



MMWRTM

Morbidity and Mortality Weekly Report

Weekly

August 11, 2006 / Vol. 55 / No. 31

The Global HIV/AIDS Pandemic, 2006

Since the first cases of acquired immunodeficiency syndrome (AIDS) were reported in 1981, infection with human immunodeficiency virus (HIV) has grown to pandemic proportions, resulting in an estimated 65 million infections and 25 million deaths (1,2). During 2005 alone, an estimated 2.8 million persons died from AIDS, 4.1 million were newly infected with HIV, and 38.6 million were living with HIV (2). HIV continues to disproportionately affect certain geographic regions (e.g., sub-Saharan Africa and the Caribbean) (Figure) and sub-populations (e.g., women in sub-Saharan Africa, men who have sex with men [MSM], injection-drug users [IDUs], and sex workers). Effective prevention and treatment of HIV infection with antiretroviral therapy (ART) are now available, even in countries with limited resources (2). Nonetheless, comprehensive programs are needed to reach all persons who require treatment and to prevent transmission of new infections.

This report, published on the eve of the sixteenth International AIDS Conference (August 13–18, 2006, in Toronto, Canada), summarizes selected regional trends in the HIV/AIDS pandemic, based largely on data from the *2006 Report on the Global AIDS Epidemic* by the Joint United Nations Programme on HIV/AIDS (UNAIDS) (2). Related reports in this issue of *MMWR* describe the prevalence of HIV infection among MSM in Thailand, HIV-related practices at chest clinics in Guyana, and HIV-related risk behaviors among high school students in the United States.

Sub-Saharan Africa. Approximately 10% of the world population lives in sub-Saharan Africa, but the region is home to approximately 64% of the world population living with HIV (2). Transmission is primarily through heterosexual contact, and more women are HIV infected than men. Southern Africa is the epicenter of the AIDS epidemic; all countries in the region except Angola have an estimated adult (i.e., aged 15–49 years) HIV prevalence exceeding 10% (2). In Botswana,

Lesotho, Swaziland, and Zimbabwe, the estimated adult HIV prevalence exceeds 20% (2). South Africa, with an HIV prevalence of 18.8% and 5.5 million persons living with HIV, has, along with India, the largest number of persons living with HIV in the world (2). Recently, declines in adult HIV prevalence have been observed in Kenya, Uganda, Zimbabwe, and urban areas of Burkina Faso. Although in these countries, HIV-related sexual risk behaviors and HIV incidence have decreased, AIDS death rates continue to rise. In sub-Saharan Africa, 17% of the estimated number of persons in need of ART received it in 2005 (3).

Asia. Adult HIV prevalence is lower in Asian countries than in countries in sub-Saharan Africa, and the epidemic in most Asian countries is attributable primarily to various high-risk behaviors (e.g., unprotected sexual intercourse with sex workers, IDUs, or MSM and injection-drug use). Of the 8.3 million HIV-infected persons in Asia, 5.7 million live in India, where the prevalence varies by state. Approximately 80% of HIV infections in India are acquired heterosexually. Recent data from four Indian states indicated a decline in HIV prevalence among pregnant women aged 15–24 years, from 1.7% in 2000 to 1.1% in 2004 (4). In China, where 650,000 IDUs

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The *MMWR* series of publications is published by the Coordinating Center for Health Information and Service, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30333.

Suggested Citation: Centers for Disease Control and Prevention. [Article title]. *MMWR* 2006;55:[inclusive page numbers].

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account for approximately half of persons living with HIV infection; in contrast, the epidemics in Thailand and Cambodia have been driven largely by commercial sex. In Thailand, HIV prevalence in pregnant women declined from 2.4% in 1995 to 1.2% in 2003. However, HIV prevalence among MSM in Bangkok increased from 17% in 2003 to 28% in 2005 (5). Only 16% of persons in need of ART in Asia received it in 2005 (3).

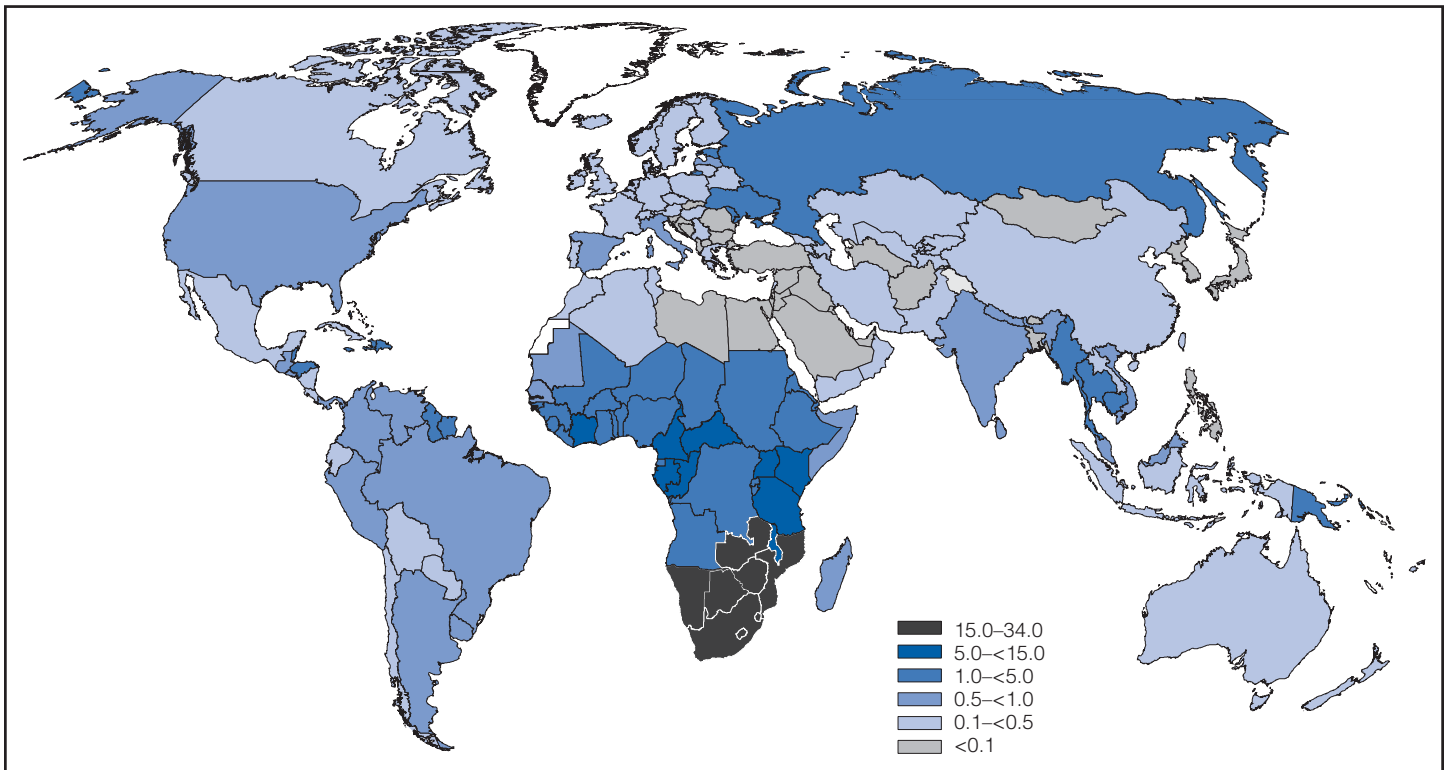
Americas. HIV infections are reported mostly among MSM, IDUs, and sex workers in the Americas. Brazil, the second most populous country in the Americas (after the United States), has an adult HIV prevalence of 0.5% and has approximately 30% of the population living with HIV in South and Central America and the Caribbean. High-risk behavior among Brazilians aged 15–24 years remains high; one in three report initiating sexual activity before age 15 years, and one in five report having had more than 10 sex partners. Brazil provides free ART to all in need of treatment, and approximately 83% of HIV-infected persons receive therapy. After sub-Saharan Africa, the Caribbean is the second most HIV-affected region of the world. Like sub-Saharan Africa, HIV transmission in the Caribbean is largely heterosexual. HIV prevalence has declined in urban areas of Haiti but has remained constant in other areas of the Caribbean. Overall in South and Central America and the Caribbean, approximately 68% of persons in need of ART received it in 2005 (3).

In the United States, recent evidence suggests a resurgence of HIV transmission among MSM; during 2001–2004, an estimated 44% of new HIV infections were in MSM, and 17% were in IDUs (6). In addition, blacks and Hispanics together account for 69% of all reported HIV/AIDS cases. In the United States, 55% of persons in need of ART received it in 2005.

Reported by: *World Health Organization, Geneva, Switzerland. Interagency Surveillance and Survey Working Group, Office of the US Global AIDS Coordinator, US Dept of State. Div of Global AIDS, National Center for HIV, Viral Hepatitis, STDs, and Tuberculosis Prevention (proposed), CDC.*

Editorial Note: This report summarizes certain regional trends in the HIV/AIDS pandemic, which has reversed the course of human development (7) and eroded improvements in life expectancy in countries with the highest prevalence of infection (2). The greatest HIV burden is in sub-Saharan Africa, home to 15 countries with the highest prevalence of HIV infection in the world. In most other regions, HIV infections have been concentrated in various high-risk populations. To be effective, prevention measures must be tailored to the local epidemiology of HIV infection, based on the behaviors and exposures associated with new transmission.

FIGURE. Estimated percentage of adult population* living with human immunodeficiency virus (HIV) infection, by country — worldwide, 2005†



SOURCE: Joint United Nations Programme on HIV/AIDS (UNAIDS). 2006 report on the global AIDS epidemic. Geneva, Switzerland: UNAIDS; 2006. Available at http://www.unaids.org/en/hiv_data/2006globalreport/default.asp.

* Aged 15–49 years.

† The worldwide estimate of the number of persons living with HIV is 38.6 million.

From 2003 to 2005, estimates of adult HIV prevalence were lowered in many countries. Some of these reductions might be attributable to the addition of new surveillance sites and population-based surveys that provide better estimates in rural populations, which usually have lower HIV prevalence. However, some countries (including Kenya, Uganda, Zimbabwe, and urban parts of Burkina Faso and Haiti) have reported evidence of actual declines in HIV prevalence. Changes in sexual behavior (e.g., delayed initiation of sexual intercourse, decrease in number of sex partners, or increase in condom use) appear at least partly responsible for these declines, although increasing mortality might have been a contributing factor (8).

During 2003–2005, substantial gains were made in the number of persons receiving ART in resource-limited countries (3). The “3 by 5” initiative, a strategy of the World Health Organization and UNAIDS, sought to provide treatment to 3 million persons (50% of those in need of treatment worldwide) in low- and middle-income countries by 2005. By December 2005, 18 countries had met their “3 by 5” target, and the number of persons receiving ART had increased from

400,000 in December 2003 to 1.3 million (3). Overall, this 225% increase can be attributed to commitments by the President’s Emergency Plan for AIDS Relief (PEPFAR); the Global Fund To Fight AIDS, Tuberculosis, and Malaria; and the World Bank. By the end of March 2006, PEPFAR supported ART for 561,000 persons in 15 countries (9).

Despite the gains in ART, only 20% of persons in need of treatment in low- and middle-income countries were receiving it in December 2005 (3). Despite a 5-year scale-up of interventions to prevent mother-to-child transmission (PMTCT) of HIV, approximately one in 10 pregnant women were offered PMTCT services, and fewer than one in 10 HIV-positive pregnant women received ART prophylaxis for PMTCT (2). Expansion of HIV testing, including the routine offer of testing and counseling in clinical settings, will be needed to identify more persons in need of ART and PMTCT services; improvements in infrastructure and human resources will be needed to deliver quality services to the increasing number of persons requiring treatment. As more HIV-infected persons receive ART, the number of persons living with HIV infection will increase, requiring that prevention programs scale

up to prevent HIV transmission from those living with HIV infection and for those at risk for infection. Prevention measures directed toward populations most likely to be exposed to HIV in low-level and concentrated epidemics* and toward young persons and those with HIV infection in generalized epidemics must be scaled up in parallel with care and treatment programs.

To maximize the effectiveness of HIV/AIDS programs, the quality and coverage of services should be evaluated, and the success of interventions should be assessed by analyzing trends in morbidity, mortality, and behaviors of populations infected with HIV or at risk for HIV infection. Using these data to modify and improve HIV/AIDS programs, an approach integrating prevention and treatment is being developed that could reduce treatment need by as much as 50% by 2020 (10).

*WHO and UNAIDS define these three types of epidemics as follows: low level: HIV prevalence has not consistently exceeded 5% in any defined subpopulation; concentrated: HIV prevalence is consistently >5% in at least one defined subpopulation and is <1% in pregnant women in urban areas, and generalized: HIV prevalence is consistently >1% in pregnant women.

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HIV Prevalence Among Populations of Men Who Have Sex with Men — Thailand, 2003 and 2005

In 2003 and 2005, the Thailand Ministry of Public Health – U.S. Centers for Disease Control and Prevention Collaboration and its partners conducted surveillance of human immunodeficiency virus (HIV) prevalence and risk factors among populations of men who have sex with men (MSM) in Thailand. In 2003, the assessment was conducted in Bangkok among a sample of MSM* (1). In 2005, in addition to Bangkok, the assessment was conducted in Chiang Mai and Phuket provinces, and participants were categorized as MSM, male sex workers (MSW), or transgendered persons (TG). This report compares HIV prevalence among MSM in Bangkok during 2003 and 2005, reports HIV prevalence among the three populations in 2005, and summarizes the results of univariate and multivariate analysis of risk factors for HIV infection in 2005. The results indicated a significant increase in HIV infection among MSM in Bangkok from 2003 to 2005. The findings also indicated that in 2005, HIV infection was widespread among MSM, MSW, and TG in the three study locations. Moreover, the following risk factors were independently associated with HIV infection: being recruited from Bangkok or Chiang Mai (MSM), older age (MSM and TG), being recruited from a park or street location (MSW and TG), drug use (MSM), self-reporting a history of sexually transmitted infections (MSW), and self-reporting a previous HIV-positive test result or refusing to disclose a previous HIV test result (MSM and MSW). Sex with women during the preceding 3 months was inversely associated with HIV prevalence among MSW. More effective behavioral and biomedical interventions for MSM, MSW, and TG are needed to stop the spread of HIV in these populations.

Using venue-day-time sampling[†] (1,2), participants were enrolled from locations where MSM, MSW, and TG congregate to socialize and seek sex partners and clients, including entertainment venues (e.g., bars and discos), parks, saunas, street locations, and sex-work venues (e.g., “go-go” bars [i.e., bars where sex workers can be solicited] and massage parlors). Venues and participants were selected by using a systematic process of mapping and visiting venues, enumerating attendance at different times and days, and determining eligibility of participants and their willingness to participate (1,2).

*In this report, MSM refers to men who have sex with men but who were not enrolled at venues where male sex workers or transgendered persons congregate.

[†]Sampling method specifically designed to access hard-to-reach or “hidden” populations such as MSM.

To participate, a person had to be Thai, male at birth, a resident of the study area, and aged ≥ 15 years (≥ 18 years for the 2003 study) and had to have engaged in anal or oral sex with a man during the preceding 6 months. Participation was voluntary and anonymous, and oral informed consent was required. In 2003, an interviewer-administered questionnaire was used, and in 2005, a self-administered questionnaire was used to collect demographic and behavioral information, which was completed using handheld computers. Oral fluid specimens were collected using the OraSure[®] device and tested at a 1:2 dilution in single wells by an enzyme immunoassay (EIA). Positive samples were retested in duplicate, and two or more positive wells were reported as oral fluid anti-HIV positive (1). Oral HIV test results were available to participants who, if determined to be HIV positive, were referred for confirmatory EIA serum testing and appropriate HIV treatment and care according to Thai national guidelines (3).

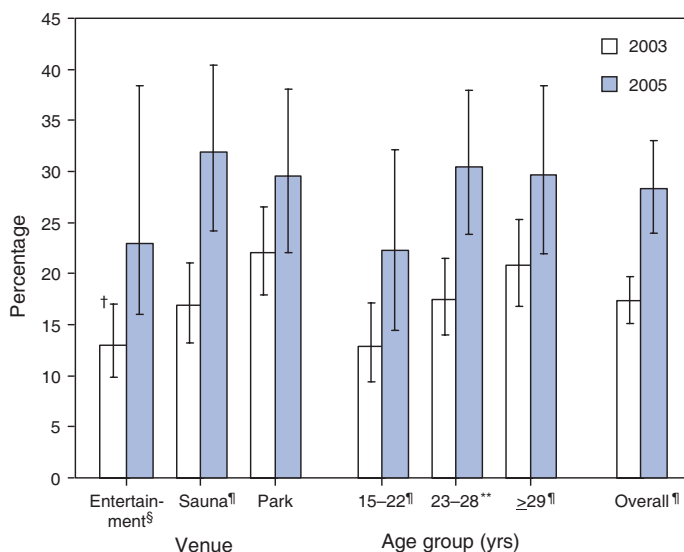
In 2003, a total of 1,121 Thai MSM were enrolled from 14 venues in Bangkok (enrollment rate: 90.2%) (1); in 2005, a total of 2,049 Thai men were enrolled from 106 venues in Bangkok, Chiang Mai, and Phuket (enrollment rate: 97.3%). Of the latter sample, 821 were categorized as MSM, 754 as MSW, and 474 as TG.

In Bangkok, the overall HIV prevalence among MSM increased from 17.3% (95% confidence interval [CI] = 15.1%–19.7%) in 2003 to 28.3% (95% CI = 23.9%–33.0%) in 2005 (Figure). A statistically significant increase ($p < 0.05$; assessed by χ^2 test) in HIV prevalence in Bangkok was observed among MSM at entertainment venues and saunas and in all age groups. In 2005, in Bangkok, 22.3% of MSM aged 15–22 years, 30.5% of MSM aged 23–28 years, and 29.7% of MSM aged ≥ 29 years were infected with HIV.

In 2005, the HIV prevalence among MSM was 15.3% in Chiang Mai and 5.5% in Phuket (Table). In 2005, the HIV prevalence among MSW was 18.9%, 11.4%, and 14.4% in Bangkok, Chiang Mai, and Phuket, respectively. HIV prevalence among TG was 11.5%, 17.6%, and 11.9% in Bangkok, Chiang Mai, and Phuket, respectively. HIV prevalence among MSM differed significantly among the three study areas ($\chi^2_{df=2} = 47.67$; $p < 0.001$); no such differences were observed among MSW and TG.

In 2005, among MSM, the following factors were significantly associated with HIV prevalence in univariate analysis: residing in Bangkok or Chiang Mai, older age, recruitment from an entertainment venue or sauna, homosexual or bisexual self-identification, both insertive and receptive anal intercourse, self-reported genital ulcer or discharge (ever), self-reported drug use (ever), refusal to disclose a previous HIV test result, and a self-reported previous HIV-positive test

FIGURE. Prevalence of human immunodeficiency virus among men who have sex with men,* by recruitment venue and age group — Bangkok, Thailand, 2003 and 2005



* Refers to men who have sex with men but who were not enrolled at venues where male sex workers or transgendered persons congregate.

† 95% confidence interval.

§ $p < 0.01$.

¶ $p < 0.001$.

** $p < 0.05$ by χ^2 test.

result.[§] Sex with women during the preceding 3 months was inversely associated with HIV infection (Table). In multivariate analysis, residing in Bangkok or Chiang Mai, older age, drug use, and refusal to disclose a previous HIV test result were significantly and independently associated with HIV infection.

Among MSW, recruitment from a park or street location, self-identification as homosexual or gay, receptive or both insertive and receptive anal intercourse, self-reported genital ulcer or discharge, and a self-reported previous HIV-positive test result were significantly associated with HIV infection in univariate analysis. Sex with women during the preceding 3 months was inversely associated with HIV infection. In multivariate analysis, recruitment from a park or street location, self-reported genital ulcer or discharge, and a self-reported previous HIV-positive test result were significantly and independently associated with HIV infection; sex with women during the preceding 3 months was inversely associated with HIV infection.

Among TG, older age, recruitment from a park or street location, lower education, history of selling sex, and a higher

[§] Because nearly all Thai men are uncircumcised, circumcision was not evaluated as a possible risk factor for HIV infection.

TABLE. Prevalence of human immunodeficiency virus (HIV) infection among a sample* of men who have sex with men (MSM),† male sex workers (MSW), and transgendered persons (TG), by selected demographic and behavioral characteristics — Thailand, 2005

Characteristic	MSM				MSW				TG			
	HIV prevalence		Univariate		HIV prevalence		Univariate		HIV prevalence		Univariate	
	No.	Sample (%)	OR [§]	(95% CI) [¶]	No.	Sample (%)	OR	(95% CI)	No.	Sample (%)	OR	(95% CI)
Location												
Bangkok	113	399 (28.3)	6.79	(3.56–12.95)**	66	350 (18.9)	1.39	(0.86–2.23)	23	200 (11.5)	0.96	(0.48–1.92)
Chiang Mai	34	222 (15.3)	3.11	(1.53–6.32)**	23	202 (11.4)	0.77	(0.43–1.38)	26	148 (17.6)	1.58	(0.80–3.13)
Phuket	11	200 (5.5)		Referent	29	202 (14.4)		Referent	15	126 (11.9)		Referent
Age group (yrs)												
15–22	33	316 (10.4)		Referent	43	307 (14.0)		Referent	19	227 (8.4)		Referent
23–28	68	280 (24.3)	2.75	(1.75–4.32)**	50	314 (15.9)	1.16	(0.75–1.81)	26	156 (16.7)	2.19	(1.17–4.11)**
≥29	57	225 (25.3)	2.91	(1.82–4.65)**	25	133 (18.8)	1.42	(0.83–2.44)	19	91 (20.9)	2.89	(1.45–5.76)**
Recruitment venue												
Entertainment/ Sex work ^{§§}	41	183 (22.4)	3.03	(1.22–7.51)	80	582 (13.7)		Referent	30	289 (10.4)	1.09	(0.51–2.31)
Sauna	47	158 (29.7)	4.45	(1.80–10.98)	0	—		—	0	—		—
Park/Street ^{¶¶}	64	411 (15.6)	1.94	(0.80–4.66)	38	172 (22.1)	1.78	(1.16–2.74)**	24	81 (29.6)	3.96	(1.77–8.88)**
Elsewhere ^{***}	6	69 (8.7)		Referent	0	—		—	10	104 (9.6)		Referent
Education												
Primary or less	11	60 (18.3)	1.04	(0.51–2.13)	28	196 (14.3)	0.74	(0.30–1.85)	5	21 (23.8)	4.56	(1.18–17.64)***
Vocational	93	457 (20.4)	1.18	(0.82–1.72)	83	520 (16.0)	0.84	(0.36–1.97)	54	375 (14.4)	2.46	(0.95–6.36)
University	54	304 (17.8)		Referent	7	38 (18.4)		Referent	5	78 (6.4)		Referent
Sexual identity												
Homosexual/Gay	126	544 (23.2)	4.71	(2.24–9.89)	61	279 (21.9)	2.43	(1.54–3.85)	28	133 (16.9)	1.53	(0.89–2.61)
Bisexual	24	144 (16.7)	3.13	(1.35–7.23)	24	155 (15.5)	1.59	(0.91–2.80)	1	10 (10.0)	0.84	(0.10–6.79)
Heterosexual	8	133 (6.0)		Referent	33	320 (10.3)		Referent	35	298 (11.7)		Referent
Usual anal sex role												
Insertive	38	288 (13.2)		Referent	44	384 (11.5)		Referent	2	9 (22.2)	2.09	(0.42–10.34)
Receptive	49	255 (19.2)	1.57	(0.99–2.48)	29	131 (22.1)	2.20	(1.31–3.69)	47	390 (12.1)		Referent
Both	65	210 (31.0)	2.95	(1.89–4.62)	36	163 (22.1)	2.19	(1.35–3.56)	10	45 (22.2)	2.09	(0.97–4.49)
No anal sex	6	68 (8.8)		—	9	76 (11.8)		—	5	30 (16.7)		—
Had sex with women during the preceding 3 months												
Yes	10	125 (8.0)	0.32	(0.16–0.63)	27	325 (8.3)	0.34	(0.21–0.53)**	1	3 (33.3)		—
No	148	696 (21.3)		Referent	91	429 (21.2)		Referent	63	471 (13.4)		Referent
Ever sold sex												
Yes	62	303 (20.5)	1.13	(0.79–1.62)	99	614 (16.1)	1.22	(0.72–2.08)	48	288 (16.7)	2.08	(1.14–3.78)
No	96	518 (18.5)		Referent	19	140 (13.6)		Referent	16	182 (8.8)		Referent
Number of intercourse partners during the preceding 3 months												
≤1	74	377 (19.6)		Referent	24	158 (15.2)		Referent	19	176 (10.8)		Referent
2–5	44	248 (17.7)	0.88	(0.68–1.62)	30	184 (16.3)	1.09	(0.62–1.71)	15	139 (10.8)	1.00	(0.49–2.05)
≥6	40	196 (20.4)	1.05	(0.58–1.35)	64	412 (15.5)	1.03	(0.66–1.95)	30	159 (18.9)	1.92	(1.03–3.57)
Condom use during intercourse during the preceding 3 months												
Always	61	317 (19.2)	1.14	(0.74–1.74)	60	358 (16.8)	1.10	(0.72–1.66)	23	199 (11.6)	0.69	(0.39–1.24)
Not always	45	260 (17.3)		Referent	47	303 (15.5)		Referent	31	195 (15.9)		Referent
No intercourse partners	52	244 (21.3)		—	11	93 (11.8)		—	10	80 (12.5)		—
Self-reported genital ulcer or discharge												
Ever	110	476 (23.1)	1.86	(1.28–2.70)	89	477 (18.7)	1.96	(1.25–3.07)**	42	321 (13.1)	0.90	(0.51–1.56)
Never	48	345 (13.9)		Referent	29	277 (10.5)		Referent	22	153 (14.4)		Referent
Alcohol use during the preceding 3 months												
Yes	130	671 (19.4)	1.05	(0.67–1.65)	110	700 (15.7)	1.07	(0.49–2.33)	50	384 (13.0)	0.81	(0.43–1.55)
No	28	150 (18.7)		Referent	8	54 (14.8)		Referent	14	90 (15.6)		Referent
Drug use^{§§§} during lifetime												
Ever	85	374 (22.7)	1.51	(1.06–2.14)**	89	542 (16.4)	1.24	(0.79–1.95)	42	307 (13.7)	1.05	(0.60–1.82)
Never	73	447 (16.3)		Referent	29	212 (13.7)		Referent	22	167 (13.2)		Referent
Drug use during the preceding 3 months												
Yes	37	189 (19.6)	1.03	(0.68–1.55)	59	345 (17.1)	1.22	(0.83–1.81)	28	202 (13.9)	1.06	(0.62–1.80)
No	121	632 (19.1)		Referent	59	409 (14.4)		Referent	36	272 (13.2)		Referent
Surgery												
Penile-vaginal reconstructive surgery	—	—	—	—	—	—	—	—	9	89 (10.1)		Referent
Cosmetic surgery	—	—	—	—	—	—	—	—	19	134 (14.2)	1.47	(0.63–3.41)
Never had surgery	—	—	—	—	—	—	—	—	36	251 (14.3)	1.49	(0.69–3.23)

TABLE. (Continued) Prevalence of human immunodeficiency virus (HIV) infection among a sample* of men who have sex with men (MSM),† male sex workers (MSW), and transgendered persons (TG), by selected demographic and behavioral characteristics — Thailand, 2005

Characteristic	MSM				MSW				TG			
	HIV prevalence		Univariate		HIV prevalence		Univariate		HIV prevalence		Univariate	
	No.	Sample (%)	OR§	(95% CI)¶	No.	Sample (%)	OR	(95% CI)	No.	Sample (%)	OR	(95% CI)
Female hormone therapy												
Ever	—	—	—	—	—	—	—	—	50	413 (12.1)	Referent	—
Oral	—	—	—	—	—	—	—	—	17	107 (15.9)	1.83	(0.91–3.69)
Injection	—	—	—	—	—	—	—	—	14	103 (13.6)	1.52	(0.73–3.18)
Both	—	—	—	—	—	—	—	—	19	203 (9.4)	Referent	—
Never	—	—	—	—	—	—	—	—	11	53 (20.8)	1.90	(0.92–3.93)
Had HIV test												
Ever	76	356 (21.3)	1.27	(0.90–1.80)	77	453 (17.0)	1.30	(0.86–1.96)	37	221 (16.7)	1.68	(0.99–2.87)
Never	82	465 (17.6)	Referent	—	41	301 (13.6)	Referent	—	27	253 (10.7)	Referent	—
Result of HIV test												
Negative	51	298 (17.1)	Referent	—	47	323 (14.6)	Referent	—	26	179 (14.5)	Referent	—
Positive	8	16 (50.0)	4.84	(1.74–13.50)**	6	9 (66.7)	11.75	(2.84–48.59)**	1	1	—	—
Would not disclose	17	42 (40.5)	3.29	(1.66–6.54)**	24	121 (19.8)	1.45	(0.84–2.50)	10	41 (24.4)	1.90	(0.83–4.33)
Never tested	82	465 (17.6)	1.04	(0.71–1.52)	41	301 (13.6)	0.93	(0.59–1.46)	27	253 (10.7)	0.70	(0.40–1.25)

* N = 2,049.

† MSM refers to men who have sex with men but who were not enrolled at venues where male sex workers or transgendered persons congregate.

§ Odds ratio.

¶ Confidence interval.

** p<0.001 in multivariate generalized estimating equation logistic regression analysis, adjusting for clusters of venues and calendar dates. Only variables with bivariate p values of <0.05 were entered in the analysis. Statistical significance is defined as p<0.05.

†† p<0.01.

§§ In this venue-based assessment, group membership (MSM, MSW, or TG) was defined by the type of enrollment venue. MSM were enrolled from entertainment venues (e.g., bars and discos), MSW from sex-work venues (e.g., "go-go" bars [i.e., bars where sex workers can be solicited] and massage parlors), and TG from sex-work venues (e.g., "go-go" bars and cabaret show theaters). At sex-work venues, all personnel (e.g., waiters and dancers) were offered enrollment; clients were not enrolled.

¶¶ MSM were enrolled from parks only, MSW were enrolled from parks and street locations, and TG were enrolled from street locations only.

*** Dormitories (MSM and TG) and beauty salons and barber shops (TG).

††† p<0.05.

§§§ Including noninjected drugs, "ecstasy" (methylenedioxyamphetamine), methamphetamine, ketamine, cocaine, inhaled nitrates, and benzodiazepines.

number of sex partners during the preceding 3 months were significantly associated with HIV infection in univariate analysis. In multivariate analysis, older age, being recruited from a park or street location, and lower education were significantly and independently associated with HIV infection.

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Editorial Note: Twenty years after Thailand's first AIDS case was reported in a young homosexual man (4), Thai MSM, MSW, and TG remain at high risk for HIV infection. HIV prevalence is especially high among MSM aged 15–22 years. Because these MSM have been sexually active for a brief period,

the HIV prevalence in this group suggests a high underlying HIV incidence.

The increase in HIV prevalence in Bangkok MSM cannot be explained by differences in the methodology of the two surveys; sampling, specimen collection, and testing methods were the same. Moreover, with the exception of the decreased age threshold (15 years in the 2005 survey versus 18 years in the 2003 survey), eligibility criteria also were identical. The mean age of participants in both surveys was the same (27 years). Sample size calculation determined that 399 MSM were enrolled for the study in Bangkok during 2005. Before the 2003 assessment, data on HIV prevalence among MSM were unavailable; thus, 1,121 MSM were enrolled to allow estimation of a wide range of possible prevalences with a 95% degree of confidence and to have sufficient cell sizes for detailed statistical analysis.

Risk factors for HIV infection in the assessment were similar to those previously identified (5). Sex with women was independently associated with a lower risk for HIV infection among MSW. This finding might be attributed, in part, to the fact that the majority of MSW (62.9%) in the survey identified themselves as nonhomosexual, with nearly all of these

(84.4%) reporting that they did not engage in receptive anal intercourse, the practice associated with the highest risk for HIV infection (5). Another factor might be the low HIV prevalence among women in Thailand, making heterosexual acquisition of HIV less likely. In 2005, HIV prevalence among pregnant women attending public antenatal care facilities in Thailand was 1.0% (6). Injection-drug use was low in the study population, suggesting that among MSM, MSW, and TG in Thailand, HIV is predominantly transmitted sexually. Nevertheless, analysis of the 2005 data indicates that lifetime use of any noninjected drug (mostly smoked methamphetamine) was reported frequently by MSW (38.5%), TG (24.1%), and MSM (15.5%). The use of drugs, particularly those that are injected or enhance or prolong sexual pleasure, among MSM, MSW, and TG in Thailand needs further monitoring because drug use patterns might change over time.

The results of this analysis also indicate lack of awareness of current HIV status in the study population, particularly among those who were HIV positive. Of the 340 men who tested HIV positive in the 2005 survey, 274 (80.6%) reported that they were HIV negative or that they had never been tested for HIV infection. Of these 274 men, 57 (20.8%) received their first HIV-positive test result as part of this assessment. Overall, of 2,049 participants, 511 (24.9%) returned for their HIV test results, of whom 64 (12.5%) were HIV positive. All 64 men were referred for confirmatory EIA serum testing and HIV treatment and care, including immunologic evaluation (CD4 cell count) to determine eligibility for highly active antiretroviral therapy (HAART) and antimicrobial prophylaxis and treatment, according to Thai national guidelines (3). To decrease and prevent HIV risk behaviors (7), MSM, MSW, and TG in Thailand should be encouraged to get tested for HIV infection more frequently (8) so that they can take measures to protect themselves and their partners from HIV infection.

The findings in this report are subject to at least three limitations. First, the study population consisted of men who were present at venues where MSM, MSW, and TG congregate to socialize and find sex partners or clients. Men who do not attend these venues might have different HIV risk factors and HIV prevalence. Second, men with higher risk for HIV infection might have attended multiple venues and might have enrolled in the study more than once, thereby inflating HIV prevalence estimates. This possibility is unlikely, however, because data-collection periods were brief (approximately 2 weeks), and travel among venues is uncommon in Bangkok.

Moreover, MSW and TG typically worked and lived at the venue where they enrolled, making their enrollment at another venue improbable. Finally, men who attend venues frequently might have a higher HIV prevalence and were more likely to be included in the assessment, thereby inflating HIV prevalence estimates. However, no association between venue attendance and HIV prevalence was determined; thus, the data were not weighted for frequency of attendance.

The high HIV prevalence among MSM, MSW, and TG in Thailand, as documented in this report, highlights the need for more effective behavioral and biomedical interventions to prevent the spread of HIV in these populations at high risk. Interventions should include programs to reduce sexual risk behavior, promotion of more frequent voluntary HIV counseling and testing, and improved services for diagnosis and treatment of sexually transmitted infections.

Acknowledgments

This report is based, in part, on contributions by S Naorat, MA, T Guadamuz, MHS, P Akarasewi, MD, C Kittinunvorakoon, PhD, P Wasinrapee, MSc, S Kurachit, MA, B Jumtee, N Tippanont, T Chemnasiri, W Thienkrua, Thailand Ministry of Public Health – U.S. Centers for Disease Control and Prevention Collaboration; S Thanprasertsuk, MD, P Sirivongrangson, MD, Dept of Disease Control, Thailand Ministry of Public Health, Nonthaburi; S Tantipaibulvut, A Jamrasak, P Chuariyakul, AIDS Research Centre, Thai Red Cross Society; K Kanggarnrua, D Linjongrat, P Chanlearn, Rainbow Sky Assoc of Thailand, Bangkok, Thailand.

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HIV Counseling, Testing, and Care of Tuberculosis Patients at Chest Clinics — Guyana, 2005–2006

Tuberculosis (TB) is a leading cause of morbidity and mortality among persons living with human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS) (1). During 2004, Guyana had an estimated TB incidence rate of 140 per 100,000 population (1), the fourth highest rate in the Americas (after Haiti, Bolivia, and Peru); Guyana also had an estimated adult HIV prevalence of 2.5% (2), and 20% of TB patients were reported to be infected with HIV (3). In 2000, the Guyana Ministry of Health (MOH) began providing HIV counseling, testing, and referrals to HIV/AIDS programs at its six public chest clinics.* At the end of 2005, chest clinics also began providing co-trimoxazole preventive therapy (CPT) to HIV-infected TB patients as a measure against common opportunistic infections. During February–June 2006, an international team† assessed the extent to which MOH chest clinics in Guyana had implemented these interventions during July 2005–June 2006. This report summarizes the results of that assessment, which determined that, among 253 TB patients sampled, 174 (69%) initially did not know their HIV-infection status; 127 (73%) of those patients were offered HIV counseling and testing, and 115 (91%) accepted and were tested for HIV. Of the 115 who were tested, 11 (10%) were determined to be HIV infected; overall, 68 (35%) of the 194 patients whose HIV-infection status was known were HIV infected (i.e., 11 who were tested at the chest clinics plus 57 with preexisting knowledge of their HIV status). These results indicate both a high rate of HIV infection among TB patients in Guyana and the ability of chest clinics to provide HIV-related interventions in resource-limited settings.

In Guyana, approximately 90% of all reported TB cases are diagnosed and patients treated at the six MOH chest clinics (3). These clinics provide on-site rapid HIV testing and, with the exception of one facility, are located on the same campus or within 1 kilometer of MOH's HIV clinics. Chest clinics currently do not prescribe antiretroviral therapy (ART) to TB patients who are HIV infected, although this is planned for the future. When possible, however, chest clinics employ clinicians trained in both TB and HIV patient care. All patients starting TB treatment at the chest clinics during July–

December 2005 whose health-care records (e.g., patient medical records, treatment cards, or registers and logs at chest and HIV clinics) were located were included in the evaluation. Data on patient demographics, diagnosis, laboratory tests, and treatment were collected. TB disease was defined using World Health Organization (WHO) laboratory or clinical case definitions (4). HIV-related care was defined as receipt of at least one of the following: symptom screening for HIV-related complications, CD4+ T-lymphocyte cell count monitoring, or provision of CPT or ART.

During the 6-month evaluation period, 380 patients were registered as starting TB treatment at the six chest clinics. Of these, health-care records for 253 (67%) patients were located and available for review. Similar to most resource-limited settings, Guyana's MOH chest clinics do not use electronic medical records or formal record-tracking systems, hindering attempts to locate patient records. The median age of the TB patients was 38 years (range: 9 months–82 years). Seventy-nine (31%) of the 253 patients reported knowing their HIV-infection status before starting TB treatment and were not retested for HIV (Table). Of the remaining 174 patients with unknown HIV status before diagnosis of TB, 127 (73%) were offered HIV counseling and testing, and 115 (91%) of the 127 agreed to be tested. Eleven (10%) of those tested were HIV infected. The 47 (27%) patients with unknown HIV status who were not offered HIV counseling and testing were less likely to have had a secondary education (prevalence odds ratio [POR]: 4.6, 95% confidence interval [CI] = 1.5–15.0, $p < 0.01$) and more likely to be aged >44 years (POR: 11.0, CI = 2.4–99.0, $p < 0.01$) than those offered HIV testing. Among the 194 patients for whom HIV status was determined, 68 (35%) were HIV infected (57 who self-reported their HIV serostatus before starting TB treatment and 11 who had been tested for HIV infection at the chest clinics). Documentation of HIV-related care was available for 54 (79%) of the 68 HIV-infected patients. Among these 54 patients, 38 (70%) had a recent CD4+ T-lymphocyte cell count recorded, 43 (80%) had been prescribed CPT, and 18 (33%) had been prescribed ART (Table). Patients not documented as receiving ART either were not referred to or did not comply with referral to an HIV clinic, did not meet national criteria for ART initiation, refused ART initiation, or had HIV clinic medical records that were unavailable for review (i.e., their MOH HIV clinic records were not located or they received HIV-related care at a private facility). Rates of CPT use did not differ significantly by patient sex, race/ethnicity, age group, or education level.

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TABLE. Number and percentage of tuberculosis (TB) patients using Ministry of Health chest clinics, by demographic and human immunodeficiency virus (HIV)-related care* characteristics and HIV-infection status — Guyana, 2005–2006

Characteristic	All TB patients		HIV-infected TB patients†	
	No.	(%)	No.	(%)
Sex				
Male	179	(71)	41	(60)
Female	74	(29)	27	(40)
Total	253	(100)	68	(100)
Age group (yrs)				
0–14	5	(2)	1	(2)
15–24	30	(12)	5	(6)
25–34	68	(27)	25	(37)
35–44	63	(25)	25	(37)
45–54	52	(21)	11	(16)
55–64	21	(8)	1	(2)
>64	12	(4)	0	—
Unknown	2	(1)	0	—
Race/Ethnicity§				
East Indian	61	(24)	8	(12)
Afro-Guyanese	124	(49)	42	(62)
Mixed	50	(19)	16	(23)
Amerindian	15	(6)	2	(3)
Chinese	1	(1)	0	—
Unknown	2	(1)	0	—
Education level				
Less than secondary	76	(30)	24	(35)
Secondary or higher	94	(37)	25	(37)
Not documented	83	(33)	19	(28)
Knew HIV status before TB diagnosis¶	79	(31)	57	(84)
If HIV status unknown, offered HIV testing	127/174	(73)	—	—
HIV tested	115/127	(91)	—	—
HIV infected	—	—	11/115	(10)
Not HIV infected	—	—	104/115	(90)
Total no. of persons for whom HIV status was established	194	(77)	—	—
HIV infected	68	(35)	—	—
HIV non-infected	126	(65)	—	—
Received HIV-related care				
No	—	—	14	(21)
Yes	—	—	54	(79)
Prescribed CPT**	—	—	43	(80)
Prescribed ART	—	—	18	(33)
Median CD4 count (range)	—	—	101	(1–1,024)

* Defined as receipt of at least one of the following: HIV-focused symptom and behavioral screening, CD4+ T-lymphocyte cell count monitoring, or prescription of co-trimoxazole preventive therapy (CPT) or antiretroviral therapy (ART).

† Received diagnoses of HIV infection before TB diagnoses or were determined to be HIV infected after testing at a chest clinic.

§ Race/ethnicity classifications are those used by the Guyana Ministry of Health.

¶ Patient knowledge of HIV status as documented by clinician or health-care records. No additional verification of self-reported HIV status was made.

** Health-care providers reported adverse reactions in two of the 43 patients who received CPT.

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Editorial Note: According to WHO recommendations, 1) HIV testing and counseling should be offered to all TB patients in settings where the HIV prevalence among TB patients exceeds 5%; 2) TB control programs should establish a referral linkage with HIV/AIDS programs to provide a continuum of care and support for persons living with HIV/AIDS who are receiving or who have completed their TB treatment; and 3) TB and HIV/AIDS programs should establish a system to provide CPT to eligible persons living with HIV/AIDS who have active TB (5). The assessment described in this report demonstrated that of the TB patients using Guyana's MOH chest clinics for whom HIV status was determined, 35% were HIV infected, and 79% of these patients received varying types of HIV-related care; in addition, 73% of those who did not know their HIV status upon arrival at the chest clinic were offered HIV counseling and testing. These findings support the usefulness of chest clinics in the initiation and maintenance of HIV-related interventions in resource-limited settings. The chest clinics provided HIV counseling and testing to 73% of eligible TB patients, which compares well with published rates for other countries where HIV prevalence among TB patients exceeds 5% (1,6–8). Comparable reports regarding provision of HIV-related care by chest clinics in other countries have not been published.

Although these clinics had the capacity to provide HIV counseling and testing and HIV-related care, 27% of TB patients met national Guyana guidelines for receipt of HIV counseling and testing (i.e., had unknown HIV infection status) but were not documented as receiving these interventions. Discrepant rates of HIV counseling and testing by demographic characteristics (i.e., age and education level) were noted. Further study might be considered to determine what factors (e.g., communication or cultural) might have resulted in older TB patients and those with less education being less likely to be offered HIV counseling and testing. Strengthening the observance of national guidelines regarding HIV counseling and testing (in addition to CPT use and referrals to HIV/AIDS programs) to include all persons, regardless of demographics, is critical. In addition, because one third of eligible patient records could not be located during this assessment, improving current medical record filing and tracking systems likely would improve patient management.

The findings in this report are subject to at least five limitations. First, data were missing from patient records at all six chest clinics, and 33% of patient records were not available;

whether the HIV-related characteristics of these patients differed significantly from the sampled group is unknown. Second, 27% of patients with unknown HIV status at the time of TB diagnosis were not offered HIV counseling and testing; whether the proportion of HIV infection in this patient group differed significantly from those who were tested is unknown. Third, patient reports of receiving HIV-related health care from private providers were not verified. Fourth, self-reports of HIV status could not be confirmed for some patients (i.e., those not visiting MOH HIV clinics). Finally, MOH chest clinics did not begin providing CPT to HIV-infected TB patients until the end of 2005. HIV-infected patients who completed most or all of their TB-related care before chest clinic distribution of CPT might have lower rates of use.

Because HIV-related care is available to patients without cost in Guyana, adoption of routine diagnostic HIV testing for all persons visiting chest clinics (i.e., “opt-out” testing) should be considered, including for persons unable to provide documentation of their HIV status. Routine testing could increase the detection of HIV infections and enable more HIV-infected TB patients to receive HIV-related care. In addition, training should be provided regularly to chest clinic staff members to underscore the importance of observing national TB and HIV guidelines. Further integrating TB and HIV control measures (e.g., by including in Guyana’s National HIV Registry those HIV-infected patients who received their diagnoses at chest clinics and who receive HIV-related care at non-MOH facilities) could provide additional safeguards for patient follow-up and appropriate health care.

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Trends in HIV-Related Risk Behaviors Among High School Students — United States, 1991–2005

Young persons who engage in unprotected sexual intercourse or use injection drugs are at increased risk for human immunodeficiency virus (HIV) infection. To examine changes in HIV-related risk behavior among high school students in the United States during 1991–2005, CDC analyzed data from eight national Youth Risk Behavior Surveys (YRBS) conducted during that period. This report summarizes the results of that analysis, which indicated that, during 1991–2005, the percentage of U.S. high school students engaging in HIV-related sexual risk behaviors decreased. During 1995–2005, the percentage of U.S. high school students who ever injected drugs remained less than 4%. However, many students still engage in HIV-related risk behaviors. Measures aimed at changing these behaviors should be strengthened to decrease the incidence and prevalence of HIV/AIDS among young persons and meet the national 2010 objective for adolescent sexual behavior (objective 25-11) (1).

The biennial national YRBS, a component of CDC’s Youth Risk Behavior Surveillance System, used independent, three-stage cluster samples for the 1991–2005 surveys to obtain cross-sectional data representative of public and private school students in grades 9–12 in all 50 states and the District of Columbia. Sample sizes ranged from 10,904 to 16,296. School response rates ranged from 70% to 81%, and student response rates ranged from 83% to 90%; overall response rates for the surveys ranged from 60% to 70%.

For each cross-sectional national survey, students completed anonymous, self-administered questionnaires that included identically worded questions about sexual experience, number of sex partners, current sexual activity, condom use, and injection-drug use.* Sexual experience was defined as ever having had sexual intercourse. Multiple sex partners was defined as having four or more sex partners during the person’s lifetime. Current sexual activity was defined as having sexual intercourse during the 3 months preceding the survey. Condom use was defined as use of a condom during last sexual intercourse among currently sexually active students. Begin-

*The YRBS questions were as follows: “Have you ever had sexual intercourse?” “During your life, with how many people have you had sexual intercourse?” “During the past 3 months, with how many people have you had sexual intercourse?” “The last time you had sexual intercourse, did you or your partner use a condom?” and “During your life, how many times have you used a needle to inject any illegal drug into your body?” The wording of the question on injection-drug use changed substantially after the 1993 survey, so 1991 and 1993 data are not included in this report.

ning with the 1995 survey, injection-drug use was defined as ever having used a needle to inject any illegal drug into the body. Race/ethnicity data are presented only for non-Hispanic black, non-Hispanic white, and Hispanic students (who might be of any race); the numbers of students from other racial/ethnic groups were too small for meaningful analysis.

Data were weighted to provide national estimates, and the statistical software used for data analysis accounted for the complex sample design. Temporal changes were analyzed using logistic regression analyses, which controlled for sex, race/ethnicity, and grade and simultaneously assessed linear and quadratic time effects (2). Quadratic trends indicate a statistically significant but nonlinear trend in the data over time (e.g., a leveling off or significant change in direction). Trends that include significant linear and quadratic components demonstrate nonlinear variation in addition to an overall increase or decrease over time.

During 1991–2005, the prevalence of sexual experience decreased 13% from 54.1% to 46.8% among high school students. Logistic regression analyses indicated a significant linear decrease overall and among female, male, 9th-grade, 10th-grade, 11th-grade, 12th-grade, black, and white students (Table). A significant quadratic trend also was detected among black students and 11th-grade students. Among black students, this trend indicated that the prevalence of sexual experience declined during 1991–2001 and then leveled off through 2005. Among 11th-grade students, the prevalence of sexual experience declined during 1991–1997 and then leveled off through 2005. Prevalence of sexual experience did not decrease significantly among Hispanic students.

During 1991–2005, the prevalence of multiple sex partners decreased 24% from 18.7% to 14.3%. A significant linear decrease was detected overall and among female, male, 9th-grade, 10th-grade, 11th-grade, 12th-grade, black, and white

TABLE. Percentage of high school students who reported HIV*-related risk behaviors, by sex, grade, race/ethnicity, and survey year—United States, Youth Risk Behavior Survey, 1991, 1993, 1995, 1997, 1999, 2001, 2003, and 2005

Characteristic	Survey year	Ever had sexual intercourse		Had four or more sex partners during lifetime		Had sexual intercourse during preceding 3 months		Used condom during last sexual intercourse [§]		Ever used illegal injection drugs		
		%	(95% CI) [†]	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	
Total	1991	54.1	(±3.5)	18.7	(±2.1)	37.4	(±3.1)	46.2	(±3.3)	—	—	
	1993	53.0	(±2.7)	18.7	(±2.0)	37.5	(±2.1)	52.8	(±2.7)	—	—	
	1995	53.1	(±4.5)	17.8	(±2.6)	37.9	(±3.4)	54.4	(±3.5)	2.1	(±0.4)	
	1997	48.4	(±3.1)	16.0	(±1.4)	34.8	(±2.2)	56.8	(±1.6)	2.1	(±0.5)	
	1999	49.9	(±3.7)	16.2	(±2.6)	36.3	(±3.5)	58.0	(±4.2)	1.8	(±0.4)	
	2001	45.6	(±2.3)	14.2	(±1.2)	33.4	(±2.0)	57.9	(±2.2)	2.3	(±0.4)	
	2003	46.7	(±2.6)	14.4	(±1.6)	34.3	(±2.1)	63.0	(±2.5)	3.2	(±1.2)	
	2005	46.8	(±3.3)**	14.3	(±1.5)**	33.9	(±2.5)**	62.8	(±2.1)**	2.1	(±0.3)	
Sex	Female	1991	50.8	(±4.0)	13.8	(±1.8)	38.2	(±3.4)	38.0	(±4.3)	—	—
		1993	50.2	(±2.5)	15.0	(±1.9)	37.5	(±1.8)	46.0	(±2.8)	—	—
		1995	52.1	(±5.0)	14.4	(±3.5)	40.4	(±4.2)	48.6	(±5.2)	1.0	(±0.5)
		1997	47.7	(±3.7)	14.1	(±2.0)	36.5	(±2.7)	50.8	(±3.0)	1.5	(±0.8)
		1999	47.7	(±4.1)	13.1	(±2.2)	36.3	(±4.1)	50.7	(±5.8)	0.7	(±0.3)
		2001	42.9	(±2.8)	11.4	(±1.5)	33.4	(±2.5)	51.3	(±3.4)	1.6	(±0.4)
		2003	45.3	(±2.6)	11.2	(±1.4)	34.6	(±2.1)	57.4	(±3.1)	2.5	(±1.3)
		2005	45.7	(±3.6)**	12.0	(±1.6)**	34.6	(±3.0)	55.9	(±2.8)**	1.1	(±0.4)
Male	1991	57.4	(±4.1)	23.4	(±3.0)	36.8	(±3.4)	54.5	(±3.8)	—	—	
	1993	55.6	(±3.5)	22.3	(±2.7)	37.5	(±3.0)	59.2	(±3.8)	—	—	
	1995	54.0	(±4.7)	20.9	(±2.6)	35.5	(±3.5)	60.5	(±4.3)	3.0	(±0.6)	
	1997	48.8	(±3.4)	17.6	(±1.5)	33.4	(±2.6)	62.5	(±2.8)	2.6	(±0.6)	
	1999	52.2	(±4.0)	19.3	(±3.6)	36.2	(±3.9)	65.5	(±4.3)	2.8	(±0.8)	
	2001	48.5	(±2.7)	17.2	(±1.6)	33.4	(±2.3)	65.1	(±2.7)	3.1	(±0.4)	
	2003	48.0	(±3.3)	17.5	(±2.2)	33.8	(±2.5)	68.8	(±2.6)	3.8	(±1.3)	
	2005	47.9	(±3.4)**	16.5	(±1.8)**	33.3	(±2.6)	70.0	(±3.1)**	3.0	(±0.5)	
Grade	9	1991	39.0	(±5.0)	12.5	(±2.9)	22.4	(±3.9)	53.3	(±6.2)	—	—
		1993	37.7	(±4.2)	10.9	(±2.0)	24.8	(±3.2)	61.6	(±5.7)	—	—
		1995	36.9	(±5.9)	12.9	(±3.0)	23.6	(±4.0)	62.9	(±5.5)	2.8	(±1.1)
		1997	38.0	(±3.8)	12.2	(±2.5)	24.2	(±3.3)	58.8	(±5.6)	3.0	(±1.8)
		1999	38.6	(±6.1)	11.8	(±2.3)	26.6	(±5.7)	66.6	(±7.8)	1.6	(±0.6)
		2001	34.4	(±3.6)	9.6	(±1.6)	22.7	(±3.1)	67.5	(±3.3)	2.5	(±0.9)
		2003	32.8	(±3.8)	10.4	(±2.0)	21.2	(±2.5)	69.0	(±6.4)	3.2	(±1.8)
		2005	34.3	(±3.5)**	9.4	(±1.5)**	21.9	(±2.4)	74.5	(±5.1)**	2.4	(±0.7)

TABLE. (Continued) Percentage of high school students who reported HIV*-related risk behaviors, by sex, grade, race/ethnicity, and survey year — United States, Youth Risk Behavior Survey, 1991, 1993, 1995, 1997, 1999, 2001, 2003, and 2005

Characteristic	Survey year	Ever had sexual intercourse		Had four or more sex partners during lifetime		Had sexual intercourse during preceding 3 months		Used condom during last sexual intercourse [§]		Ever used illegal injection drugs [¶]	
		%	(95% CI) [†]	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
10	1991	48.2	(±5.7)	15.1	(±2.8)	33.2	(±4.6)	46.3	(±4.7)	—	
	1993	46.1	(±3.6)	15.9	(±2.0)	30.1	(±3.0)	54.7	(±4.5)	—	
	1995	48.0	(±5.1)	15.6	(±2.0)	33.7	(±3.1)	59.7	(±4.6)	2.2	(±1.4)
	1997	42.5	(±4.3)	13.8	(±2.7)	29.2	(±2.9)	58.9	(±3.6)	2.5	(±1.3)
	1999	46.8	(±5.6)	15.6	(±5.0)	33.0	(±5.2)	62.6	(±6.1)	1.2	(±0.5)
	2001	40.8	(±3.0)	12.6	(±1.8)	29.7	(±2.9)	60.1	(±4.5)	2.6	(±0.7)
	2003	44.1	(±2.8)	12.6	(±2.4)	30.6	(±2.5)	69.0	(±4.7)	3.2	(±1.6)
	2005	42.8	(±3.9)**	11.5	(±2.0)**	29.2	(±2.9)	65.3	(±3.9)**	2.3	(±0.6)
11	1991	62.4	(±3.2)	22.1	(±3.6)	43.3	(±3.6)	48.7	(±5.8)	—	
	1993	57.5	(±3.5)	19.9	(±3.1)	40.0	(±3.6)	55.3	(±3.0)	—	
	1995	58.6	(±5.0)	19.0	(±3.7)	42.4	(±4.4)	52.3	(±6.2)	1.7	(±0.6)
	1997	49.7	(±5.2)	16.7	(±2.9)	37.8	(±4.8)	60.1	(±5.2)	1.6	(±0.7)
	1999	52.5	(±3.8)	17.3	(±4.1)	37.5	(±3.4)	59.2	(±4.8)	2.0	(±1.2)
	2001	51.9	(±2.9)	15.2	(±1.5)	38.1	(±2.6)	58.9	(±4.0)	1.9	(±0.6)
	2003	53.2	(±4.3)	16.0	(±2.6)	41.1	(±3.9)	60.8	(±4.8)	2.8	(±1.3)
	2005	51.4	(±5.2)**††	16.2	(±2.4)**	39.4	(±4.3)	61.7	(±3.8)**	1.7	(±0.5)
12	1991	66.7	(±4.4)	25.0	(±4.0)	50.6	(±4.5)	41.4	(±3.6)	—	
	1993	68.3	(±4.6)	27.0	(±3.6)	53.0	(±3.9)	46.5	(±4.0)	—	
	1995	66.4	(±4.0)	22.9	(±3.5)	49.7	(±3.9)	49.5	(±4.4)	1.6	(±0.9)
	1997	60.9	(±6.5)	20.6	(±3.5)	46.0	(±5.0)	52.4	(±3.5)	1.5	(±0.8)
	1999	64.9	(±4.9)	20.6	(±2.8)	50.6	(±5.1)	47.9	(±5.7)	2.3	(±0.9)
	2001	60.5	(±4.0)	21.6	(±2.4)	47.9	(±4.0)	49.3	(±3.1)	2.1	(±0.6)
	2003	61.6	(±3.8)	20.3	(±2.0)	48.9	(±3.5)	57.4	(±3.7)	3.0	(±1.6)
	2005	63.1	(±4.1)**	21.4	(±2.8)**	49.4	(±3.8)	55.4	(±3.5)**	1.7	(±0.5)
Race/Ethnicity^{§§}											
Black, non-Hispanic	1991	81.4	(±3.2)	43.1	(±3.5)	59.3	(±3.8)	48.0	(±3.8)	—	
	1993	79.7	(±3.2)	42.7	(±3.8)	59.1	(±4.4)	56.5	(±3.8)	—	
	1995	73.4	(±4.5)	35.6	(±4.4)	54.2	(±4.7)	66.1	(±4.8)	1.1	(±0.6)
	1997	72.6	(±2.8)	38.5	(±3.6)	53.6	(±3.2)	64.0	(±2.8)	1.0	(±0.7)
	1999	71.2	(±8.2)	34.4	(±10.3)	53.0	(±8.9)	70.0	(±5.4)	0.9	(±0.5)
	2001	60.8	(±6.6)	26.6	(±3.7)	45.6	(±5.4)	67.1	(±3.5)	1.6	(±0.7)
	2003	67.3	(±3.3)	28.8	(±2.5)	49.0	(±2.9)	72.8	(±3.7)	2.4	(±1.1)
	2005	67.6	(±3.1)**††	28.2	(±2.6)**	47.4	(±2.6)**	68.9	(±3.6)**††	1.7	(±0.9)
Hispanic	1991	53.1	(±3.5)	16.8	(±2.6)	37.0	(±3.6)	37.4	(±6.2)	—	
	1993	56.0	(±4.1)	18.6	(±3.1)	39.4	(±3.7)	46.1	(±4.4)	—	
	1995	57.6	(±8.6)	17.6	(±3.7)	39.3	(±7.1)	44.4	(±11.1)	2.2	(±0.9)
	1997	52.2	(±3.6)	15.5	(±2.4)	35.4	(±3.9)	48.3	(±5.6)	2.2	(±0.6)
	1999	54.1	(±4.8)	16.6	(±3.6)	36.3	(±4.0)	55.2	(±6.8)	1.8	(±0.8)
	2001	48.4	(±4.5)	14.9	(±1.7)	35.9	(±3.2)	53.5	(±5.1)	2.5	(±0.7)
	2003	51.4	(±3.2)	15.7	(±2.2)	37.1	(±2.8)	57.4	(±5.3)	3.9	(±2.1)
	2005	51.0	(±4.3)	15.9	(±2.4)	35.0	(±3.9)	57.7	(±4.1)**	3.0	(±1.0)
White, non-Hispanic	1991	50.0	(±3.2)	14.7	(±1.8)	33.9	(±2.8)	46.5	(±4.6)	—	
	1993	48.4	(±2.8)	14.3	(±2.1)	34.0	(±2.1)	52.3	(±3.9)	—	
	1995	48.9	(±5.0)	14.2	(±2.4)	34.8	(±3.9)	52.5	(±4.0)	2.0	(±0.6)
	1997	43.6	(±4.2)	11.6	(±1.5)	32.0	(±3.1)	55.8	(±2.0)	1.8	(±0.5)
	1999	45.1	(±3.9)	12.4	(±2.1)	33.0	(±3.3)	55.0	(±5.1)	1.6	(±0.4)
	2001	43.2	(±2.5)	12.0	(±1.4)	31.3	(±2.2)	56.8	(±3.0)	2.4	(±0.5)
	2003	41.8	(±2.7)	10.8	(±1.5)	30.8	(±2.0)	62.5	(±3.1)	2.5	(±1.3)
	2005	43.0	(±4.1)**	11.4	(±1.8)**	32.0	(±3.3)	62.6	(±2.5)**	1.9	(±0.4)

* Human immunodeficiency virus.

† Confidence interval.

§ Among students who had sexual intercourse during the 3 months preceding the survey.

¶ Ever used a needle to inject any illegal drug into the body. The wording of the question on injection-drug use changed substantially after the 1993 survey, so 1991 and 1993 data are not included in this report.

** Significant linear effect (p<0.05).

†† Significant quadratic effect (p<0.05).

§§ Numbers of students in racial/ethnic groups other than non-Hispanic black, Hispanic, or non-Hispanic white were too small for meaningful analysis. Hispanic students might be of any race.

students (Table). Prevalence of multiple sex partners did not decrease significantly among Hispanic students.

During 1991–2005, the prevalence of current sexual activity decreased 9% from 37.4% to 33.9%. A significant linear decrease was detected overall and among black students (Table), but the prevalence of current sexual activity did not decrease significantly among any other subgroups of students. Among currently sexually active students, the prevalence of condom use increased 36% from 46.2% to 62.8%. A significant linear increase in condom use was detected overall and among all subgroups of students. Among black students, a significant quadratic trend also was detected, indicating that the prevalence of condom use among currently sexually active black students increased during 1991–1999 and then leveled off through 2005.

During 1995–2005, the prevalence of injection-drug use remained below 4%. No significant change was observed overall or among any subgroups of students.

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Editorial Note: The overall decrease in HIV-related sexual risk behaviors among high school students discussed in this report corresponds to a simultaneous decrease in gonorrhea (3), pregnancy (4), and birth rates (5) among adolescents. These improvements in health outcomes likely resulted from the combined contributions of parents and families, schools, youth-serving community organizations, health-care providers, the media, government agencies, and the youths themselves and improved availability of effective interventions that address HIV-related knowledge, skills, and behaviors and their determinants (e.g., peer norms and media influences). However, additional measures are needed to eliminate disparities among subgroups; for example, black students are more likely than white and Hispanic students to report HIV-related sexual risk behaviors (6), and Hispanic students have not experienced decreases in the prevalence of sexual experience, having had multiple sex partners, or current sexual activity.

The findings in this report are subject to at least two limitations. First, these data apply only to youths who attend school and therefore are not representative of all persons in this age group. In 2001, among persons aged 16–17 years, approximately 5% were not enrolled in a high school program and had not completed high school (7). Second, the extent of underreporting or overreporting of behaviors cannot be determined, although the survey questions demonstrated good test-retest reliability (8).

A national health objective for 2010 (objective 25-11) is to increase the proportion of adolescents in grades 9–12 who abstain from sexual intercourse or use condoms if they are currently sexually active (1). Increased measures are needed to meet this 2010 objective and reduce the incidence and prevalence of HIV/AIDS among young persons.

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***Vibrio parahaemolyticus* Infections Associated with Consumption of Raw Shellfish — Three States, 2006**

On August 7, this report was posted as an MMWR Dispatch on the MMWR website (<http://www.cdc.gov/mmwr>).

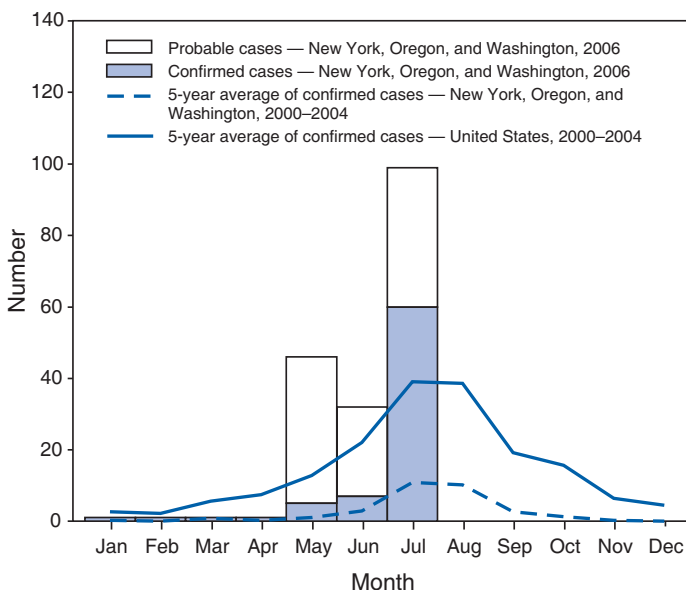
During May 20–July 31, 2006, New York City, New York state, Oregon, and Washington health departments reported a total of 177 cases of *Vibrio parahaemolyticus* infection, of which 122 have been associated with 17 clusters. A cluster has been defined as a group of two or more ill persons who were linked to the same shellfish source (e.g., shared a meal at the same restaurant or obtained shellfish from the same seafood market). Certain clusters were associated with restaurants, certain clusters with seafood markets, and certain clusters with recreational harvesting. Three patients were hospitalized; no fatalities have been reported. No demographic (e.g., age, sex, or race) or medical history (e.g., predisposing conditions) information is yet available regarding affected persons.

A confirmed case of *V. parahaemolyticus* infection is defined as an infection confirmed by isolation of the organism from a

patient's stool. A probable case is defined as gastroenteritis in a person who can be epidemiologically linked to a confirmed case. Of the 177 *V. parahaemolyticus* cases reported, 72 are confirmed and 105 are probable: New York City (two confirmed, 74 probable), New York state (seven confirmed), Oregon (eight confirmed, eight probable), and Washington (55 confirmed, 23 probable). This incidence of infection is much higher than expected; during May, June, and July 2000–2004, these jurisdictions reported an annual average of 16 laboratory-confirmed *V. parahaemolyticus* cases to CDC (Figure). The number of confirmed cases in this report (72) is more than the average number reported during May, June, and July during 2000–2004, in the entire United States (Figure).

Subtyping of *V. parahaemolyticus* isolates has indicated that 18 of 23 isolates tested are serotype O4:K12, which is unrelated to the pandemic strain that was first identified in Asia in 1996 and later emerged in the United States in 1998 (1,2). Traceback investigations have linked contaminated oysters and contaminated clams to harvest areas in Washington and British Columbia, Canada; shellfish from these sources were distributed to seafood markets and restaurants nationwide.

FIGURE. Number of *Vibrio parahaemolyticus* cases* from New York,[†] Oregon, and Washington,[§] by month, compared with 5-year average numbers of confirmed cases nationwide and from New York, Oregon, and Washington during 2000–2004,[¶] by month



* A confirmed case of *V. parahaemolyticus* infection is defined as an infection that is confirmed by isolation of the organism from a patient's stool. A probable case is defined as gastroenteritis in a person who can be epidemiologically linked to a confirmed case.

[†] Includes health jurisdictions of New York state and New York City.

[§] As of July 31, 2006.

[¶] Data from 2005 are not yet available.

Ongoing investigations are being conducted by state and local health departments and regional Food and Drug Administration (FDA) shellfish-control offices to identify additional sources of infection. Additional infections likely have been undetected, underreported, or both.

V. parahaemolyticus infection causes acute, self-limited gastroenteritis typically characterized by diarrhea, abdominal cramps, nausea, vomiting, fever, and chills of 1–3 days duration, with onset usually within 24 hours after eating contaminated food. Cases are most commonly reported during warmer months and are often associated with eating raw or undercooked shellfish or other cooked foods that have been cross-contaminated by raw shellfish.

Previous local *V. parahaemolyticus* outbreaks have coincided with large increases in sporadic cases nationally, suggesting that identified clusters are most often manifestations of a wider increase in illness (1). Studies suggest that approximately 20 *V. parahaemolyticus* illnesses exist for each laboratory-confirmed case reported to CDC (3,4), underscoring the need for enhanced national surveillance and control measures.

Shellfish harvest areas in the United States and Canada that were previously implicated in *V. parahaemolyticus* outbreaks are routinely monitored by state shellfish-control agencies to control transmission of these illnesses. Despite acceptable *V. parahaemolyticus* levels detected by routine testing of shellfish in these areas, as of July 31, 2006, eight shellfish harvest areas in Washington had been closed to harvesting because their oysters were associated with this *Vibrio* illness outbreak. Oysters from these areas have been recalled by Washington state shellfish-control authorities. Shellfish bed monitoring is an important element of food-safety control but is not sufficient to prevent illnesses caused by *Vibrio* organisms. Because vibrios multiply rapidly, even low levels of *V. parahaemolyticus* in harvested products can rapidly increase to infectious levels if not rapidly refrigerated after harvest and maintained at proper temperatures during transport, processing, and storage (i.e., <50°F [$<10^{\circ}\text{C}$]).

Medical providers should request stool specimens from patients with acute gastroenteritis and a history of recent shellfish consumption. The microbiology laboratory analyzing the sample should be notified that *Vibrio* illness, or vibriosis, is suspected so that appropriate methods (ideally, culture in the selective medium thiosulfate-citrate-bile salts-sucrose [TCBS] agar) can be used to isolate the organisms. *Vibrio* species grow readily in blood agar, but primary isolation of the organisms from stool samples is problematic because extensive screening is required to differentiate vibrios from other enteric organisms (5).

Vibrio species infections should be reported to the appropriate health jurisdiction. Although infection with *V. parahaemolyticus* is not currently a nationally notifiable disease (as is cholera, the disease caused by choleric strains of *Vibrio cholerae*),* CDC has conducted voluntary case surveillance for laboratory-confirmed noncholera *Vibrio* species infection since 1988. In June 2006, the Council of State and Territorial Epidemiologists recommended that all *Vibrio* species infections be classified as nationally notifiable diseases. The current outbreak underscores the benefits of coordinated national surveillance.

Consumption of raw or undercooked shellfish is a recurrent source of human illness, including sporadic infections and widespread outbreaks. In recent years, the most commonly reported pathogens associated with these infections have been *V. parahaemolyticus*, *Vibrio vulnificus*, and norovirus, but outbreaks of hepatitis A and cholera also have been reported. To decrease the risk for *V. parahaemolyticus* infection, shellfish should be thoroughly cooked to kill illness-causing pathogens.† In two of the New York City clusters in this report, vibriosis was associated with cooked seafood (e.g., cooked lobster, scallops, crab, or shrimp) that was eaten in a restaurant, suggesting that the food might have been cross-contaminated by raw shellfish after cooking. Some commercially available oysters have been treated after harvest to reduce the levels of *Vibrio* bacteria. Improved surveillance for *V. parahaemolyticus*, in addition to increased use of postharvest treatment to decrease *Vibrio* species levels, and careful postharvest temperature control of shellfish during transport, processing, and storage are critical to limiting *V. parahaemolyticus* infections.

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*The Nationally Notifiable Diseases Surveillance System is a public health surveillance system that collects data on cases of certain diseases. The decision to make a disease nationally notifiable is based on its public health importance (e.g., number of cases or severity of the disease) and its preventability. The current list of nationally notifiable diseases is available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.

†Cooking guidelines vary for each type of shellfish and are available from FDA at <http://www.cfsan.fda.gov/~lrd/seafsaf.html> or by telephone (888-723-3366).

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Notice to Readers

Epidemic Intelligence Service Application Deadline — September 15, 2006

The Epidemic Intelligence Service (EIS) is a 2-year, postgraduate program of service and on-the-job training for health professionals interested in the practice of epidemiology. Each year, EIS provides approximately 90 persons from around the world opportunities to gain hands-on experience in epidemiology at CDC or state or local health departments. EIS officers, often called CDC's "disease detectives," have gone on to occupy leadership positions at CDC and other public health agencies. However, the experience also is useful for health professionals who are seeking to gain a population health perspective.

Persons with a strong interest in applied epidemiology who meet at least one of the following qualifications may apply to EIS:

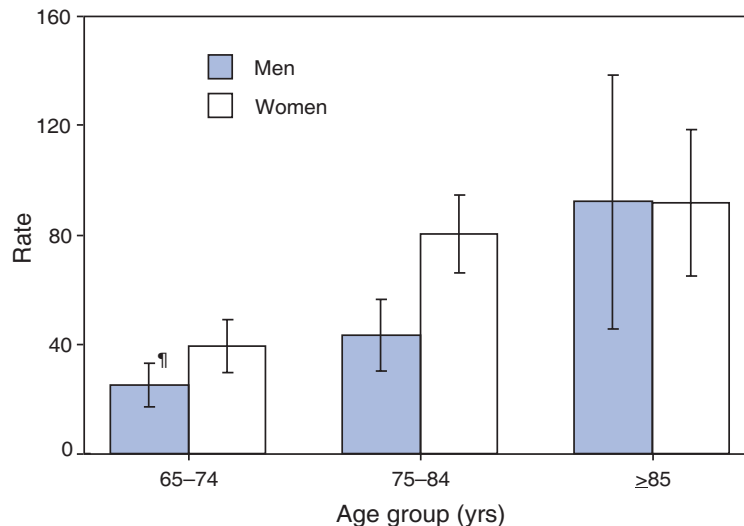
- Physicians with ≥ 1 year of clinical training.
- Persons with a PhD, DrPH, or other doctoral degree in epidemiology, biostatistics, the social or behavioral sciences, natural sciences, or the nutrition sciences.
- Dentists, physician assistants, and nurses with an MPH or equivalent degree.
- Veterinarians with an MPH or equivalent degree or relevant public health experience.

Applications are now being accepted for the July 2007–June 2009 EIS program. Deadline for submitting application materials is September 15, 2006. Application information and EIS program details are available at <http://www.cdc.gov/eis>; by telephone, 404-498-6110; or via e-mail, eisepo@cdc.gov.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Annual Rate* of Nonfatal, Medically Attended† Fall Injuries Among Adults Aged ≥ 65 Years§ — United States, 2001–2003



* Per 1,000 population.

† A medically attended injury is one for which a health-care professional was contacted either in person or by telephone for advice or treatment.

§ Based on household interviews of a sample of the civilian, noninstitutionalized population.

¶ 95% confidence interval.

During 2001–2003, the annual rate of nonfatal, medically attended fall injuries for adults aged ≥ 65 years was 52 per 1,000 population. Adults aged ≥ 85 years had the highest rates of injuries from falls; in that age group, rates were similar for men and women. However, among adults aged 65–74 years and 75–84 years, the rate of fall injuries was higher for women than men.

SOURCE: National Health Interview Survey, 2001–2003. Available at <http://www.cdc.gov/nchs/nhis.htm>.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending August 5, 2006 (31st Week)*

Disease	Current week	Cum 2006	5-year weekly average [†]	Total cases reported for previous years					States reporting cases during current week (No.)
				2005	2004	2003	2002	2001	
Anthrax	—	1	—	—	—	—	2	23	
Botulism:									
foodborne	—	3	1	19	16	20	28	39	
infant	1	48	1	89	87	76	69	97	UT (1)
other (wound & unspecified)	3	33	1	33	30	33	21	19	CA (3)
Brucellosis	—	59	3	122	114	104	125	136	
Chancroid	1	22	0	17	30	54	67	38	TX (1)
Cholera	—	4	0	8	5	2	2	3	
Cyclosporiasis [§]	2	54	6	734	171	75	156	147	SC (1), FL (1)
Diphtheria	—	—	—	—	—	1	1	2	
Domestic arboviral diseases ^{§¶} :									
California serogroup	—	4	6	78	112	108	164	128	
eastern equine	—	—	1	21	6	14	10	9	
Powassan	—	—	0	1	1	—	1	N	
St. Louis	—	1	2	10	12	41	28	79	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis [§] :									
human granulocytic	11	154	20	789	537	362	511	261	NY (2), MN (9)
human monocytic	7	148	11	518	338	321	216	142	NY (1), NC (3), TN (2), TX (1)
human (other & unspecified)	—	41	2	122	59	44	23	6	
<i>Haemophilus influenzae</i> ,**									
invasive disease (age <5 yrs):									
serotype b	—	4	0	9	19	32	34	—	
nonserotype b	1	50	2	135	135	117	144	—	MI (1)
unknown serotype	7	122	3	214	177	227	153	—	ND (1), MD (1), TN (1), AL (2), AR (2)
Hansen disease [§]	—	35	2	87	105	95	96	79	
Hantavirus pulmonary syndrome [§]	—	20	0	29	24	26	19	8	
Hemolytic uremic syndrome, postdiarrheal [§]	4	98	6	221	200	178	216	202	CT (1), GA (1), TN (2)
Hepatitis C viral, acute	9	448	34	755	713	1,102	1,835	3,976	NY (1), MI (1), KS (1), NC (1), FL (1), CO (1), WA (1), CA (2)
HIV infection, pediatric (age <13 yrs) ^{§,††}	—	52	5	380	436	504	420	543	
Influenza-associated pediatric mortality ^{§,§§,¶¶}	—	41	0	49	—	N	N	N	
Listeriosis	10	308	20	887	753	696	665	613	NY (1), MI (1), MD (2), GA (1), FL (1), WA (1), CA (3)
Measles	—***	25	1	66	37	56	44	116	
Meningococcal disease,††† invasive:									
A, C, Y, & W-135	—	136	4	297	—	—	—	—	
serogroup B	—	89	2	157	—	—	—	—	
other serogroup	—	12	1	27	—	—	—	—	
Mumps	18	5,482	6	314	258	231	270	266	NY (4), OH (1), ND (1), KS (6), VA (1), FL (1), TN (1), ID (1), CA (2)
Plague	—	5	0	8	3	1	2	2	
Poliomyelitis, paralytic	—	—	—	1	—	—	—	—	
Psittacosis [§]	—	10	0	19	12	12	18	25	
Q fever [§]	4	82	1	137	70	71	61	26	FL (1), TX (2), CO (1)
Rabies, human	—	1	0	2	7	2	3	1	
Rubella	—	5	0	10	10	7	18	23	
Rubella, congenital syndrome	—	1	—	1	—	1	1	3	
SARS-CoV ^{§,§§}	—	—	—	—	—	8	N	N	
Smallpox [§]	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome [§]	1	66	1	125	132	161	118	77	NY (1)
<i>Streptococcus pneumoniae</i> , [§]									
invasive disease (age <5 yrs)	8	666	8	1,257	1,162	845	513	498	NY (1), OH (1), IN (1), MD (1), AR (1), TX (2), CO (1)
Syphilis, congenital (age <1 yr)	3	134	8	361	353	413	412	441	LA (1), AZ (2)
Tetanus	—	14	1	26	34	20	25	37	
Toxic-shock syndrome (other than streptococcal) [§]	2	55	2	96	95	133	109	127	CA (2)
Trichinellosis	—	9	0	19	5	6	14	22	
Tularemia [§]	1	45	4	151	134	129	90	129	NE (1)
Typhoid fever	6	132	8	322	322	356	321	368	OH (1), MD (1), FL (2), NM (1), CA (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> [§]	—	2	—	2	—	N	N	N	
Vancomycin-resistant <i>Staphylococcus aureus</i> [§]	—	—	—	3	1	N	N	N	
Yellow fever	—	—	—	—	—	—	1	—	

—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2005 and 2006 are provisional, whereas data for 2001, 2002, 2003, and 2004 are finalized.

† Calculated by summing the incidence counts for the current week, the two weeks preceding the current week, and the two weeks following the current week, for a total of 5 preceding years. Additional information is available at <http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.

§ Not notifiable in all states.

¶ Includes both neuroinvasive and non-neuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNET Surveillance).

** Data for *H. influenzae* (all ages, all serotypes) are available in Table II.

†† Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, STD and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Data for HIV/AIDS are available in Table IV quarterly.

§§ Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases.

¶¶ A total of 37 cases were reported for the 2005-06 flu season (October 2, 2005 [week 40]–May 20, 2006 [week 20]).

*** No measles cases were reported for the current week.

††† Data for meningococcal disease (all serogroups and unknown serogroups) are available in Table II.

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending August 5, 2006, and August 6, 2005 (31st Week)*

Reporting area	Hepatitis (viral, acute), by type										Legionellosis				
	A					B									
	Current week	Previous 52 weeks		Cum 2006	Cum 2005	Current week	Previous 52 weeks		Cum 2006	Cum 2005	Current week	Previous 52 weeks		Cum 2006	Cum 2005
	Med	Max				Med	Max				Med	Max			
United States	35	73	245	1,854	2,230	28	84	597	2,197	3,080	39	41	126	1,017	985
New England	3	5	22	109	248	—	2	9	37	85	—	2	12	52	51
Connecticut	2	1	3	23	30	—	0	3	—	29	—	0	8	17	15
Maine†	1	0	2	7	1	—	0	2	12	7	—	0	1	3	3
Massachusetts	—	2	14	50	149	—	1	5	14	28	—	1	6	19	22
New Hampshire	—	0	7	16	58	—	0	2	7	17	—	0	1	1	6
Rhode Island	—	0	4	6	5	—	0	2	4	1	—	0	10	9	3
Vermont†	—	0	2	7	5	—	0	1	—	3	—	0	3	3	2
Mid. Atlantic	2	8	24	159	377	6	8	55	208	408	23	15	38	338	342
New Jersey	—	2	9	46	71	—	3	10	65	155	—	1	8	39	70
New York (Upstate)	2	1	14	48	59	4	1	43	39	36	15	5	29	144	78
New York City	—	1	10	28	185	—	1	5	14	82	—	0	9	9	63
Pennsylvania	—	1	6	37	62	2	3	9	90	135	8	6	17	146	131
E.N. Central	1	6	15	148	197	1	8	24	194	348	3	9	25	203	180
Illinois	—	1	11	27	60	—	0	6	7	101	—	1	5	14	24
Indiana	—	0	5	17	11	—	0	17	28	19	1	0	6	14	12
Michigan	1	2	8	52	66	1	3	7	83	114	2	2	6	51	53
Ohio	—	1	4	39	33	—	2	7	70	87	—	4	19	105	74
Wisconsin	—	1	5	13	27	—	0	4	6	27	—	0	5	19	17
W.N. Central	1	2	30	85	54	—	4	22	96	159	—	1	11	25	43
Iowa	—	0	2	5	13	—	0	3	9	16	—	0	1	2	3
Kansas	—	0	5	22	11	—	0	2	7	19	—	0	1	1	2
Minnesota	1	0	29	9	3	—	0	13	10	15	—	0	10	—	11
Missouri	—	1	4	31	23	—	3	7	64	86	—	0	3	14	17
Nebraska†	—	0	3	11	4	—	0	1	6	19	—	0	2	4	2
North Dakota	—	0	2	—	—	—	0	0	—	—	—	0	1	—	1
South Dakota	—	0	3	7	—	—	0	1	—	4	—	0	6	4	7
S. Atlantic	14	11	34	294	361	8	23	66	668	865	8	8	19	220	217
Delaware	—	0	2	9	5	—	1	4	22	19	—	0	2	4	12
District of Columbia	—	0	2	2	2	—	0	2	5	8	—	0	2	9	3
Florida	7	4	18	116	127	6	8	19	247	300	5	3	8	90	58
Georgia	6	1	6	38	79	2	3	8	97	133	—	0	4	9	19
Maryland†	—	1	6	32	31	—	2	10	95	93	1	1	6	46	61
North Carolina	1	0	20	54	42	—	0	23	92	98	—	0	5	20	17
South Carolina†	—	0	3	10	22	—	2	7	43	100	—	0	1	2	10
Virginia†	—	1	11	29	50	—	1	18	27	90	—	1	7	34	29
West Virginia	—	0	3	4	3	—	0	18	40	24	2	0	3	6	8
E.S. Central	1	1	13	45	139	1	5	16	160	174	1	1	7	36	33
Alabama†	—	0	9	9	17	—	2	7	74	50	—	0	1	7	9
Kentucky	—	0	2	—	—	—	0	3	—	—	—	0	4	—	—
Mississippi	—	0	1	4	13	—	0	3	9	36	—	0	1	1	2
Tennessee†	1	1	7	32	109	1	2	12	77	88	1	1	7	28	22
W.S. Central	—	7	77	117	240	—	13	315	352	331	—	1	32	30	19
Arkansas	—	0	9	30	9	—	1	4	24	42	—	0	3	1	4
Louisiana	—	0	4	1	43	—	0	3	6	50	—	0	1	—	—
Oklahoma	—	0	2	4	4	—	0	17	19	29	—	0	3	1	3
Texas†	—	5	73	82	184	—	11	295	303	210	—	0	26	28	12
Mountain	2	6	18	160	182	4	6	39	155	332	3	2	7	55	58
Arizona	1	2	16	91	95	—	4	23	86	211	1	0	3	20	12
Colorado	1	1	4	25	21	2	1	5	23	35	1	0	2	6	15
Idaho†	—	0	2	8	18	—	0	2	7	7	—	0	2	6	3
Montana	—	0	2	6	7	—	0	7	—	3	—	0	1	3	4
Nevada†	—	0	2	6	10	—	0	4	13	33	—	0	2	3	12
New Mexico†	—	0	3	11	16	—	0	3	5	13	—	0	1	2	2
Utah	—	0	2	11	14	2	0	5	21	28	1	0	2	15	7
Wyoming	—	0	1	2	1	—	0	1	—	2	—	0	1	—	3
Pacific	11	19	163	737	432	8	10	61	327	378	1	2	9	58	42
Alaska	—	0	1	—	3	1	0	1	3	7	—	0	1	—	—
California	9	15	162	672	359	6	7	41	254	254	1	2	9	58	41
Hawaii	—	0	2	8	17	—	0	1	4	4	—	0	1	—	1
Oregon†	2	0	5	30	25	1	1	6	38	65	N	0	0	N	N
Washington	—	1	13	27	28	—	0	18	28	48	—	0	0	—	—
American Samoa	U	0	0	U	1	U	0	0	U	—	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	2	—	0	0	—	18	—	0	0	—	—
Puerto Rico	—	0	3	—	—	—	0	5	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2005 and 2006 are provisional.

† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending August 5, 2006, and August 6, 2005 (31st Week)*

Reporting area	Lyme disease					Malaria				
	Current week	Previous 52 weeks		Cum 2006	Cum 2005	Current week	Previous 52 weeks		Cum 2006	Cum 2005
		Med	Max				Med	Max		
United States	423	248	2,153	7,448	12,160	23	24	125	642	776
New England	72	37	780	1,207	2,164	—	1	12	39	34
Connecticut	69	8	753	942	256	—	0	10	10	—
Maine†	3	2	26	52	159	—	0	1	3	3
Massachusetts	—	2	163	32	1,623	—	0	3	17	24
New Hampshire	—	5	31	155	96	—	0	3	8	4
Rhode Island	—	0	12	—	11	—	0	8	—	2
Vermont†	—	1	6	26	19	—	0	1	1	1
Mid. Atlantic	294	151	1,176	4,452	7,033	3	4	13	83	220
New Jersey	6	26	163	1,047	2,630	1	1	4	28	56
New York (Upstate)	217	76	1,150	1,863	1,535	—	1	11	20	26
New York City	—	1	23	7	254	—	1	8	14	114
Pennsylvania	71	40	271	1,535	2,614	2	1	3	21	24
E.N. Central	3	13	73	511	1,307	—	2	8	63	87
Illinois	—	0	6	—	101	—	1	5	20	47
Indiana	1	0	4	10	19	—	0	3	7	3
Michigan	2	1	7	24	21	—	0	2	12	17
Ohio	—	1	5	18	30	—	0	3	18	14
Wisconsin	—	10	56	459	1,136	—	0	3	6	6
W.N. Central	14	11	98	227	267	1	0	32	29	30
Iowa	—	1	6	33	64	—	0	1	1	4
Kansas	—	0	2	3	2	1	0	2	5	3
Minnesota	14	6	96	173	191	—	0	30	14	11
Missouri	—	0	3	10	8	—	0	2	4	12
Nebraska†	—	0	2	7	—	—	0	2	3	—
North Dakota	—	0	3	—	—	—	0	1	1	—
South Dakota	—	0	1	1	2	—	0	1	1	—
S. Atlantic	25	30	124	846	1,256	11	6	15	196	172
Delaware	—	8	26	284	444	—	0	1	5	3
District of Columbia	2	0	7	20	7	—	0	2	3	6
Florida	2	1	5	23	15	4	1	6	36	28
Georgia	—	0	1	—	4	3	1	6	55	36
Maryland†	20	15	87	407	639	3	1	5	42	62
North Carolina	—	0	5	16	30	1	0	8	14	17
South Carolina†	1	0	3	6	8	—	0	2	7	4
Virginia†	—	3	22	85	105	—	1	9	32	15
West Virginia	—	0	44	5	4	—	0	2	2	1
E.S. Central	—	0	4	6	14	—	0	2	15	11
Alabama†	—	0	1	3	—	—	0	2	9	3
Kentucky	—	0	2	—	—	—	0	2	—	—
Mississippi	—	0	0	—	—	—	0	1	3	—
Tennessee†	—	0	4	3	14	—	0	1	3	8
W. S. Central	—	0	5	8	53	2	2	31	44	59
Arkansas	—	0	1	—	3	—	0	2	1	3
Louisiana	—	0	0	—	3	—	0	1	—	2
Oklahoma	—	0	0	—	—	2	0	6	6	3
Texas†	—	0	5	8	47	—	1	29	37	51
Mountain	2	0	4	11	12	—	1	9	31	34
Arizona	—	0	4	3	2	—	0	9	11	6
Colorado	1	0	1	2	—	—	0	2	9	19
Idaho†	—	0	1	1	1	—	0	0	—	—
Montana	—	0	0	—	—	—	0	1	1	—
Nevada†	—	0	0	—	3	—	0	1	1	2
New Mexico†	—	0	1	—	2	—	0	1	1	2
Utah	1	0	1	5	1	—	0	2	8	4
Wyoming	—	0	0	—	3	—	0	1	—	1
Pacific	13	4	22	180	54	6	4	13	142	129
Alaska	—	0	1	2	3	—	0	4	18	3
California	13	3	21	172	31	4	3	10	96	93
Hawaii	N	0	0	N	N	—	0	2	3	13
Oregon†	—	0	2	4	16	—	0	2	7	7
Washington	—	0	3	2	4	2	0	5	18	13
American Samoa	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable.

Cum: Cumulative year-to-date counts.

Med: Median.

Max: Maximum.

* Incidence data for reporting years 2005 and 2006 are provisional.

† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending August 5, 2006, and August 6, 2005 (31st Week)*

Reporting area	Meningococcal disease, invasive										Pertussis				
	All serogroups					Serogroup unknown					Pertussis				
	Current week	Previous 52 weeks		Cum 2006	Cum 2005	Current week	Previous 52 weeks		Cum 2006	Cum 2005	Current week	Previous 52 weeks		Cum 2006	Cum 2005
		Med	Max				Med	Max				Med	Max		
United States	4	20	83	681	821	4	13	56	444	496	146	289	2,876	7,399	12,666
New England	2	1	3	33	54	2	0	2	25	19	3	29	83	740	752
Connecticut	1	0	2	9	11	1	0	2	3	1	—	1	5	28	43
Maine†	—	0	1	3	2	—	0	1	3	2	1	1	5	25	22
Massachusetts	1	0	2	14	26	1	0	2	14	5	—	22	43	506	568
New Hampshire	—	0	2	5	9	—	0	2	5	9	—	2	36	98	38
Rhode Island	—	0	1	—	2	—	0	0	—	—	—	0	17	—	12
Vermont†	—	0	1	2	4	—	0	0	—	2	2	1	14	83	69
Mid. Atlantic	—	2	13	84	103	—	2	11	57	79	35	30	137	976	801
New Jersey	—	0	2	10	26	—	0	2	10	26	—	4	13	131	113
New York (Upstate)	—	0	7	28	30	—	0	5	5	11	27	12	123	392	302
New York City	—	0	3	11	14	—	0	3	11	14	—	1	8	42	56
Pennsylvania	—	1	5	35	33	—	1	5	31	28	8	11	26	411	330
E.N. Central	1	3	11	81	101	1	2	6	58	85	24	50	133	1,061	2,287
Illinois	—	0	4	17	24	—	0	4	17	24	—	11	35	225	535
Indiana	—	0	5	15	14	—	0	2	6	7	5	4	75	135	183
Michigan	—	1	3	17	18	—	0	3	9	11	4	7	23	238	138
Ohio	1	1	5	30	28	1	0	4	24	26	15	14	30	354	751
Wisconsin	—	0	2	2	17	—	0	2	2	17	—	7	41	109	680
W.N. Central	—	1	4	40	54	—	0	3	14	24	11	41	552	741	1,796
Iowa	—	0	2	10	12	—	0	1	3	1	—	12	63	160	443
Kansas	—	0	1	1	9	—	0	1	1	9	7	11	28	193	170
Minnesota	—	0	2	10	9	—	0	1	3	3	—	0	485	112	530
Missouri	—	0	2	12	18	—	0	1	3	8	—	8	42	186	266
Nebraska†	—	0	2	5	4	—	0	1	3	3	1	4	10	65	177
North Dakota	—	0	1	—	—	—	0	1	1	—	3	0	26	16	77
South Dakota	—	0	1	1	2	—	0	0	—	—	—	0	7	9	133
S. Atlantic	—	3	14	122	154	—	1	7	51	63	33	21	46	592	888
Delaware	—	0	1	4	2	—	0	1	4	2	—	0	1	3	14
District of Columbia	—	0	1	—	5	—	0	1	—	4	—	0	3	3	4
Florida	—	1	6	48	59	—	1	5	19	19	6	4	14	128	113
Georgia	—	0	3	9	14	—	0	3	9	14	—	0	3	8	33
Maryland†	—	0	2	7	14	—	0	1	1	1	3	3	9	81	134
North Carolina	—	0	11	22	22	—	0	3	6	5	22	0	21	131	64
South Carolina†	—	0	2	14	13	—	0	1	6	8	1	4	22	89	256
Virginia†	—	0	4	14	20	—	0	3	6	8	1	2	27	126	238
West Virginia	—	0	2	4	5	—	0	0	—	2	—	0	9	23	32
E.S. Central	—	1	2	20	25	—	0	2	15	16	3	6	11	159	254
Alabama†	—	0	1	4	4	—	0	1	4	3	—	1	4	46	51
Kentucky	—	0	1	—	—	—	0	1	—	—	—	0	5	—	—
Mississippi	—	0	1	1	4	—	0	1	1	4	—	1	4	22	41
Tennessee†	—	0	2	15	17	—	0	2	10	9	3	2	10	91	162
W. S. Central	—	1	23	41	85	—	0	6	16	20	—	21	360	377	1,336
Arkansas	—	0	3	7	11	—	0	2	5	3	—	2	21	45	185
Louisiana	—	0	1	2	26	—	0	1	1	4	—	0	3	3	37
Oklahoma	—	0	4	8	13	—	0	0	—	2	—	0	124	18	—
Texas†	—	1	16	24	35	—	0	4	10	11	—	18	215	311	1,114
Mountain	—	1	5	41	66	—	0	4	19	17	26	64	230	1,769	2,574
Arizona	—	0	3	13	29	—	0	3	13	9	—	13	177	353	678
Colorado	—	0	2	14	14	—	0	1	2	—	17	22	40	553	825
Idaho†	—	0	2	1	3	—	0	2	1	3	2	2	13	50	133
Montana	—	0	1	3	—	—	0	1	1	—	—	2	14	80	476
Nevada†	—	0	2	2	7	—	0	1	—	1	—	0	9	38	36
New Mexico†	—	0	1	2	3	—	0	1	—	2	—	2	6	50	133
Utah	—	0	1	4	10	—	0	0	—	2	7	16	39	596	264
Wyoming	—	0	2	2	—	—	0	2	2	—	—	1	8	49	29
Pacific	1	5	29	219	179	1	5	25	189	173	11	51	1,334	984	1,978
Alaska	—	0	1	2	1	—	0	1	2	1	2	2	15	42	31
California	1	3	14	136	117	1	3	14	136	117	—	30	1,136	589	822
Hawaii	—	0	1	5	10	—	0	1	5	5	—	2	6	42	114
Oregon†	—	1	7	51	32	—	1	4	35	32	—	3	14	79	549
Washington	—	0	25	25	19	—	0	11	11	18	9	9	195	232	462
American Samoa	U	0	0	—	—	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	—	—	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	1	—	0	0	—	1	—	0	0	—	2
Puerto Rico	—	0	1	—	—	—	0	1	—	—	—	0	1	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2005 and 2006 are provisional.

† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending August 5, 2006, and August 6, 2005 (31st Week)*

Reporting area	West Nile virus disease [†]									
	Neuroinvasive					Non-neuroinvasive				
	Current week	Previous 52 weeks		Cum 2006	Cum 2005	Current week	Previous 52 weeks		Cum 2006	Cum 2005
		Med	Max				Med	Max		
United States	3	1	155	84	330	9	0	203	102	525
New England	—	0	3	—	—	—	0	2	—	—
Connecticut	—	0	2	—	—	—	0	1	—	—
Maine [§]	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	3	—	—	—	0	1	—	—
New Hampshire	—	0	0	—	—	—	0	0	—	—
Rhode Island	—	0	1	—	—	—	0	0	—	—
Vermont [§]	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	—	0	10	4	2	—	0	4	—	4
New Jersey	—	0	1	—	—	—	0	2	—	—
New York (Upstate)	—	0	7	—	—	—	0	2	—	—
New York City	—	0	2	1	—	—	0	2	—	—
Pennsylvania	—	0	3	3	2	—	0	2	—	4
E.N. Central	—	0	39	2	32	—	0	18	—	23
Illinois	—	0	25	—	20	—	0	16	—	22
Indiana	—	0	2	1	1	—	0	1	—	—
Michigan	—	0	14	1	1	—	0	3	—	—
Ohio	—	0	9	—	8	—	0	4	—	—
Wisconsin	—	0	3	—	2	—	0	2	—	1
W.N. Central	1	0	26	20	40	1	0	80	26	130
Iowa	—	0	3	1	—	—	0	5	3	3
Kansas	—	0	3	—	1	—	0	1	1	N
Minnesota	1	0	5	6	4	—	0	5	3	7
Missouri	—	0	4	1	5	—	0	3	—	1
Nebraska [§]	—	0	9	4	10	—	0	24	4	22
North Dakota	—	0	4	—	5	—	0	15	5	21
South Dakota	—	0	7	8	15	1	0	33	10	76
S. Atlantic	—	0	6	—	8	—	0	3	—	11
Delaware	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	1	—	—	—	0	1	—	—
Florida	—	0	2	—	6	—	0	2	—	9
Georgia	—	0	3	—	—	—	0	3	—	1
Maryland [§]	—	0	2	—	—	—	0	1	—	—
North Carolina	—	0	1	—	1	—	0	1	—	1
South Carolina [§]	—	0	1	—	1	—	0	0	—	—
Virginia [§]	—	0	0	—	—	—	0	1	—	—
West Virginia	—	0	0	—	—	N	0	0	N	N
E.S. Central	—	0	10	11	9	—	0	5	5	5
Alabama [§]	—	0	1	—	2	—	0	2	—	1
Kentucky	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	9	11	7	—	0	5	5	4
Tennessee [§]	—	0	3	—	—	—	0	1	—	—
W.S. Central	—	0	32	20	86	—	0	22	—	47
Arkansas	—	0	3	—	2	—	0	2	—	5
Louisiana	—	0	20	—	46	—	0	9	—	24
Oklahoma	—	0	6	3	2	—	0	3	—	—
Texas [§]	—	0	16	17	36	—	0	13	—	18
Mountain	2	0	16	20	25	8	0	39	60	53
Arizona	—	0	8	2	8	—	0	8	2	13
Colorado	—	0	5	3	3	—	0	13	8	28
Idaho [§]	—	0	2	6	—	8	0	12	38	1
Montana	—	0	3	—	1	—	0	9	—	1
Nevada [§]	2	0	3	6	4	—	0	8	10	3
New Mexico [§]	—	0	3	—	5	—	0	4	—	3
Utah	—	0	6	3	4	—	0	8	2	3
Wyoming	—	0	2	—	—	—	0	1	—	1
Pacific	—	0	50	7	128	—	0	90	11	252
Alaska	—	0	0	—	—	—	0	0	—	—
California	—	0	50	7	128	—	0	89	11	248
Hawaii	—	0	0	—	—	—	0	0	—	—
Oregon [§]	—	0	1	—	—	—	0	2	—	4
Washington	—	0	0	—	—	—	0	0	—	—
American Samoa	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

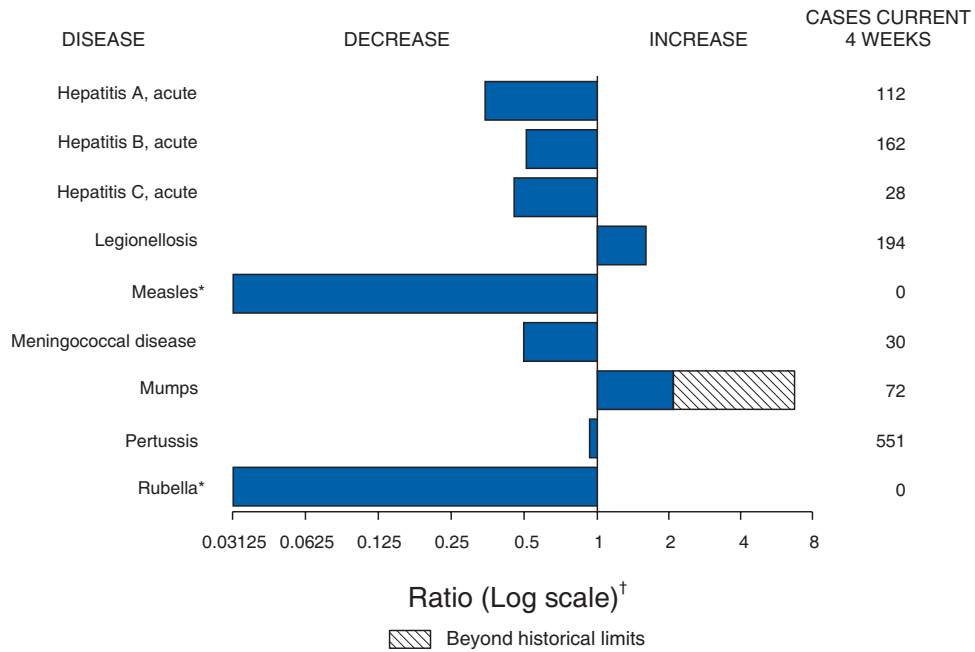
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2005 and 2006 are provisional.

† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals August 5, 2006, with historical data



* No measles or rubella cases were reported for the current 4-week period yielding a ratio for week 31 of zero (0).
 † Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

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