 13 years and older. For each of the analyses, we assessed the CD4 result at a specified time after HIV diagnosis—for most tabulated data, at 12 months after diagnosis. To allow for the stabilization of data collection and for adjustment of the data in order to monitor trends, we used data from 33 states with mature HIV reporting systems (i.e., HIV reporting since at least 2000). These 33 states represent approximately 60% (538,070) of the 892,875 AIDS cases in the United States reported to CDC through 2003 [7].

This report is organized into 5 sections: (1) CD4 count after HIV diagnosis, (2) CD4 count after HIV diagnosis, by disease category, (3) longitudinal CD4 counts, by selected disease categories, (4) laboratory test results and other findings after HIV diagnosis, by disease category, and (5) disease categories and reporting regulations. The term *HIV/AIDS* is a collective term used to refer to a diagnosis of HIV infection, regardless of the person's AIDS status at the time of diagnosis. For many analyses, persons with HIV/AIDS were categorized by stage of disease 12 months after HIV diagnosis. In this report, the term *HIV without AIDS* is used to refer to persons who were AIDS-free throughout the first 12 months after HIV diagnosis; *HIV to AIDS* is used to refer to persons with a diagnosis of AIDS 1 to 12 months after HIV diagnosis; *HIV with AIDS* is used to refer to persons whose diagnoses of HIV infection and AIDS were made during the same calendar month.

In section 1, Table 7 of section 3, and Tables 11–13 of section 5, we present point estimates for case counts, with and without CD4 counts, that have been adjusted for reporting delays and for the redistribution of cases in persons initially reported without an identified risk factor. In sections 2 and 4, data used to estimate the number of cases (presented by HIV disease category and by laboratory and other results) have been statistically adjusted to correct for delays in the reporting of cases. CDC routinely adjusts data for the presentation of trends in the epidemic.

### **CD4 Count after HIV Diagnosis, Regardless of AIDS Status (HIV/AIDS)**

From 2001 through 2003, the estimated proportions of persons with HIV/AIDS for whom CD4 testing was performed within 12 months after HIV diagnosis increased in the 33 states with confidential name-based HIV infection reporting. During the same period, the proportions of persons who had a diagnosis of AIDS within 12 months after their HIV diagnosis increased. (See Table 1 for a summary description of persons, by stratified CD4 counts and no CD4 count, aggregated for 2001–2003.) For the years 2001–2003 combined (Table 1), 31.7% of persons had an AIDS-defining CD4 count (fewer than 200 cells/ $\mu$ L) as the first CD4 count after HIV diagnosis. (See Table 2 for a description of persons with and persons without a CD4 count within 12 months after diagnosis for each diagnosis year, 2001, 2002, and 2003.) For each year, approximately 55% (53.5% to 57.9%) of persons with a new diagnosis of HIV infection had a CD4 count within 12 months after that diagnosis. (See Table 3 for a description of persons, by median CD4 count obtained within 12 months after diagnosis, for each diagnosis year, 2001, 2002, and 2003.) For each year, the median CD4 count within 12 months after HIV diagnosis remained below 200 cells/ $\mu$ L.

### **Age group**

Persons in the oldest age groups (55–64 and 65 and older) were the largest proportion of persons whose first CD4 count was an AIDS-defining CD4 count (more than 40%); however, persons in these age groups were the smallest proportion without a CD4 count within 12 months after HIV diagnosis (Table 1). Compared with persons in all other age groups, those in the age group 15–24 years were the smallest proportion with AIDS-defining CD4 counts as the first CD4

count after diagnosis, but they were also the largest proportion without a CD4 count.

From 2001 through 2003 (Table 2), 55% or more of those aged 35 years and older had a CD4 count within 12 months after HIV diagnosis. Compared with persons in older age groups, those younger than 35 years were the smallest proportion with a CD4 result; of persons in the age group 15–24 years, approximately 43% had a CD4 count within 12 months after HIV diagnosis.

From 2001 through 2003 (Table 3), the median CD4 count performed within 12 months after HIV diagnosis remained the same or decreased for most age groups except the 2 extreme age groups, 13–14 and 65 and older, for whom the median CD4 count increased.

### **Race/ethnicity**

The first CD4 count after HIV diagnosis was AIDS defining for more than one third of Hispanics, followed by decreasing proportions of blacks, Asians/Pacific Islanders, whites, and American Indians/Alaska Natives (Table 1).

From 2001 through 2003 (Table 2), a CD4 test was performed within 12 months after HIV diagnosis for almost two thirds of American Indians/Alaska Natives (58.3%–66.8%), followed by decreasing proportions of whites, Asians/Pacific Islanders, blacks, and Hispanics.

From 2001 through 2003 (Table 3), the median CD4 count within 12 months after HIV diagnosis decreased for all racial and ethnic groups except Asians/Pacific Islanders, whose median CD4 count increased from 167 cells/ $\mu$ L in 2001 to 179 cells/ $\mu$ L in 2003.

### **Sex**

The first CD4 result after HIV diagnosis was AIDS defining for a larger proportion of males (33.3%) than females (27.9%) (Table 1).

From 2001 through 2003 (Table 2), the proportion of males with a CD4 count within 12 months after HIV diagnosis was consistently larger than that of females and increased from 55.1% to 59.1%. For females during this period, the proportion with a CD4 count increased, from 49.7% to 54.8%.

From 2001 through 2003 (Table 3), the median CD4 counts for males and for females within 12 months after HIV diagnosis remained unchanged or decreased slightly.

### **Transmission category**

Male injection drug users (IDUs) were the largest proportion (38.3%) with an AIDS-defining CD4 count as the first CD4 result within 12 months after HIV diagnosis, and men who have sex with men (MSM) were the smallest proportion (30.9%) (Table 1). Although females were the smallest proportion with an AIDS-defining CD4 count (approximately 28%), they also were among the largest proportions who did not have a CD4 count within 12 months after HIV diagnosis.

From 2001 through 2003 (Table 2), MSM who were also IDUs were the largest proportion with a CD4 count within 12 months after HIV diagnosis, and this proportion increased over time (from 60.2% in 2001 to 63.6% in 2003). Men exposed through heterosexual contact with a high-risk partner were the smallest proportion with a CD4 count (approximately 53%), but this proportion increased through 2003. A larger proportion of female IDUs (50% or more) had a CD4 count within 12 months after HIV diagnosis, compared with those exposed through heterosexual contact with a high-risk partner (more than 49%), but among women exposed through heterosexual contact with a high-risk partner, the proportion with a CD4 count increased slightly (from 49.3% in 2001 to 54.0% in 2003).

From 2001 through 2003 (Table 3), median CD4 counts from tests performed within 12 months after HIV diagnosis remained unchanged or decreased for males and females in each transmission category. The highest median CD4 count in 2001 was for MSM who were IDUs, but by 2003, that count decreased to a level equivalent to that for MSM; the median CD4 count for MSM remained unchanged from 2001 through 2003. For females, the highest median CD4 count in 2001 was that for females exposed through heterosexual contact with a high-risk partner. Although the median count for this group decreased from 2001 through 2003, it continued to be the highest median count for females.

### **CD4 Count after HIV Diagnosis, by HIV Disease Category**

During 2001–2003, the estimated proportions of persons who had a diagnosis of HIV with AIDS in the 33 states with confidential name-based HIV infection reporting remained relatively stable (see Tables 11–13). During this same period, the proportions of per-

sons who had HIV without AIDS decreased, and the proportions of persons who had HIV to AIDS increased (Tables 11–13). (See Table 4 for a summary distribution of persons' HIV disease category, by stratified CD4 counts and no CD4 count, aggregated for 2001–2003.) An AIDS-defining CD4 count was more common among persons who had HIV with AIDS (86%) than among those who had HIV to AIDS (81%); similarly, the absence of a CD4 count was more common among persons who had HIV with AIDS (6%) than among persons who had HIV to AIDS (3%). (See Table 5 for the distribution of persons with and persons without a CD4 result within 12 months after diagnosis, by HIV disease category for each diagnosis year, 2001, 2002, and 2003.) More than two thirds of persons who had a diagnosis of HIV without AIDS, compared with about 3% (2%–4%) of persons who had HIV to AIDS and 6% (5%–7%) of persons who had HIV with AIDS, did not have a CD4 count within 12 months after HIV diagnosis. (See Table 6 for median CD4 count within 12 months after diagnosis, by HIV disease category for each diagnosis year, 2001, 2002, and 2003.) From 2001 through 2003, the median CD4 count for each disease category remained unchanged or decreased slightly.

### ***HIV without AIDS***

The distribution of CD4 counts was similar for males and females who had a diagnosis of HIV without AIDS, although a larger proportion of females had no CD4 count within 12 months after HIV diagnosis (Table 4).

During 2001–2003 (Table 5), the proportion of females who had a CD4 count within 12 months after diagnosis increased (from 28.7% in 2001 to 32.0% in 2003); the proportion of males with a CD4 count also increased (from 30.7% in 2001 to 33.3% in 2003).

From 2001 through 2003 (Table 6), the median CD4 count increased slightly for females; for males, the median CD4 count decreased.

### ***HIV to AIDS***

In a comparison, by sex, of persons who had HIV to AIDS and an AIDS-defining CD4 count as the first CD4 result within 12 months after diagnosis, the proportion of females (81.6%) was slightly larger than the proportion of males (80.1%) (Table 4).

During 2001–2003 (Table 5), the proportions of males and females with a CD4 count within 12 months

after HIV diagnosis increased each year, reaching a high of 98%.

For females, the median CD4 count within 12 months after HIV diagnosis decreased from 2001 through 2003 and by 2003 was almost equal to the median count for males, for whom the median count during this period remained unchanged (Table 6).

### ***HIV with AIDS***

Similar proportions of males and females (86%) who had HIV with AIDS had an AIDS-defining CD4 count as the first CD4 result within 12 months after HIV diagnosis (Table 4).

During 2001–2003 (Table 5), the proportions of males and females with a CD4 count within 12 months after HIV diagnosis increased slightly each year, reaching a high of approximately 95%.

The median CD4 counts in 2001 were equal for males and females; during 2001–2003, the median counts for males and for females remained essentially unchanged (Table 6).

## **Longitudinal CD4 Counts, by Selected Disease Categories**

### ***Prevalent CD4 count***

Among HIV-infected persons who were alive as of December 31, 2004, in the 33 states with confidential name-based HIV infection reporting, the number of persons with a diagnosis of HIV infection approached the number of persons with a diagnosis of AIDS except for females, persons younger than 35 years, and American Indians/Alaska Natives (Table 7). The CD4 count categorization presented in Table 7 reflects the lowest documented CD4 count for persons who were alive at the end of 2004. For surveillance purposes, persons in whom HIV infection progresses to AIDS remain categorized as having AIDS even if their CD4 count increases to more than 200 cells/ $\mu$ L. In Table 7, which reflects the lowest documented CD4 count, persons categorized as having AIDS at the end of 2004 may no longer meet the immunologic criteria for AIDS.

### ***Incident CD4 test result***

Among persons whose diagnosis of HIV infection was made in 2001, who were categorized as having HIV without AIDS, and who were followed up for as many as 53 months (June 2005) in the 33 states with confidential name-based HIV infection reporting, 49%



had at least 1 CD4 test result (Table 8). For almost one fifth of these persons, the specimen for the earliest CD4 test was collected within 1 month after HIV diagnosis. An additional one quarter had a CD4 test result by June 2005 (2–53 months after HIV diagnosis), but 51% still had no CD4 test result at the end June 2005 (42–53 months after HIV diagnosis).

## Laboratory Test Results and Other Findings after HIV Diagnosis, by Disease Category

### CD4 and viral load testing

During 2001–2003, in the 33 states with confidential name-based HIV infection reporting, the estimated proportion of persons with HIV/AIDS (HIV without AIDS, HIV to AIDS, and HIV with AIDS) who had neither CD4 nor viral load testing within 12 months after diagnosis decreased slightly (from 33.5% to 32.4%) (Table 9a). For a shorter follow-up period, which matches a CDC objective—3 months—the proportion without a test result also decreased among persons with diagnosis in 2001 and those with diagnosis in 2003 (from 42.2% to 41.2%) (Table 9b). For both follow-up periods, a consistently larger proportion of persons with a diagnosis of HIV without AIDS, compared with HIV to AIDS and HIV with AIDS, had no test result at follow-up. The group most affected by shortening the follow-up time from 12 to 3 months was the HIV to AIDS group, among whom the proportion without a test result increased 8- to 17-fold.

### CD4 result and presence of opportunistic illness

During 2001–2003, among persons with a diagnosis of AIDS (HIV to AIDS and HIV with AIDS) in the 33 states with confidential name-based HIV infection reporting, AIDS-defining CD4 test results, regardless of diagnosis of opportunistic illness, grew in predominance as the criterion for AIDS diagnosis (Table 10). A larger proportion of persons who had HIV to AIDS or HIV with AIDS and who had both an opportunistic illness and a CD4 test result were more immunocompromised, as measured by a CD4 count of fewer than 50 cells/ $\mu$ L, than were those whose diagnosis of AIDS was based on CD4 result alone.

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**Table 1. Estimated distribution of reported results of the first CD4 test performed within 12 months after HIV diagnosis among adults and adolescents with HIV/AIDS, by selected characteristics, 2001–2003—33 states with confidential name-based HIV infection reporting**

	CD4 count, cells/ $\mu$ L <sup>a</sup>				No CD4 count No. (%)	Total No. <sup>b</sup>
	<200 No. (%)	200–350 No. (%)	351–500 No. (%)	>500 No. (%)		
<b>Sex</b>						
Male	27,748 (33.3)	6,936 (8.3)	5,838 (7.0)	7,191 (8.6)	35,660 (42.8)	83,372
Female	9,542 (27.9)	2,697 (7.9)	2,284 (6.7)	3,159 (9.2)	16,509 (48.3)	34,191
<b>Age as of end of year (yrs)</b>						
13–14	34 (22.3)	17 (11.2)	12 (7.7)	19 (12.3)	71 (46.4)	152
15–24	1,787 (14.0)	1,080 (8.4)	1,114 (8.7)	1,490 (11.7)	7,307 (57.2)	12,778
25–34	8,763 (27.3)	2,690 (8.4)	2,441 (7.6)	3,180 (9.9)	15,009 (46.8)	32,082
35–44	14,736 (34.6)	3,437 (8.1)	2,850 (6.7)	3,558 (8.4)	17,977 (42.2)	42,559
45–54	8,464 (38.9)	1,730 (8.0)	1,243 (5.7)	1,653 (7.6)	8,659 (39.8)	21,749
55–64	2,650 (41.9)	535 (8.5)	369 (5.8)	363 (5.7)	2,410 (38.1)	6,327
≥65	856 (44.7)	144 (7.5)	93 (4.9)	86 (4.5)	737 (38.5)	1,917
<b>Transmission category</b>						
<b>Male adult or adolescent</b>						
Male-to-male sexual contact	15,519 (30.9)	4,296 (8.6)	3,863 (7.7)	4,863 (9.7)	21,623 (43.1)	50,165
Injection drug use	5,243 (38.3)	1,085 (7.9)	838 (6.1)	966 (7.1)	5,569 (40.7)	13,701
Male-to-male sexual contact and injection drug use	1,412 (32.5)	407 (9.4)	349 (8.0)	557 (12.8)	1,620 (37.3)	4,345
Heterosexual contact <sup>c</sup>	5,315 (36.4)	1,104 (7.6)	761 (5.2)	778 (5.3)	6,655 (45.5)	14,612
Other <sup>d</sup>	260 (47.2)	44 (8.0)	27 (5.0)	27 (4.8)	192 (35.0)	549
<b>Female adult or adolescent</b>						
Injection drug use	2,201 (29.3)	583 (7.8)	494 (6.6)	729 (9.7)	3,515 (46.7)	7,522
Heterosexual contact <sup>c</sup>	7,104 (27.2)	2,062 (7.9)	1,761 (6.8)	2,397 (9.2)	12,763 (48.9)	26,087
Other <sup>d</sup>	237 (40.7)	53 (9.0)	28 (4.9)	33 (5.6)	232 (39.8)	583
<b>Race/ethnicity</b>						
White, not Hispanic	10,096 (30.1)	3,081 (9.2)	3,025 (9.0)	4,475 (13.4)	12,835 (38.3)	33,511
Black, not Hispanic	19,343 (32.0)	4,736 (7.8)	3,633 (6.0)	4,404 (7.3)	28,242 (46.8)	60,358
Hispanic	7,228 (33.5)	1,608 (7.5)	1,293 (6.0)	1,277 (5.9)	10,141 (47.1)	21,547
Asian/Pacific Islander	296 (31.5)	98 (10.4)	72 (7.7)	61 (6.5)	412 (43.8)	939
American Indian/Alaska Native	165 (29.7)	62 (11.2)	58 (10.4)	64 (11.6)	207 (37.2)	557
Unknown	162 (24.8)	48 (7.3)	41 (6.3)	68 (10.5)	332 (51.0)	651
<b>Total<sup>e</sup></b>	<b>37,290 (31.7)</b>	<b>9,633 (8.2)</b>	<b>8,122 (6.9)</b>	<b>10,350 (8.8)</b>	<b>52,169 (44.4)</b>	<b>117,564</b>

Note. These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays and for redistribution of cases in persons initially reported without an identified risk factor. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> When only CD4 percentage was available, a CD4 count was interpreted.

<sup>b</sup> Because row totals were calculated independently of the row values, the values in each row may not sum to the row total.

<sup>c</sup> With person at high risk or with a diagnosis of HIV infection or AIDS.

<sup>d</sup> Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.

<sup>e</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 2. Estimated proportions of adults and adolescents with HIV/AIDS for whom a CD4 test was performed within 12 months after HIV diagnosis, by year of diagnosis and selected characteristics, 2001–2003—33 states with confidential name-based HIV infection reporting**

	2001			2002			2003		
	CD4 count <sup>a</sup>		Total No.	CD4 count <sup>a</sup>		Total No.	CD4 count <sup>a</sup>		Total No.
	No.	(%)		No.	(%)		No.	(%)	
<b>Sex</b>									
Male	15,734	(55.1)	28,555	15,895	(57.6)	27,617	16,083	(59.1)	27,200
Female	6,086	(49.7)	12,248	5,747	(51.0)	11,263	5,849	(54.8)	10,680
<b>Age as of end of year (yrs)</b>									
13–14	26	(48.4)	53	23	(50.2)	46	33	(61.7)	53
15–24	1,812	(42.7)	4,247	1,717	(41.2)	4,167	1,942	(44.5)	4,364
25–34	5,891	(51.9)	11,348	5,673	(52.6)	10,778	5,509	(55.3)	9,956
35–44	8,141	(54.5)	14,927	8,210	(58.3)	14,071	8,232	(60.7)	13,561
45–54	4,272	(57.6)	7,422	4,348	(61.2)	7,108	4,471	(61.9)	7,219
55–64	1,289	(60.4)	2,135	1,303	(62.5)	2,085	1,325	(62.9)	2,107
≥65	390	(58.2)	671	369	(58.9)	626	421	(67.8)	620
<b>Transmission category</b>									
<b>Male adult or adolescent</b>									
Male-to-male sexual contact	9,170	(55.3)	16,589	9,565	(56.9)	16,812	9,806	(58.5)	16,764
Injection drug use	2,865	(55.5)	5,162	2,689	(61.5)	4,370	2,577	(61.8)	4,169
Male-to-male sexual contact and injection drug use	916	(60.2)	1,522	921	(64.6)	1,427	888	(63.6)	1,396
Heterosexual contact <sup>b</sup>	2,662	(52.4)	5,081	2,600	(53.8)	4,829	2,695	(57.3)	4,702
Other <sup>c</sup>	121	(60.3)	200	120	(67.0)	179	117	(68.6)	170
<b>Female adult or adolescent</b>									
Injection drug use	1,440	(50.2)	2,869	1,290	(53.7)	2,403	1,277	(56.8)	2,250
Heterosexual contact <sup>b</sup>	4,527	(49.3)	9,173	4,347	(50.1)	8,678	4,450	(54.0)	8,236
Other <sup>c</sup>	119	(57.7)	207	110	(60.8)	181	121	(62.4)	195
<b>Race/ethnicity</b>									
White, not Hispanic	6,695	(59.9)	11,176	6,939	(61.4)	11,294	7,042	(63.8)	11,041
Black, not Hispanic	10,937	(51.4)	21,268	10,514	(52.6)	19,976	10,665	(55.8)	19,115
Hispanic	3,812	(50.0)	7,621	3,791	(55.0)	6,897	3,802	(54.1)	7,029
Asian/Pacific Islander	142	(53.8)	265	162	(52.1)	311	223	(61.4)	363
American Indian/Alaska Native	114	(66.8)	171	127	(63.6)	199	109	(58.3)	187
Unknown	120	(39.5)	303	109	(53.7)	202	91	(62.2)	146
<b>Total<sup>d</sup></b>	<b>21,820</b>	<b>(53.5)</b>	<b>40,804</b>	<b>21,642</b>	<b>(55.7)</b>	<b>38,880</b>	<b>21,932</b>	<b>(57.9)</b>	<b>37,880</b>

Note. These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays and for redistribution of cases in persons initially reported without an identified risk factor. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> When only CD4 percentage was available, a CD4 count was interpreted.

<sup>b</sup> With person at high risk or with a diagnosis of HIV infection or AIDS.

<sup>c</sup> Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.

<sup>d</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 3. Median results of the first CD4 test performed within 12 months after HIV diagnosis among adults and adolescents with HIV/AIDS, by year of diagnosis and selected characteristics, 2001–2003—33 states with confidential name-based HIV infection reporting**

	2001			2002			2003		
	Median CD4 count <sup>a</sup>	25%–75%	Total No.	Median CD4 count <sup>a</sup>	25%–75%	Total No.	Median CD4 count <sup>a</sup>	25%–75%	Total No.
<b>Sex</b>									
Male	168	48–380	15,734	165	47–383	15,895	164	48–365	16,083
Female	187	63–412	6,086	187	68–418	5,747	180	59–398	5,849
<b>Age as of end of year (yrs)</b>									
13–14	197	37–528	26	273	150–395	23	338	134–588	33
15–24	352	176–544	1,812	328	163–510	1,717	326	153–506	1,942
25–34	197	63–429	5,891	192	62–436	5,673	190	65–417	5,509
35–44	160	44–364	8,141	162	46–374	8,210	153	45–349	8,232
45–54	147	44–316	4,272	140	41–325	4,348	134	36–312	4,471
55–64	131	38–288	1,289	122	34–262	1,303	131	41–275	1,325
≥65	116	32–209	390	107	35–239	369	119	41–235	421
<b>Transmission category</b>									
<b>Male adult or adolescent</b>									
Male-to-male sexual contact	182	55–407	9,170	180	56–415	9,565	181	57–397	9,806
Injection drug use	151	42–326	2,865	140	36–309	2,689	138	36–312	2,577
Male-to-male sexual contact and injection drug use	200	60–448	916	195	62–468	921	182	55–414	888
Heterosexual contact <sup>b</sup>	134	33–303	2,662	123	32–285	2,600	127	32–271	2,695
Other <sup>c</sup>	106	31–197	121	122	40–323	120	98	25–214	117
<b>Female adult or adolescent</b>									
Injection drug use	182	66–395	1,440	190	68–441	1,290	176	64–411	1,277
Heterosexual contact <sup>b</sup>	192	63–419	4,527	187	68–416	4,347	182	59–399	4,450
Other <sup>c</sup>	126	31–268	119	150	46–252	110	126	35–266	121
<b>Race/ethnicity</b>									
White, not Hispanic	217	74–468	6,695	218	78–478	6,939	199	72–444	7,042
Black, not Hispanic	164	40–362	10,937	156	41–348	10,514	154	38–347	10,665
Hispanic	158	48–324	3,812	151	44–339	3,791	151	48–313	3,802
Asian/Pacific Islander	167	46–337	142	170	48–360	162	179	69–389	223
American Indian/Alaska Native	198	72–434	114	299	90–467	127	186	48–385	109
Unknown	272	86–514	120	171	39–362	109	189	68–440	91
<b>Total<sup>d</sup></b>	<b>175</b>	<b>50–389</b>	<b>21,820</b>	<b>170</b>	<b>50–393</b>	<b>21,642</b>	<b>167</b>	<b>50–374</b>	<b>21,932</b>

*Note.* These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays and for redistribution of cases in persons initially reported without an identified risk factor. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> When only CD4 percentage was available, a CD4 count was interpreted.

<sup>b</sup> With person at high risk or with a diagnosis of HIV infection or AIDS.

<sup>c</sup> Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.

<sup>d</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 4. Estimated distribution of reported results of the first CD4 test performed within 12 months after HIV diagnosis among adults and adolescents, by disease category and sex, 2001–2003—33 states with confidential name-based HIV infection reporting**

	CD4 count, cells/ $\mu$ L <sup>a</sup>				No CD4 count No. (%)	Total No <sup>b</sup>
	<200 No. (%)	200–350 No. (%)	351–500 No. (%)	>500 No. (%)		
<b>HIV without AIDS<sup>c</sup></b>						
Males	— —	4,348 (8.7)	4,998 (10.0)	6,724 (13.4)	34,023 (67.9)	50,094
Females	— —	1,855 (8.1)	2,015 (8.8)	2,996 (13.1)	15,975 (69.9)	22,840
Subtotal	— —	6,203 (8.5)	7,013 (9.6)	9,720 (13.3)	49,997 (68.6)	72,933
<b>HIV to AIDS<sup>d</sup></b>						
Males	11,129 (80.1)	1,572 (11.3)	514 (3.7)	271 (2.0)	405 (2.9)	13,890
Females	4,210 (81.6)	546 (10.6)	181 (3.5)	92 (1.8)	129 (2.5)	5,157
Subtotal	15,338 (80.5)	2,118 (11.1)	694 (3.6)	363 (1.9)	533 (2.8)	19,047
<b>HIV with AIDS<sup>e</sup></b>						
Males	16,618 (85.7)	1,016 (5.2)	326 (1.7)	196 (1.0)	1,233 (6.4)	19,388
Females	5,332 (86.1)	296 (4.8)	89 (1.4)	71 (1.1)	406 (6.6)	6,195
Subtotal	21,951 (85.8)	1,312 (5.1)	415 (1.6)	267 (1.0)	1,639 (6.4)	25,583

*Note.* These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

Dash indicates not applicable.

<sup>a</sup> When only CD4 percentage was available, a CD4 count was interpreted.

<sup>b</sup> Because row totals were calculated independently of the row values, the values in each row may not sum to the row total.

<sup>c</sup> For at least 12 months after HIV diagnosis.

<sup>d</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>e</sup> HIV and AIDS diagnosed during the same calendar month.

**Table 5. Estimated proportions of adults and adolescents with HIV/AIDS for whom a CD4 test was performed within 12 months after HIV diagnosis, by year of diagnosis, disease category, and sex, 2001–2003—33 states with confidential name-based HIV infection reporting**

	2001			2002			2003		
	CD4 count <sup>a</sup>	No CD4 count	Total	CD4 count <sup>a</sup>	No CD4 count	Total	CD4 count <sup>a</sup>	No CD4 count	Total
	No. (%)	No. (%)	No.	No. (%)	No. (%)	No.	No. (%)	No. (%)	No.
<b>HIV without AIDS<sup>b</sup></b>									
Males	5,380 (30.7)	12,168 (69.3)	17,548	5,349 (32.4)	11,168 (67.6)	16,516	5,343 (33.3)	10,688 (66.7)	16,030
Females	2,392 (28.7)	5,939 (71.3)	8,330	2,265 (29.8)	5,338 (70.2)	7,603	2,209 (32.0)	4,698 (68.0)	6,907
Subtotal	7,772 (30.0)	18,106 (70.0)	25,878	7,614 (31.6)	16,505 (68.4)	24,119	7,551 (32.9)	15,386 (67.1)	22,937
<b>HIV to AIDS<sup>c</sup></b>									
Males	4,224 (96.2)	165 (3.8)	4,390	4,446 (97.0)	135 (3.0)	4,582	4,815 (97.9)	104 (2.1)	4,919
Females	1,648 (96.5)	60 (3.5)	1,708	1,636 (97.6)	40 (2.4)	1,676	1,744 (98.4)	28 (1.6)	1,772
Subtotal	5,873 (96.3)	225 (3.7)	6,098	6,082 (97.2)	176 (2.8)	6,257	6,559 (98.0)	132 (2.0)	6,691
<b>HIV with AIDS<sup>d</sup></b>									
Males	6,130 (92.6)	488 (7.4)	6,618	6,100 (93.6)	419 (6.4)	6,519	5,925 (94.8)	326 (5.2)	6,251
Females	2,046 (92.6)	163 (7.4)	2,209	1,846 (93.1)	138 (6.9)	1,984	1,896 (94.8)	105 (5.2)	2,001
Subtotal	8,176 (92.6)	651 (7.4)	8,827	7,946 (93.5)	557 (6.5)	8,503	7,821 (94.8)	430 (5.2)	8,252

*Note.* These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> When only CD4 percentage was available, a CD4 count was interpreted.

<sup>b</sup> For at least 12 months after HIV diagnosis.

<sup>c</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>d</sup> HIV and AIDS diagnosed during the same calendar month.

**Table 6. Median results of the first CD4 test performed within 12 months after HIV diagnosis among adults and adolescents, by year of diagnosis, disease category, and sex, 2001–2003—33 states with confidential name-based HIV infection reporting**

	2001			2002			2003		
	Median CD4 count <sup>a</sup>	25%–75%	Total No.	Median CD4 count <sup>a</sup>	25%–75%	Total No.	Median CD4 count <sup>a</sup>	25%–75%	Total No.
<b>HIV without AIDS<sup>b</sup></b>									
Males	457	341–640	5,380	470	350–644	5,349	445	336–610	5,343
Females	455	345–640	2,392	469	340–664	2,265	460	343–655	2,209
Subtotal	456	342–640	7,772	470	348–649	7,614	450	338–626	7,551
<b>HIV to AIDS<sup>c</sup></b>									
Males	117	38–184	4,224	113	38–182	4,446	117	40–182	4,815
Females	129	48–187	1,648	130	48–182	1,636	119	45–182	1,744
Subtotal	121	40–185	5,873	117	41–182	6,082	117	41–182	6,559
<b>HIV with AIDS<sup>d</sup></b>									
Males	62	20–146	6,130	58	20–140	6,100	59	20–137	5,925
Females	62	20–151	2,046	68	20–152	1,846	60	20–143	1,896
Subtotal	62	20–147	8,176	60	20–143	7,946	60	20–138	7,821

Note. These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> When only CD4 percentage was available, a CD4 count was interpreted.

<sup>b</sup> For at least 12 months after HIV diagnosis.

<sup>c</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>d</sup> HIV and AIDS diagnosed during the same calendar month.

**Table 7. Estimated numbers of adults and adolescents with HIV infection and those with AIDS at the end of 2004, by selected characteristics and lowest CD4 count—33 states with confidential name-based HIV infection reporting**

	HIV infection				AIDS Total No.
	CD4 count, cells/ $\mu$ L <sup>a</sup>		No CD4 count No. (%)	Total No. <sup>b</sup>	
	200–350 No. (%)	>350 No. (%)			
<b>Sex<sup>c</sup></b>					
Male	18,354 (12.5)	47,869 (32.6)	80,430 (54.8)	146,653	187,093
Female	7,528 (12.0)	20,655 (32.8)	34,796 (55.2)	62,978	61,726
<b>Age as of end of year (yrs)</b>					
13–14	9 (1.3)	70 (9.9)	629 (88.8)	708	528
15–24	1,230 (9.9)	3,201 (25.7)	8,043 (64.5)	12,474	4,559
25–34	5,540 (11.8)	14,875 (31.6)	26,709 (56.7)	47,123	29,745
35–44	10,161 (12.5)	27,629 (34.1)	43,329 (53.4)	81,119	98,480
45–54	6,550 (13.0)	17,024 (33.9)	26,624 (53.0)	50,199	82,017
55–64	1,911 (13.3)	4,703 (32.9)	7,700 (53.8)	14,313	26,353
≥65	482 (13.0)	1,023 (27.6)	2,195 (59.3)	3,700	7,137
<b>Transmission category<sup>c</sup></b>					
<b>Male adult or adolescent</b>					
Male-to-male sexual contact	11,921 (12.9)	31,135 (33.6)	49,643 (53.6)	92,699	106,220
Injection drug use	2,687 (12.2)	7,348 (33.3)	12,029 (54.5)	22,063	39,676
Male-to-male sexual contact and injection drug use	1,307 (14.2)	3,835 (41.7)	4,044 (44.0)	9,187	14,137
Heterosexual contact <sup>d</sup>	2,228 (10.6)	5,098 (24.4)	13,608 (65.0)	20,934	23,633
Other <sup>e</sup>	211 (11.9)	453 (25.6)	1,106 (62.5)	1,770	3,427
<b>Female adult or adolescent</b>					
Injection drug use	1,862 (12.9)	5,157 (35.8)	7,374 (51.2)	14,394	19,198
Heterosexual contact <sup>d</sup>	5,534 (11.8)	15,117 (32.1)	26,383 (56.1)	47,034	40,093
Other <sup>e</sup>	131 (8.4)	381 (24.6)	1,038 (67.0)	1,550	2,435
<b>Race/ethnicity</b>					
White, not Hispanic	10,320 (14.3)	28,565 (39.7)	33,117 (46.0)	72,002	84,666
Black, not Hispanic	11,340 (11.1)	30,102 (29.3)	61,181 (59.6)	102,623	114,537
Hispanic	3,695 (11.9)	8,763 (28.3)	18,511 (59.8)	30,969	46,232
Asian/Pacific Islander	198 (15.5)	357 (28.0)	720 (56.5)	1,275	1,404
American Indian/Alaska Native	166 (16.2)	396 (38.7)	462 (45.1)	1,024	960
Unknown	163 (9.3)	342 (19.6)	1,238 (71.1)	1,743	1,021
<b>Total<sup>f</sup></b>	<b>25,881 (12.3)</b>	<b>68,525 (32.7)</b>	<b>115,229 (55.0)</b>	<b>209,635</b>	<b>248,820</b>

Note. In this table, all living persons from the 33 states with confidential name-based reporting are categorized as having HIV infection or AIDS. The term *HIV infection* (rather than *HIV without AIDS*) is used here to refer to persons with HIV infection with no evidence of AIDS, regardless of time (i.e., not restricted to 12 months after HIV diagnosis).

These numbers do not represent actual cases in persons living with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays and for redistribution of cases in persons initially reported without an identified risk factor. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

Based on data received through June 2005; includes persons who were reported as alive or whose vital status was missing or unknown, as of December 31, 2004.

<sup>a</sup> When only CD4 percentage was available, a CD4 count was interpreted.

<sup>b</sup> Because row totals were calculated independently of the row values, the values in each row may not sum to the row total.

<sup>c</sup> Excludes persons of unknown sex.

<sup>d</sup> With person at high risk or with a diagnosis of HIV infection or AIDS.

<sup>e</sup> Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.

<sup>f</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.



**Table 8. Time to first reported results of CD4 testing performed at the time of, or after, HIV diagnosis among adults and adolescents with HIV without AIDS, diagnosis in 2001 and follow-up through June 2005—33 states with confidential name-based HIV infection reporting**

	HIV without AIDS						Total No. <sup>b</sup> (%) <sup>c</sup>
	CD4 % only No. (%)	CD4 count, cells/ $\mu$ L			AIDS-defining CD4 result <sup>a</sup> No. (%)		
		200–350 No. (%)	351–500 No. (%)	>500 No. (%)			
<b>Time (mos)</b>							
0 <sup>d</sup>	134 (3.8)	865 (24.6)	990 (28.1)	1,531 (43.5)	— —	3,520 (13.9)	
1	60 (3.5)	441 (26.1)	469 (27.7)	722 (42.7)	— —	1,692 (6.7)	
2–3	59 (6.1)	243 (25.2)	261 (27.1)	400 (41.5)	— —	964 (3.8)	
4–6	68 (9.6)	131 (18.6)	219 (31.1)	287 (40.7)	— —	705 (2.8)	
7–12	104 (11.7)	173 (19.5)	272 (30.6)	340 (38.2)	— —	890 (3.5)	
13–18	22 (1.9)	153 (13.6)	167 (14.8)	241 (21.4)	542 (48.2)	1,124 (4.5)	
19–24	13 (1.4)	122 (13.0)	132 (14.0)	181 (19.3)	490 (52.2)	938 (3.7)	
25–30	25 (3.1)	111 (13.9)	82 (10.3)	144 (18.0)	438 (54.8)	800 (3.2)	
31–36	27 (3.6)	107 (14.3)	94 (12.6)	122 (16.4)	396 (53.1)	746 (3.0)	
$\geq$ 37	36 (3.6)	113 (11.3)	127 (12.7)	163 (16.3)	562 (56.2)	1,001 (4.0)	
No CD4 result <sup>e</sup>	— —	— —	— —	— —	— —	12,885 (51.0)	
<b>Total</b>						<b>25,264 (100.0)</b>	

*Note.* First CD4 result (percentage or count) for each person. All had HIV without AIDS for at least 12 months after HIV diagnosis.

These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

Dash indicates not applicable.

<sup>a</sup> CD4 count < 200 cells/ $\mu$ L, or CD4 percentage < 14.

<sup>b</sup> Because row totals were calculated independently of the row values, the values in each row may not sum to the row total.

<sup>c</sup> Percentages represent proportions of the total number of persons followed up through June 2005.

<sup>d</sup> HIV diagnosis and CD4 test result obtained during same calendar month; CD4 test results obtained before HIV diagnosis were excluded.

<sup>e</sup> Includes persons who were reported as alive or whose vital status was missing or unknown, through June 2005.

**Table 9a. Estimated distribution of reported results of laboratory tests performed within 12 months after HIV diagnosis among adults and adolescents, by year of diagnosis, disease category, and sex, 2001–2003—33 states with confidential name-based HIV infection reporting**

	CD4 only <sup>a</sup> No. (%)	CD4 & viral load No. (%)	Viral load only No. (%)	No lab test No. (%)	Total No <sup>b</sup>
<b>2001</b>					
<b>HIV without AIDS<sup>c</sup></b>					
Males	1,685 (9.6)	3,695 (21.1)	3,419 (19.5)	8,749 (49.9)	17,548
Females	736 (8.8)	1,655 (19.9)	1,746 (21.0)	4,193 (50.3)	8,330
<b>HIV to AIDS<sup>d</sup></b>					
Males	1,687 (38.4)	2,537 (57.8)	30 (0.7)	135 (3.1)	4,390
Females	607 (35.6)	1,041 (60.9)	10 (0.6)	50 (3.0)	1,708
<b>HIV with AIDS<sup>e</sup></b>					
Males	2,591 (39.2)	3,539 (53.5)	69 (1.0)	419 (6.3)	6,618
Females	867 (39.2)	1,179 (53.4)	21 (1.0)	142 (6.4)	2,209
<b>Total<sup>f</sup></b>	<b>8,174 (20.0)</b>	<b>13,646 (33.4)</b>	<b>5,296 (13.0)</b>	<b>13,687 (33.5)</b>	<b>40,804</b>
<b>2002</b>					
<b>HIV without AIDS<sup>c</sup></b>					
Males	1,414 (8.6)	3,935 (23.8)	2,849 (17.2)	8,319 (50.4)	16,516
Females	620 (8.1)	1,645 (21.6)	1,448 (19.0)	3,890 (51.2)	7,603
<b>HIV to AIDS<sup>d</sup></b>					
Males	1,729 (37.7)	2,717 (59.3)	34 (0.7)	102 (2.2)	4,582
Females	625 (37.3)	1,011 (60.3)	11 (0.6)	29 (1.7)	1,676
<b>HIV with AIDS<sup>e</sup></b>					
Males	2,476 (38.0)	3,624 (55.6)	62 (1.0)	357 (5.5)	6,519
Females	761 (38.3)	1,086 (54.7)	15 (0.8)	122 (6.2)	1,984
<b>Total<sup>f</sup></b>	<b>7,624 (19.6)</b>	<b>14,018 (36.1)</b>	<b>4,419 (11.4)</b>	<b>12,819 (33.0)</b>	<b>38,880</b>
<b>2003</b>					
<b>HIV without AIDS<sup>c</sup></b>					
Males	1,350 (8.4)	3,993 (24.9)	2,395 (14.9)	8,293 (51.7)	16,030
Females	515 (7.5)	1,693 (24.5)	1,159 (16.8)	3,539 (51.2)	6,907
<b>HIV to AIDS<sup>d</sup></b>					
Males	1,712 (34.8)	3,103 (63.1)	36 (0.7)	68 (1.4)	4,919
Females	593 (33.5)	1,151 (64.9)	3 (0.2)	26 (1.4)	1,772
<b>HIV with AIDS<sup>e</sup></b>					
Males	2,128 (34.0)	3,798 (60.8)	55 (0.9)	270 (4.3)	6,251
Females	733 (36.6)	1,164 (58.1)	16 (0.8)	89 (4.4)	2,001
<b>Total<sup>f</sup></b>	<b>7,031 (18.6)</b>	<b>14,901 (39.3)</b>	<b>3,664 (9.7)</b>	<b>12,285 (32.4)</b>	<b>37,880</b>

*Note.* These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> Count or percentage or both.

<sup>b</sup> Because row totals were calculated independently of the row values, the values in each row may not sum to the row total.

<sup>c</sup> For at least 12 months after HIV diagnosis.

<sup>d</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>e</sup> HIV and AIDS diagnosed during the same calendar month.

<sup>f</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 9b. Estimated distribution of reported results of laboratory tests performed within 3 months after HIV diagnosis among adults and adolescents, by year of diagnosis, disease category, and sex, 2001–2003—33 states with confidential name-based HIV infection reporting**

	CD4 only <sup>a</sup> No. (%)	CD4 & viral load No. (%)	Viral load only No. (%)	No lab test No. (%)	Total No <sup>b</sup>
<b>2001</b>					
<b>HIV without AIDS<sup>c</sup></b>					
Males	1,601 (9.1)	2,715 (15.5)	3,231 (18.4)	10,002 (57.0)	17,548
Females	665 (8.0)	1,196 (14.4)	1,551 (18.6)	4,919 (59.0)	8,330
<b>HIV to AIDS<sup>d</sup></b>					
Males	1,335 (30.4)	1,673 (38.1)	252 (5.8)	1,129 (25.7)	4,390
Females	496 (29.0)	662 (38.7)	133 (7.8)	417 (24.4)	1,708
<b>HIV with AIDS<sup>e</sup></b>					
Males	2,911 (44.0)	3,085 (46.6)	78 (1.2)	544 (8.2)	6,618
Females	997 (45.1)	1,000 (45.3)	26 (1.2)	186 (8.4)	2,209
<b>Total<sup>f</sup></b>	<b>8,005 (19.6)</b>	<b>10,330 (25.3)</b>	<b>5,273 (12.9)</b>	<b>17,197 (42.1)</b>	<b>40,804</b>
<b>2002</b>					
<b>HIV without AIDS<sup>c</sup></b>					
Males	1,339 (8.1)	3,090 (18.7)	2,569 (15.6)	9,519 (57.6)	16,516
Females	582 (7.7)	1,225 (16.1)	1,266 (16.7)	4,529 (59.6)	7,603
<b>HIV to AIDS<sup>d</sup></b>					
Males	1,390 (30.3)	1,852 (40.4)	270 (5.9)	1,069 (23.3)	4,582
Females	489 (29.2)	661 (39.4)	120 (7.1)	407 (24.3)	1,676
<b>HIV with AIDS<sup>e</sup></b>					
Males	2,754 (42.2)	3,207 (49.2)	63 (1.0)	494 (7.6)	6,519
Females	844 (42.5)	958 (48.3)	19 (0.9)	164 (8.3)	1,984
<b>Total<sup>f</sup></b>	<b>7,398 (19.0)</b>	<b>10,993 (28.3)</b>	<b>4,307 (11.1)</b>	<b>16,182 (41.6)</b>	<b>38,880</b>
<b>2003</b>					
<b>HIV without AIDS<sup>c</sup></b>					
Males	1,254 (7.8)	3,204 (20.0)	2,163 (13.5)	9,410 (58.7)	16,030
Females	463 (6.7)	1,303 (18.9)	1,042 (15.1)	4,098 (59.3)	6,907
<b>HIV to AIDS<sup>d</sup></b>					
Males	1,329 (27.0)	2,186 (44.4)	244 (5.0)	1,161 (23.6)	4,919
Females	477 (26.9)	811 (45.7)	79 (4.5)	406 (22.9)	1,772
<b>HIV with AIDS<sup>e</sup></b>					
Males	2,346 (37.5)	3,441 (55.0)	67 (1.1)	397 (6.3)	6,251
Females	821 (41.0)	1,033 (51.6)	24 (1.2)	124 (6.2)	2,001
<b>Total<sup>f</sup></b>	<b>6,689 (17.7)</b>	<b>11,977 (31.6)</b>	<b>3,619 (9.6)</b>	<b>15,596 (41.2)</b>	<b>37,880</b>

Note. These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> Count or percentage or both.

<sup>b</sup> Because row totals were calculated independently of the row values, the values in each row may not sum to the row total.

<sup>c</sup> For at least 12 months after HIV diagnosis.

<sup>d</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>e</sup> HIV and AIDS diagnosed during the same calendar month.

<sup>f</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 10. AIDS-defining criteria among adults and adolescents with AIDS, by year of diagnosis and CD4 test results, 2001–2003—33 states with confidential name-based HIV infection reporting**

	CD4 count, cells/ $\mu$ L					Total <sup>a</sup> No. (%)
	CD4 % < 14 No. (%)	<50 No. (%)	50–99 No. (%)	100–199 No. (%)		
<b>2001</b>						
<b>HIV to AIDS<sup>b</sup></b>						
CD4 <sup>c</sup> only	1,017 (19.7)	1,292 (25.0)	728 (14.1)	2,126 (41.2)	5,164 (84.7)	
CD4 and opportunistic illness <sup>d</sup>	23 (4.8)	304 (64.1)	71 (15.0)	76 (16.1)	474 (7.8)	
Opportunistic illness only <sup>e</sup>	—	—	—	—	460 (7.5)	
Subtotal					6,098 (100.0)	
<b>HIV with AIDS<sup>f</sup></b>						
CD4 <sup>c</sup> only	906 (16.4)	1,952 (35.3)	873 (15.8)	1,800 (32.5)	5,531 (62.7)	
CD4 and opportunistic illness <sup>d</sup>	72 (3.9)	1,218 (66.2)	341 (18.5)	210 (11.4)	1,840 (20.8)	
Opportunistic illness only <sup>e</sup>	—	—	—	—	1,456 (16.5)	
Subtotal					8,827 (100.0)	
<b>2002</b>						
<b>HIV to AIDS<sup>b</sup></b>						
CD4 <sup>c</sup> only	1,061 (19.7)	1,349 (25.0)	845 (15.7)	2,137 (39.6)	5,392 (86.2)	
CD4 and opportunistic illness <sup>d</sup>	28 (6.2)	247 (54.9)	88 (19.7)	86 (19.2)	450 (7.2)	
Opportunistic illness only <sup>e</sup>	—	—	—	—	415 (6.6)	
Subtotal					6,257 (100.0)	
<b>HIV with AIDS<sup>f</sup></b>						
CD4 <sup>c</sup> only	817 (15.0)	2,018 (37.0)	902 (16.5)	1,717 (31.5)	5,453 (64.1)	
CD4 and opportunistic illness <sup>d</sup>	59 (3.4)	1,133 (65.8)	291 (16.9)	240 (13.9)	1,723 (20.3)	
Opportunistic illness only <sup>e</sup>	—	—	—	—	1,327 (15.6)	
Subtotal					8,503 (100.0)	
<b>2003</b>						
<b>HIV to AIDS<sup>b</sup></b>						
CD4 <sup>c</sup> only	1,166 (19.9)	1,445 (24.6)	955 (16.3)	2,303 (39.2)	5,870 (87.7)	
CD4 and opportunistic illness <sup>d</sup>	21 (4.3)	291 (60.0)	94 (19.4)	79 (16.2)	485 (7.2)	
Opportunistic illness only <sup>e</sup>	—	—	—	—	336 (5.0)	
Subtotal					6,691 (100.0)	
<b>HIV with AIDS<sup>f</sup></b>						
CD4 <sup>c</sup> only	785 (14.7)	1,976 (37.0)	914 (17.1)	1,664 (31.2)	5,340 (64.7)	
CD4 and opportunistic illness <sup>d</sup>	52 (3.0)	1,157 (66.9)	310 (17.9)	211 (12.2)	1,730 (21.0)	
Opportunistic illness only <sup>e</sup>	—	—	—	—	1,182 (14.3)	
Subtotal					8,252 (100.0)	

Note. These numbers do not represent actual cases in persons with a diagnosis of AIDS. Rather, these numbers are point estimates of AIDS case counts that have been adjusted for reporting delays. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

Dash indicates the absence of an AIDS-defining CD4 result.

<sup>a</sup> Because row totals were calculated independently of the row values, the values in each row may not sum to the row total.

<sup>b</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>c</sup> AIDS-defining immunologic CD4 result (i.e., CD4 count < 200 cells/ $\mu$ L, or CD4 percentage < 14%).

<sup>d</sup> AIDS-defining diseases or conditions (i.e., opportunistic illness), according to 1993 case definition, and AIDS-defining immunologic CD4 result.

<sup>e</sup> AIDS-defining opportunistic illness, without AIDS-defining immunologic CD4 result.

<sup>f</sup> HIV and AIDS diagnosed during the same calendar month.

**Table 11. Estimated distribution of disease categories among adults and adolescents with HIV/AIDS, by year of diagnosis and selected characteristics, 2001—33 states with confidential name-based HIV infection reporting**

	HIV without AIDS <sup>a</sup>		HIV to AIDS <sup>b</sup>		HIV with AIDS <sup>c</sup>	
	No.	(%)	No.	(%)	No.	(%)
<b>Sex</b>						
Male	17,548	(61.5)	4,390	(15.4)	6,618	(23.2)
Female	8,330	(68.0)	1,708	(13.9)	2,209	(18.0)
<b>Age as of end of year (yrs)</b>						
13–14	39	(72.5)	7	(12.3)	8	(15.2)
15–24	3,507	(82.6)	409	(9.6)	330	(7.8)
25–34	7,752	(68.3)	1,584	(14.0)	2,011	(17.7)
35–44	9,098	(60.9)	2,285	(15.3)	3,545	(23.7)
45–54	4,107	(55.3)	1,301	(17.5)	2,014	(27.1)
55–64	1,063	(49.8)	388	(18.2)	685	(32.1)
≥65	313	(46.6)	124	(18.5)	234	(34.9)
<b>Transmission category</b>						
<b>Male adult or adolescent</b>						
Male-to-male sexual contact	10,559	(63.7)	2,402	(14.5)	3,628	(21.9)
Injection drug use	2,963	(57.4)	849	(16.5)	1,350	(26.1)
Male-to-male sexual contact and injection drug use	939	(61.7)	233	(15.3)	350	(23.0)
Heterosexual contact <sup>d</sup>	2,997	(59.0)	865	(17.0)	1,220	(24.0)
Other <sup>e</sup>	90	(44.8)	40	(20.2)	70	(35.0)
<b>Female adult or adolescent</b>						
Injection drug use	1,913	(66.7)	391	(13.6)	566	(19.7)
Heterosexual contact <sup>d</sup>	6,306	(68.7)	1,281	(14.0)	1,585	(17.3)
Other <sup>e</sup>	112	(54.1)	36	(17.7)	58	(28.2)
<b>Race/ethnicity</b>						
White, not Hispanic	7,175	(64.2)	1,505	(13.5)	2,496	(22.3)
Black, not Hispanic	13,416	(63.1)	3,351	(15.8)	4,501	(21.2)
Hispanic	4,779	(62.7)	1,151	(15.1)	1,691	(22.2)
Asian/Pacific Islander	167	(63.2)	37	(14.1)	60	(22.6)
American Indian/Alaska Native	101	(59.0)	27	(16.1)	42	(24.9)
Unknown	240	(79.0)	26	(8.7)	37	(12.3)
<b>Total<sup>f</sup></b>	<b>25,878</b>	<b>(63.4)</b>	<b>6,098</b>	<b>(14.9)</b>	<b>8,827</b>	<b>(21.6)</b>

Note. These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays and for redistribution of cases in persons initially reported without an identified risk factor. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> For at least 12 months after HIV diagnosis.

<sup>b</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>c</sup> HIV and AIDS diagnosed during the same calendar month.

<sup>d</sup> With person at high risk or with a diagnosis of HIV infection or AIDS.

<sup>e</sup> Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.

<sup>f</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 12. Estimated distribution of disease categories among adults and adolescents with HIV/AIDS, by year of diagnosis and selected characteristics, 2002–33 states with confidential name-based HIV infection reporting**

	HIV without AIDS <sup>a</sup>	HIV to AIDS <sup>b</sup>	HIV with AIDS <sup>c</sup>
	No. (%)	No. (%)	No. (%)
<b>Sex</b>			
Male	16,516 (59.8)	4,582 (16.6)	6,519 (23.6)
Female	7,603 (67.5)	1,676 (14.9)	1,984 (17.6)
<b>Age as of end of year (yrs)</b>			
13–14	33 (72.3)	4 (9.5)	8 (18.2)
15–24	3,415 (81.9)	410 (9.8)	343 (8.2)
25–34	7,319 (67.9)	1,556 (14.4)	1,903 (17.7)
35–44	8,324 (59.2)	2,431 (17.3)	3,316 (23.6)
45–54	3,762 (52.9)	1,318 (18.5)	2,028 (28.5)
55–64	988 (47.4)	407 (19.5)	690 (33.1)
≥65	278 (44.5)	131 (21.0)	216 (34.5)
<b>Transmission category</b>			
<b>Male adult or adolescent</b>			
Male-to-male sexual contact	10,511 (62.5)	2,630 (15.6)	3,671 (21.8)
Injection drug use	2,312 (52.9)	808 (18.5)	1,249 (28.6)
Male-to-male sexual contact and injection drug use	853 (59.8)	250 (17.5)	324 (22.7)
Heterosexual contact <sup>d</sup>	2,757 (57.1)	856 (17.7)	1,217 (25.2)
Other <sup>e</sup>	83 (46.3)	38 (21.0)	59 (32.7)
<b>Female adult or adolescent</b>			
Injection drug use	1,590 (66.2)	362 (15.0)	452 (18.8)
Heterosexual contact <sup>d</sup>	5,925 (68.3)	1,272 (14.7)	1,482 (17.1)
Other <sup>e</sup>	88 (48.3)	43 (23.5)	51 (28.1)
<b>Race/ethnicity</b>			
White, not Hispanic	7,158 (63.4)	1,602 (14.2)	2,534 (22.4)
Black, not Hispanic	12,385 (62.0)	3,353 (16.8)	4,238 (21.2)
Hispanic	4,125 (59.8)	1,193 (17.3)	1,579 (22.9)
Asian/Pacific Islander	195 (62.7)	49 (15.7)	67 (21.5)
American Indian/Alaska Native	135 (67.9)	22 (10.9)	42 (21.2)
Unknown	120 (59.3)	39 (19.3)	43 (21.4)
<b>Total<sup>f</sup></b>	<b>24,119 (62.0)</b>	<b>6,257 (16.1)</b>	<b>8,503 (21.9)</b>

*Note.* These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays and for redistribution of cases in persons initially reported without an identified risk factor. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> For at least 12 months after HIV diagnosis.

<sup>b</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>c</sup> HIV and AIDS diagnosed during the same calendar month.

<sup>d</sup> With person at high risk or with a diagnosis of HIV infection or AIDS.

<sup>e</sup> Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.

<sup>f</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 13. Estimated distribution of disease categories among adults and adolescents with HIV/AIDS, by year of diagnosis and selected characteristics, 2003–33 states with confidential name-based HIV infection reporting**

	HIV without AIDS <sup>a</sup>	HIV to AIDS <sup>b</sup>	HIV with AIDS <sup>c</sup>
	No. (%)	No. (%)	No. (%)
<b>Sex</b>			
Male	16,030 (58.9)	4,919 (18.1)	6,251 (23.0)
Female	6,907 (64.7)	1,772 (16.6)	2,001 (18.7)
<b>Age as of end of year (yrs)</b>			
13–14	37 (70.5)	7 (13.3)	9 (16.3)
15–24	3,518 (80.6)	501 (11.5)	346 (7.9)
25–34	6,556 (65.9)	1,667 (16.7)	1,733 (17.4)
35–44	7,726 (57.0)	2,555 (18.8)	3,279 (24.2)
45–54	3,799 (52.6)	1,414 (19.6)	2,006 (27.8)
55–64	1,042 (49.5)	419 (19.9)	646 (30.7)
≥65	258 (41.6)	128 (20.6)	234 (37.8)
<b>Transmission category</b>			
<b>Male adult or adolescent</b>			
Male-to-male sexual contact	10,366 (61.8)	2,801 (16.7)	3,597 (21.5)
Injection drug use	2,204 (52.9)	850 (20.4)	1,115 (26.7)
Male-to-male sexual contact and injection drug use	824 (59.0)	248 (17.8)	324 (23.2)
Heterosexual contact <sup>d</sup>	2,573 (54.7)	982 (20.9)	1,148 (24.4)
Other <sup>e</sup>	64 (37.8)	38 (22.0)	68 (40.1)
<b>Female adult or adolescent</b>			
Injection drug use	1,413 (62.8)	369 (16.4)	468 (20.8)
Heterosexual contact <sup>d</sup>	5,396 (65.5)	1,359 (16.5)	1,480 (18.0)
Other <sup>e</sup>	97 (50.0)	45 (23.0)	53 (27.0)
<b>Race/ethnicity</b>			
White, not Hispanic	6,805 (61.6)	1,704 (15.4)	2,533 (22.9)
Black, not Hispanic	11,488 (60.1)	3,551 (18.6)	4,075 (21.3)
Hispanic	4,214 (60.0)	1,312 (18.7)	1,502 (21.4)
Asian/Pacific Islander	223 (61.5)	65 (18.0)	74 (20.5)
American Indian/Alaska Native	119 (63.7)	31 (16.7)	37 (19.6)
Unknown	87 (59.8)	28 (19.3)	31 (20.9)
<b>Total<sup>f</sup></b>	<b>22,937 (60.6)</b>	<b>6,691 (17.7)</b>	<b>8,252 (21.8)</b>

*Note.* These numbers do not represent actual cases in persons with a diagnosis of HIV infection or AIDS. Rather, these numbers are point estimates of case counts that have been adjusted for reporting delays and for redistribution of cases in persons initially reported without an identified risk factor. The estimates have not been adjusted for incomplete reporting.

Since 2000, the following states have had laws or regulations requiring confidential name-based HIV infection reporting: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Since July 1997, Florida has had confidential name-based HIV infection reporting for new diagnoses only.

<sup>a</sup> For at least 12 months after HIV diagnosis.

<sup>b</sup> AIDS diagnosed 1–12 months after HIV diagnosis.

<sup>c</sup> HIV and AIDS diagnosed during the same calendar month.

<sup>d</sup> With person at high risk or with a diagnosis of HIV infection or AIDS.

<sup>e</sup> Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.

<sup>f</sup> Because column totals were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.

**Table 14. Status of CD4 and viral load reporting by HIV/AIDS surveillance reporting area, January 2005—50 states, District of Columbia, and U.S. territories and possessions**

State or area	CD4 count, cells/ $\mu$ L		Viral load	
	Lab reporting required <sup>a</sup>	Reportable level <sup>b</sup>	Lab reporting required <sup>a</sup>	Reportable level <sup>b</sup>
Alabama	Yes	<200	No	
Alaska	Yes	<200	Yes	Any result
American Samoa	No		No	
Arizona	Yes	All values	Yes	Any result
Arkansas	Yes	All values	Yes	Any result
California	No		Yes	Any result
Colorado	Yes	<500	Yes	Any result
Connecticut	Yes	<200	No	
Delaware	Yes	<200	Yes	Not specified
District of Columbia	Yes	<200	Yes	Not specified
Florida	Yes	<200	No	
Georgia	No		No	
Hawaii	Yes	<200	Yes	Detectable
Idaho	Yes	<200	Yes	Detectable
Illinois	Yes	<200	Yes	Not specified
Indiana	Yes	All values	Yes	Any result
Iowa	Yes	All values	Yes	Any result
Kansas	Yes	<500	Yes	Any result
Kentucky	Yes	All values	Yes	Detectable
Louisiana	Yes	All values	Yes	Any result
Maine	Yes	<200	Yes	Any result
Maryland	Yes	<200	Yes	Any result
Massachusetts	Yes	<200	No	
Michigan	No		No	
Minnesota	Yes	<200	Yes	Detectable
Mississippi	Yes	All values	Yes	Any result
Missouri	Yes	All values	Yes	Any result
Montana	No		Yes	Detectable
Nebraska	Yes	<800	Yes	Any result
Nevada	Yes	<500	Yes	Detectable
New Hampshire	Yes	All values	Yes	Not specified
New Jersey	Yes	<200	Yes	Any result
New Mexico	Yes	All values	Yes	Any result
New York	Yes	<500	Yes	Detectable
North Carolina	No		Yes	Not specified
North Dakota	Yes	All values	Yes	Any result
Ohio	Yes	<200	Yes	Detectable
Oklahoma	Yes	<500	Yes	Any result
Oregon	Yes	<200	Yes	Detectable
Pennsylvania	Yes	<200	Yes	Detectable
Puerto Rico	Yes	<200	No	
Rhode Island	Yes	<200	Yes	Any result
South Carolina	Yes	<200	Yes	Detectable
South Dakota	No		No	
Tennessee	Yes	<200	Yes	Detectable



**Table 14. (cont)**

State or area	CD4 count, cells/ $\mu$ L		Viral load	
	Lab reporting required <sup>a</sup>	Reportable level <sup>b</sup>	Lab reporting required <sup>a</sup>	Reportable level <sup>b</sup>
Texas	Yes	<200	Yes	Detectable
Utah	Yes	All values	Yes	Any result
Vermont	No		Yes	Not specified
Virgin Islands	Yes	<200	No	
Virginia	No		Yes	Detectable
Washington	Yes	<200	Yes	Detectable
West Virginia	Yes	<200	Yes	Any result
Wisconsin	Yes	<200	Yes	Any result
Wyoming	Yes	<200	Yes	Any result

<sup>a</sup> Most state laws, regulations, or statutes require laboratories to report, but in some instances the language is not specific.

<sup>b</sup> Level at which CD4 or viral load reporting is required by state laws, regulations, or statutes.

Beginning in the early 1990s, the reporting of HIV infection case data, as an extension of AIDS case surveillance, began to be standardized. These data included CD4+ T-lymphocyte (CD4) results (especially the earliest result after HIV diagnosis), viral load test results, presence of AIDS-defining opportunistic illnesses, demographics, and information on transmission risk factors. By the end of 1993, all state, local, and territorial areas reporting HIV and AIDS case surveillance data to CDC were required to use a CDC-supported data collection practices and software system for data entry, record keeping, and case reporting. This software enabled the maintenance and reporting of as many as 20 CD4 and 9 HIV viral load test results per person.

State laws requiring laboratories to report CD4 and viral load results differ by state. By mid-2003, approximately 24 of the 33 states whose data are used in this report had some form of required reporting of CD4 test results by laboratories; and 29 of the 33 states had some form of required viral load reporting by laboratories (unpublished CDC data, 2004). In recognition of the contribution that laboratory reporting has made to HIV/AIDS surveillance, the Council of State and Territorial Epidemiologists recommended in 2004 that all states require laboratories to report all levels of CD4 results and both detectable and nondetectable results of viral load testing to state public health departments [1]. By January 2005, 29 of the 33 states had enacted some form of CD4 reporting (see Table 14). From 2003 through January 2005, no additional states included in this report added mandated viral load reporting.

Estimates of the proportion of persons without reported CD4 or viral load results should be interpreted with caution. The lack of laboratory test results reported to the national surveillance system does not mean that a person did not receive testing but means that for a variety of reasons, the results may not have been communicated to the local HIV/AIDS surveillance program or were not entered in the surveillance database that is transmitted to CDC. Because of the use of CD4 results in the AIDS definition, the historical surveillance prioritization of this stage of disease, and the likelihood that persons with AIDS will have symptoms that prompt clinical and laboratory evaluation for

treatment, missing CD4 results are less common among persons with AIDS.

Persons without reported CD4 results after HIV diagnosis represent 2 distinct groups: (1) persons for whom this laboratory information is lacking because of surveillance practices and (2) persons for whom care and prevention services have failed. Surveillance practices differ among HIV reporting areas and can affect the completeness of case information. AIDS-defining CD4 results are prioritized over CD4 results obtained early in HIV infection, which may account for the missing CD4 results among persons who have HIV without AIDS. And, although the required level of CD4 reporting (e.g., fewer than 200 cells/ $\mu$ L compared with all levels of CD4 reporting) has not been found to affect timeliness or range of CD4 test results, multiple surveillance factors, including the burden of disease and health department staffing and resources, are probably involved in complete CD4 result reporting (unpublished CDC data, 2004). Persons for whom care and prevention services have failed include persons who have not been linked to health care, who have been lost to follow-up (e.g., moved out of the jurisdiction of the reporting HIV/AIDS surveillance program, died out of state), who don't know they are HIV infected (e.g., never returned for HIV test result), who did not receive the recommended evaluation of CD4 status during follow-up, as well as those who may be in denial about their HIV-infected status.

### Surveillance of CD4 Test Results

CD4 test results may include CD4 count or percentage or both. Although CD4 count is more widely used to monitor disease and recommend the initiation of antiretroviral treatment, CD4 percentage alone can be reported, and in some instances, especially after a case meets the immunologic criteria for AIDS, it is the only lab result that is reported after HIV diagnosis. In an effort to maximize the interpretability of CD4 results, the earliest CD4 percentages were interpreted within a category of CD4 counts or as discrete CD4 counts.

A random sample of 150,000 persons aged 13 years and older was obtained from CDC's national surveillance database of all HIV/AIDS cases diagnosed through 2004. The earliest values for paired count and

percentage (CD4 counts truncated at a maximum value of 1500 cells/ $\mu$ L) were used to construct a nonlinear regression model that included additivity and variance stabilization (AVAS). The AVAS procedure transforms the independent and dependent variables to produce an additive model with constant residual variance. Percentage correlates for various count thresholds were obtained by using the AVAS regression results. From this regression, the following percentage cut-points were obtained and used in the analysis whenever the earliest CD4 test value was a percentage without a count. These imputations were used for Tables 1–7.

Percentage	Count
<14	$\leq 199$
14–25	200–350
26–35	351–500
>35	$\geq 501$

Of the paired CD4 count and percentage data used in this regression model, 78% were obtained from males. A gender difference was observed: for any given CD4 count, the resulting percentages were higher for females than for males. This phenomenon has been reported before [2]. Although the CD4 percentages used in the imputation for CD4 count categories were higher than those reported by others [3–5], the effect on this analysis is limited. Approximately 80 (less than 1%) of 30,000 annual cases had a CD4 percentage of 14 or higher and were affected by this imputation.

### Surveillance of HIV Infection

In addition to the reporting of persons with AIDS, this report is focused on case reports from 33 states that had laws or regulations requiring confidential name-based HIV infection reporting of adults and adolescents with confirmed HIV infection that had not progressed to AIDS. After the removal of personal identifying information, these reports were submitted to CDC from Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. The implementation of HIV reporting has differed from state to state. Before 1991, the surveillance of HIV infection that had not progressed to AIDS was not standardized, and the reporting of HIV infection

was based primarily on passive surveillance. The information on many cases reported before 1991 is not complete.

Data on HIV infection should be interpreted with caution. HIV surveillance reports may not be representative of all persons infected with HIV because not all infected persons have been tested. Many states with confidential name-based HIV reporting offer anonymous HIV testing, and home-collection HIV test kits are widely available in the United States. The results of anonymous tests are not reported to the confidential name-based HIV registries of state and local health departments. Therefore, reports of confidential test results may not represent all persons who tested positive for HIV infection. Furthermore, many factors, including the extent to which testing is routinely offered to specific groups, may influence testing patterns and the availability of, and access to, medical care and testing services. These data provide a minimum estimate of the number of persons known to be HIV infected in states with confidential name-based HIV infection reporting.

For this report, cases in adults and adolescents were classified by using the 2000 revised HIV surveillance case definition, which incorporates positive test results or reports of a detectable quantity of HIV nucleic acid or plasma HIV RNA [6]. Additionally, cases were restricted to those in persons who resided in, and were reported from, states with confidential HIV reporting at the time of HIV diagnosis.

### HIV diagnosis

The term *HIV diagnosis* refers to the earliest month and year of a documented HIV-positive lab result or a physician's diagnosis. An earlier, self-reported date of an HIV-positive result, such as a date from anonymous testing, is not captured in the national HIV/AIDS surveillance system. As HIV-infected persons move from state to state, information about the earliest documented HIV test should be recorded in the HIV registry in the person's current state of residence.

### HIV without AIDS

Persons with HIV infection may be tested at any point on the clinical spectrum of disease; therefore, the time between the diagnosis of HIV infection and the diagnosis of AIDS may differ. For this report, a 12-month follow-up from HIV diagnosis was used. *HIV without AIDS* was defined as no evidence of progression from HIV infection to AIDS within 12 months af-

ter HIV diagnosis. In addition, because surveillance practices differ, the reporting and updating of persons' clinical and vital status differ among states. Completeness of HIV case reporting is estimated at more than 85% [7]. By matching data in the national surveillance database, CDC estimates that approximately 2%–8% of the cases of HIV infection that had not progressed to AIDS are duplicates.

## Surveillance of AIDS

Although all 50 states, the District of Columbia, U.S. dependencies, possessions, and associated nations report AIDS cases to CDC by using a uniform surveillance case definition and case report form, this report is focused on case reports from 33 states. Because some tables include HIV-infected persons in whom HIV infection progressed to AIDS within 12 months after HIV diagnosis, those analyses were limited to the 33 states also used for HIV infection reporting. Furthermore, AIDS cases were restricted to those in persons who resided in, and were reported from, states with confidential name-based HIV infection reporting at the time of AIDS diagnosis.

The original AIDS definition was modified in 1985 and 1987 [8, 9]. The case definition for adults and adolescents was modified again in 1993 [3, 10]. In the revisions, a broader range of AIDS-indicator diseases and conditions was incorporated, and the results of HIV diagnostic tests were used to improve the sensitivity and the specificity of the definition. Effective January 1, 2000, the surveillance case definition for HIV infection was revised to reflect advances in HIV virologic tests. The reporting criteria for HIV infection and AIDS were incorporated into a single case definition for adults and children [6].

For persons with laboratory-confirmed HIV infection, the 1987 revision incorporated encephalopathy, wasting syndrome, and other indicator diseases that are diagnosed presumptively (i.e., without confirmatory laboratory evidence of opportunistic illness). In addition to the 23 clinical conditions in the 1987 definition, the 1993 case definition for adults and adolescents included HIV infection in persons with CD4 counts of fewer than 200 cells/ $\mu$ L or a CD4 percentage of less than 14 and a diagnosis of pulmonary tuberculosis, recurrent pneumonia, or invasive cervical cancer. For adults and adolescents, the 2000 revised HIV surveillance case definition incorporated positive test results or reports of a detectable quantity of HIV

nucleic acid or plasma HIV RNA.

Although the completeness of reporting of AIDS cases to state and local health departments differs by geographic region and patient population, studies conducted by state and local health departments indicate that the reporting of AIDS cases in most areas of the United States is more than 85% complete [11–14]. In addition, multiple routes of exposure, opportunistic illnesses diagnosed after the initial AIDS case report was submitted to CDC, and vital status may not be determined or reported for all cases. However, among persons reported as having AIDS, the reporting of deaths is estimated to be more than 90% complete [15]. By matching data in the national surveillance database, CDC estimates that approximately 3%–4.5% of AIDS cases are duplicates.

Since January 1, 1994, CDC has not accepted AIDS case reports that meet only the laboratory-based immunologic criteria of the 1993 expanded surveillance case definition [3] if information on sex or race/ethnicity is missing. A small number of cases previously reported to CDC without those variables have been returned to the health departments for follow-up and have been deleted from the totals. Included in this report are persons known to be infected with HIV type 2 [16].

## *HIV with AIDS and HIV to AIDS*

Over time, HIV infection may progress to AIDS and be reported to surveillance. Persons with HIV infection who are later reported as having AIDS are categorized under AIDS to reflect the most current information. For this report, because of the 12-month follow-up after HIV diagnosis, which was used to assign persons to a HIV disease category, AIDS cases comprise (1) HIV with AIDS (i.e., diagnoses of HIV infection and AIDS were made during the same calendar month) and (2) HIV to AIDS (i.e., diagnosis of AIDS was made 1–12 months after HIV diagnosis).

## Tabulation and Presentation of Data

In all sections of this report, data have been statistically adjusted to correct for delays in the reporting of cases; unreported risk factors, or transmission categories, have been statistically redistributed to better present the trends in the epidemic and the distribution of risk factors among affected populations. To assess trends in diagnoses or prevalence, it is preferable to use adjusted data, presented by year of diagnosis

instead of year of report. In section 1 (Tables 1–3), the earliest CD4 counts within 12 months after diagnosis are reported by year of HIV diagnosis and demographic characteristics of persons with HIV/AIDS. In section 2 (Tables 4–6), the earliest CD4 count is presented by year of diagnosis and HIV disease category. In section 3 (Tables 7 and 8), the lowest prevalent CD4 test result for persons who were alive through December 2004 and a longitudinal view of the first (incident) CD4 test result for cases of HIV infection diagnosed in 2001 are reported. In section 4 (Tables 9a, 9b, and 10), viral load and other findings in addition to CD4 results are reported by year of HIV diagnosis and HIV disease category. In section 5 (Tables 11–14), descriptive demographic information, by year of diagnosis and HIV disease category, are presented in addition to information about CD4 and viral load reporting in the United States.

### **CD4 or viral load date**

Specimens for lab tests may be drawn or collected on one day (collection date) and tested on another day. For this report, the collection date (month and year) was used to establish the time from HIV diagnosis to lab test (in most instances, within 12 months after HIV diagnosis). Because of the lag between specimen collection and testing, it is possible for a specimen to be collected within 12 months after HIV diagnosis, but for the specimen to be tested more than 12 months after HIV diagnosis. Phrases such as “count within 12 months after HIV diagnosis” and “test performed within 12 months after HIV diagnosis” reflect the fact that the specimen was collected within 12 months after HIV diagnosis.

Year of diagnosis and year of lab test were required for these analyses. When month was missing, a mid-year point was used to complete the assessment of a CD4 test result obtained within 12 months after HIV diagnosis; it was also used (Table 8) to examine the incident CD4 test result after HIV diagnosis.

### **Age groups**

In most tables, age groups of persons with a diagnosis of HIV infection, with or without AIDS, are based on the person’s age at the time of the earliest documented positive HIV test result or a physician’s diagnosis. The age category for adults and adolescents comprises persons aged 13 years and older. For Table 7, the age groups of persons living with HIV infection

or with AIDS are based on the person’s age as of December 31, 2004. Also in Table 7, the lowest CD4 count was included only if the CD4 test was performed when the person was at least 13 years old.

### **Race and ethnicity**

In the *Federal Register* for October 30, 1997 [17], the Office of Management and Budget announced the Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, also known as Statistical Policy Directive 15. These standards, which superseded the 1977 standards, reflect a change in federal policy regarding the collection of race and ethnicity data; implementation by January 1, 2003, was mandated. At a minimum, information on the following race categories should be collected: American Indian or Alaska Native; Asian; black or African American; Native Hawaiian or Other Pacific Islander; and white. Additionally, systems must have the capacity to retain information when multiple race categories are reported. Two ethnicity categories should be collected regardless of race: Hispanic and not Hispanic.

Because data for this report were compiled from reports to CDC through June 2005, race and ethnicity information may have been collected under 2 systems. The race and ethnicity categories in the system used through December 2002 have been maintained in this report because most were submitted under that system. Persons who reported multiple racial categories or whose race was unknown have been included in the total numbers in Tables 1–3, 7, and 11–13. Also, persons reported as non-Hispanic may include persons whose ethnicity was not reported.

### **Tabulation of persons living with HIV/AIDS**

Tabulations of persons living with HIV infection or AIDS at the end of 2004 (Table 7) include persons who were reported as alive or whose vital status was missing or unknown as of the last update of the data. Persons in whom HIV infection progressed to AIDS remained categorized as having AIDS even if their CD4 count increased to more than 200 cells/ $\mu$ L at the end of 2004. Table 7 thus represents the lowest documented CD4 count among persons living with HIV/AIDS. For persons living with HIV without AIDS (Table 8), data on the time from diagnosis to first CD4 test were tabulated through June 2005. Table 8, like Table 7, includes data on persons who were reported as alive or whose vital status was missing or unknown as

of the last update of the data. Caution should be used in interpreting these data because states differ in how they review the vital status of persons reported with HIV infection or with AIDS. In addition, some persons may be lost to follow-up.

### **Transmission categories**

For surveillance purposes, cases of HIV/AIDS are counted only once in a hierarchy of transmission categories. Persons with more than 1 reported mode of exposure to HIV are classified in the transmission category listed first in the hierarchy. The exception is male-to-male sexual contact and injection drug use, which makes up a separate transmission category.

Persons whose transmission category is classified as male-to-male sexual contact 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). Persons whose transmission category is classified as heterosexual contact are persons who report specific heterosexual contact with a person with, or at increased risk for, HIV infection (e.g., an injection drug user).

Adults and adolescents who were born in, or who had sex with someone born in, a country where heterosexual transmission was believed to be the predominant mode of HIV transmission (formerly classified as Pattern II countries by the World Health Organization) are no longer classified as having heterosexually acquired AIDS unless they meet the criteria stated in the preceding paragraph. Similar to other cases among persons who were reported without behavioral or transfusion risks for HIV infection, these cases are now classified (in the absence of other risk factor information that would classify them in another transmission category) as “no risk reported or identified” [18]. Cases in children whose mother was born in, or whose mother had sex with someone born in, Pattern II countries are now classified (in the absence of other risk information that would classify them in another transmission category) as “Mother with, or at risk for, HIV infection: has HIV infection, risk not specified.”

Cases in persons with no reported exposure to HIV through any of the routes listed in the hierarchy of transmission categories are classified as “no risk reported or identified.” No identified risk factor (NIR) cases are cases that have been followed up by local health department officials; cases in persons whose exposure history is missing because they died,

declined to be interviewed, or were lost to follow-up; and cases in persons who were interviewed or for whom other follow-up information was available and no mode of exposure was identified.

As of September 2000, the procedures for investigating cases reported without risk factors changed from ascertaining risk factors for all reported cases to estimating risk distributions from statistical models and population-based samples. States continue to investigate reports of unusual exposure to HIV and report these cases to CDC. CDC will continue to tabulate the number of documented unusual exposures to HIV reported by the states.

Because recently reported HIV or AIDS cases are more likely to be reported as NIR, recent AIDS incidence in some transmission categories will be underestimated unless an adjustment is made. For tables showing the estimated diagnoses of HIV infection and diagnoses of AIDS, the adjustment of NIR cases among adults and adolescents is based on the redistribution of transmission category, by sex, race, and region, of cases that were diagnosed during 1992–1999 and initially assigned to the NIR category but that were later reclassified.

### **Reporting Delays**

Reporting delays (time between diagnosis of HIV infection or AIDS and report to CDC) may differ among transmission, geographic, racial/ethnic, age, sex, and vital status categories; for some AIDS cases, delays have been as long as several years. About 52% of AIDS cases were reported to CDC within 3 months of diagnosis, and about 88% were reported within 1 year. Approximately 88% of deaths of persons with AIDS are reported within 1 year. For cases of HIV infection diagnosed since the implementation of uniform reporting through the HIV/AIDS Reporting System on January 1, 1994, about 66% of all cases were reported to CDC within 3 months of diagnosis, and about 93% were reported within 1 year.

Adjustments of the estimated data on HIV infection and on AIDS to account for reporting delays are calculated by a maximum likelihood statistical procedure, taking into account differences in reporting delays among transmission, geographic, racial/ethnic, age, sex, and vital status categories and assuming that reporting delays in these groups have not changed over time [19, 20].

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