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Hepatitis Awareness Month — May 2006

May 2006 marks the 11th anniversary of Hepatitis Awareness Month. In the United States, one of three persons has been infected with hepatitis A virus (HAV), hepatitis B virus (HBV), or hepatitis C virus (HCV) (*1*).

HAV is spread by close contact with infected persons or through contaminated food. Since the introduction of hepatitis A vaccines in 1995, reports of hepatitis A have declined 84% (CDC, unpublished data, 2004).

HBV and HCV are spread by blood or sexual contact. In 2004, an estimated 60,000 new HBV infections and 26,000 new HCV infections occurred (CDC, unpublished data, 2004). In 1991, CDC adopted a national vaccination strategy to eliminate HBV transmission in the United States. Since then, acute hepatitis B has declined 75%, with the highest incidence remaining among adults.

Approximately 5%–25% of persons with chronic HBV and HCV infection will die prematurely from cirrhosis and liver cancer. Approximately 1 million persons in the United States have chronic HBV infection, and 3 million have chronic HCV infection (*1*; CDC unpublished data, 2004). Although effective therapies for viral hepatitis are available, the majority of persons with chronic HCV infection are unaware of their infection (*1*).

This issue of *MMWR* reports on the prevalence of chronic HBV infection among Asian/Pacific Islander populations in New York City and progress to eliminate HBV transmission through vaccination of adults. Additional information regarding hepatitis and Hepatitis Awareness Month is available at http://www.cdc.gov/hepatitis.

Reference

1. Kim RW, Brown RS, Terault NA, El-Serag H. Burden of liver disease in the United States: summary of a workshop. Hepatology 2002;36:227–42.

Screening for Chronic Hepatitis B Among Asian/Pacific Islander Populations — New York City, 2005

Chronic hepatitis B virus (HBV) infection is the most common cause of cirrhosis and liver cancer worldwide. In Asian and western Pacific countries where HBV is endemic, estimated prevalence of chronic HBV infection ranges from 2.4%–16.0%, and liver cancer is a leading cause of mortality (*1*). Although population-based prevalence data for Asians/Pacific Islanders (A/PIs) living in the United States are lacking, they are believed to constitute a sizeable percentage of persons with chronic HBV infection in the United States, a country of low endemicity (*2*). To assess the prevalence of chronic HBV infection among A/PI populations living in New York City, the Asian American Hepatitis B Program (AAHBP)* conducted a seroprevalence study among persons who participated in an ongoing hepatitis B screening, evaluation, and treatment program. The results indicated that approximately 15% of participants who had not been previously tested had chronic HBV infection; all were born outside the United States. Screening programs are needed in A/PI communities in the United States to identify persons with chronic HBV infection so that they can be referred for appropriate medical management to prevent cirrhosis and liver cancer and so that their susceptible household and sex contacts can receive hepatitis B vaccine.

* Available at http://www.bfreenyc.org.

INSIDE

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The AAHBP is a collaboration of community groups and academic and community health centers in New York City that provides hepatitis B screening, vaccination, and treatment free of charge. AAHBP also provides educational programs to increase awareness of HBV infection among A/PI communities in New York City. AAHBP screening programs are held at 12 collaborating health-care centers and community sites that serve A/PI communities throughout New York City.

Beginning in 2005, participants in this study were offered free hepatitis B serologic testing at AAHBP screening events or on a drop-in basis at participating clinics. At the time of testing, demographic and epidemiologic information was collected using self-administered questionnaires in English, Chinese, or Korean, with the assistance of bilingual volunteers when necessary. Blood was collected by venipuncture and tested for hepatitis B surface antigen (HBsAg) and antibody to HBsAg (anti-HBs). Clinical evaluation and treatment were offered to persons infected with HBV. Hepatitis B vaccination was provided to persons susceptible to HBV infection.

Because AAHBP provided free treatment for chronic HBV infection to the uninsured, the screening program might have attracted a substantial number of persons seeking treatment for previously diagnosed chronic HBV infection. To avoid overestimation of prevalence, this analysis was restricted to 925 newly screened adult participants, defined as persons aged ≥20 years who reported no previous serologic testing for HBV. Chronic HBV infection was defined as a positive result of a test for HBsAg using commercially available test kits. Resolved HBV infection was defined as a positive result of a test for anti-HBs and a negative result of a test for HBsAg. Persons with negative results of tests for HBsAg and anti-HBs were considered susceptible to HBV infection. Data were analyzed in aggregate with all personal identifiers removed. The study was approved by the institutional review boards of New York University School of Medicine and the participating clinical centers.

During January 22–June 30, 2005, a total of 1,836 persons were tested for HBV infection through AAHBP. Among the 1,633 persons with complete demographic information, 1,614 (98.8%) identified a country in Asia or the western Pacific as their place of birth. Screening determined that 392 of 1,633 (24.0%; 95% confidence interval [CI] = 21.9%–26.1%) had chronic HBV infection, 791 (48.4%; CI = 46.0%–50.9%) had evidence of resolved HBV infection, and 450 (27.6%; CI = 25.4%–29.7%) were susceptible to HBV infection.

A total of 925 (56.6%) persons tested reported not having been screened previously for HBV infection. Median age was 45 years (range: 20–83 years), and 512 (55.4%) were male (Table). The majority of participants were born in China (566 [61.2%]) or South Korea (280 [30.3%]); 69 (7.4%) were born

TABLE. Prevalence of chronic hepatitis B virus (HBV) infection* among screening program† participants aged ≥20 years newly tested for HBV infection,§ by selected characteristics — New York City, January 22–June 30, 2005

Characteristic	No.	HBsAg positive No.	(%)	(95% CI¶)
Sex				
Male	512	101	(19.7)	(16.2–23.2)
Female	413	36	(8.7)	(6.0–11.4)
Age group (yrs)				
20–29	159	40	(25.2)	(18.5–31.9)
30–39	195	42	(21.5)	(15.7–27.3)
40–49	201	31	(15.4)	(10.4–20.4)
50–59	185	17	(9.2)	(5.0–13.4)
≥60	185	7	(3.8)	(1.0–6.6)
Country of birth				
China	566	121	(21.4)	(18.0–24.8)
South Korea	280	13	(4.6)	(2.2–7.1)
Other Asian countries**	69	3	(4.3)	(0.5–9.1)
United States	10	0	—	—
Years in United States				
≤5	204	44	(21.6)	(16.0–27.2)
6–10	219	35	(16.0)	(11.1–20.9)
>10	433	53	(12.2)	(9.1–15.3)
No response	69	5	(7.2)	(1.1–13.3)
Family history of HBV infection				
Yes	120	27	(22.5)	(15.2–29.8)
No	494	65	(13.2)	(19.5–25.5)
Not sure	285	42	(14.7)	(10.6–18.8)
No response	26	3	(11.5)	(4.0–27.0)
Health insurance status				
Insured	199	20	(10.1)	(5.9–14.3)
Uninsured	650	112	(17.2)	(14.3–20.1)
No response	76	5	(6.6)	(3.0–4.0)
Total	**925**	**137**	**(14.8)**	**(12.5–17.1)**

* Defined as a positive result from testing for hepatitis B surface antigen (HBsAg).
† Asian American Hepatitis B Program.
§ N = 925.
¶ Confidence interval.
** Bangladesh, Burma, Indonesia, Malaysia, or Vietnam.

in other Asian countries (i.e., Bangladesh, Burma, Indonesia, Malaysia, or Vietnam). Among those providing such information, 50.6% (433 of 856) reported living in the United States for >10 years, 76.6% (650 of 849) lacked health insurance, and 13.3% (120 of 899) reported a family history of HBV infection.

Among the 925 newly screened participants, 137 had chronic HBV infection, yielding a prevalence of 14.8% (CI = 12.5%–17.1%), which was lower than the 40.7% (CI = 36.7%–44.7%) prevalence of chronic HBV infection among 237 of 582 participants who knew they had been tested previously. A total of 496 (53.6%; CI = 50.4%–56.8%) newly screened participants had evidence of resolved HBV infection, and 292 (31.6%; CI = 28.6%–34.6%) were susceptible to HBV infection. The prevalence of chronic HBV infection was higher among males compared with females (19.7% versus 8.7%; p<0.01), persons aged 20–39 years compared with those aged ≥40 years (23.2% versus 9.6%; p<0.01), and among persons who had been living in the United States for ≤5 years compared with those who had been living in the United States for >5 years (21.6% versus 13.5%; p<0.01) (Table). Prevalence of chronic HBV infection varied by country of birth, from 21.4% among those born in China, to 4.6% among those born in South Korea, to 4.3% among those born in other Asian countries; none of the 10 participants born in the United States had chronic HBV infection.

Among all 1,836 persons who participated in the screening program, 1,717 (93.5%) returned for their test results, including 397 (90.8%) of the 437 total participants with chronic HBV infection. Among the 397 participants, a total of 329 (82.9%) were referred to an AAHBP-affiliated clinic, and 34 (8.6%) were referred to their personal physician; referral information was not available for 34 (8.6%) persons. Of the 329 with chronic HBV infection referred to AAHBP-affiliated clinics, 274 (83.3%) completed an initial evaluation visit. A total of 505 (27.5%) participants were susceptible to HBV infection. The 1-, 2-, and 3-dose vaccination coverage rates for these 505 were 89.3%, 78.8%, and 69.3%, respectively.

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Editorial Note: The findings in this report on a screening program conducted among a predominantly immigrant Asian population indicate that approximately 15% of newly tested persons living in New York City had chronic HBV infection. The prevalence among participants in the screening program was approximately 35 times that of the overall U.S. population (*2*). Half of those with chronic HBV infection had been living in the United States for more than 10 years. These persons likely acquired their infections in their countries of origin, where HBV infection is endemic and infections usually are acquired at birth or during early childhood. The majority of infected participants were successfully referred for medical evaluation and follow-up.

Although this study was limited to New York City, screening programs in Atlanta, Chicago, New York City, Philadelphia, and California have reported similar prevalences of chronic HBV infection (10%–15%) among A/PI immigrants to the United States (*3–5*). A smaller proportion of those born

in South Korea, compared with those born in China, were documented with chronic HBV infection (*3–5*). In addition, hepatitis B serologic testing in other settings, including routine public health surveillance among pregnant women and in other clinical settings, has demonstrated the disproportionate burden of chronic HBV infection among A/PI and other immigrant populations (*6,7*; CDC, unpublished data, 2004).

Perinatal and child-to-child transmission are the most common modes of HBV transmission in Asia and other countries where HBV is endemic. Of persons who acquire chronic HBV infection at early ages, an estimated 15%–40% will subsequently have chronic liver disease, including cirrhosis and liver cancer. Therefore, persons with chronic HBV infection need to be identified so that they can receive counseling and appropriate medical management to reduce their risk for chronic liver disease (*8*). Some will benefit from treatment or screening to detect liver cancer at an early stage. To prevent spread of HBV infection, household and sex contacts should be tested for HBV infection and offered hepatitis B vaccination, where indicated (*8*).

Although members of A/PI communities in the United States generally are aware that HBV infection is associated with increased risk for liver cancer, fewer than half recognize that HBV infection is endemic among persons born in Asia (*9,10*). Hepatitis B screening programs in U.S. A/PI communities can be an effective means of identifying persons with chronic HBV infection and motivating them to seek medical care. An evaluation of a hepatitis B screening program for A/PI in California determined that 67% of those with chronic HBV infection sought follow-up with their medical providers (*5*). Approximately 71% of participants in the California program reported that, before participating in the screening program, testing for HBV had not been recommended, although 89% had a regular family physician.

The findings in this report are subject to at least two limitations. First, the participants, primarily Chinese and South Korean, might not be representative of the overall Asian population in New York City. However, the diverse demographics suggest that the screening program attracted a range of local Asian immigrant populations living in the neighborhoods where screenings were conducted. Second, the study was conducted only in New York City, and results only reflect the ethnic composition of the local Asian populations that participated in the screening program. Because HBV infection prevalence varies among Asian countries, the findings likely are generalizable only to populations with the same countries of origin.

In collaboration with state and local partners, CDC supports programs to prevent HBV infection in U.S. A/PI communities. Local health departments in New York City and San Francisco, two cities with large A/PI populations, conduct enhanced viral hepatitis surveillance for both acute and chronic hepatitis B. The Asian Liver Center of Stanford University[†] has developed educational programs for A/PI youth and practitioners of traditional Chinese medicine. State and local health departments have successfully implemented vaccination strategies (e.g., achieving high vaccination coverage among children and adolescents and high rates of HBsAg screening among pregnant women) recommended by the Advisory Committee on Immunization Practices in 1991 to eliminate HBV transmission in the United States. Since 1991, acute hepatitis B incidence has declined sharply among U.S. A/PI populations, eliminating major health disparities in acute HBV infection (*8*). Additional information regarding acute and chronic HBV infection and prevention activities is available from CDC at http://www.cdc.gov/ncidod/diseases/hepatitis/index.htm.

U.S. A/PI populations are at disproportionately high risk for hepatitis B-related chronic liver disease and liver cancer. Public health agencies and medical providers who serve U.S. A/PI populations and other communities with high proportions of persons born in countries where HBV infection is endemic should promote educational campaigns and screening programs. Such programs should identify persons with chronic HBV infection so that they can receive appropriate counseling and treatment to prevent cirrhosis and liver cancer and so that their contacts can be screened and given treatment, counseling, or vaccination as appropriate. Programs such as the comprehensive, community-based screening and evaluation program described in this report can effectively reach persons at risk for chronic HBV infection.

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References

1. Custer B, Sullivan SD, Hazlet TK, Iloeje U, Veenstra DL, Kowdley KV. Global epidemiology of hepatitis B virus. J Clin Gastroenterol 2004;38(10 Suppl):S158–68.
2. McQuillan GM, Coleman PJ, Kruszon-Moran D, Moyer LA, Lambert SB, Margolis HS. Prevalence of hepatitis B virus infection in the United States: The National Health and Nutrition Examination Surveys, 1976 through 1994. Am J Public Health 1999;89:14–8.
3. Fiore AT, Neeman R, Lee S, et al. Seroprevalence of hepatitis B virus (HBV) infection among Asian immigrants and their U.S.-born children [Abstract 586]. Presented at the Infectious Diseases Society of America 41st Annual Meeting, San Diego, CA, October 9–12, 2003.
4. Guane R, Siu P, Lam K, et al. Prevalence of HBV and risk of HBV acquisition in hepatitis B screening programs in large metropolitan cities in the United States. Hepatology 2004;40(Suppl 1):716A.
5. Chao S, Lee PV, Prapong W, Su J, So S. High prevalence of chronic hepatitis B (HBV) infection in adult Chinese Americans living in California. Hepatology 2004;40(Suppl 1):717A.
6. Fleming DT, Zambrowski A, Fong F, et al. Surveillance programs for chronic viral hepatitis in three health departments. Public Health Rep 2006;121:23–35.
7. Kim WR, Benson JT, Therneau TM, Torgerson HA, Yawn BP, Melton LJ III. Changing epidemiology of hepatitis B in a U.S. community. Hepatology 2004;39:811–6.
8. CDC. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP). Part 1: Immunization of infants, children, and adolescents. MMWR 2005;54(No. RR-16).
9. Choe JH, Chan N, Do HH, Woodall E, Lim E, Taylor VM. Hepatitis B and liver cancer beliefs among Korean immigrants in western Washington. Cancer 2005;104(12 Suppl):2955–8.
10. Taylor VM, Yasui Y, Burke N, et al. Hepatitis B testing among Vietnamese American men. Cancer Detect Prev 2004;28:170–7.

Hepatitis B Vaccination Coverage Among Adults — United States, 2004

Hepatitis B virus (HBV) infection is a major cause of cirrhosis and liver cancer in the United States. The Advisory Committee on Immunization Practices (ACIP) has recommended a comprehensive strategy to eliminate HBV transmission, including prevention of perinatal HBV transmission; universal vaccination of infants; catch-up vaccination of unvaccinated children and adolescents; and vaccination of unvaccinated adults at increased risk for infection. The incidence of acute hepatitis B has declined 75%, from 8.5 per 100,000 population in 1990 to 2.1 per 100,000 population in 2004, with the greatest declines (94%) among children and adolescents (*1*). Incidence remains highest among adults, who accounted for approximately 95% of the estimated 60,000 new infections in 2004. To measure hepatitis B vaccination coverage among adults, data were analyzed from the 2004 National Health Interview Survey (NHIS). This report summarizes the results of that analysis, which indicated that, during 2004, 34.6% of adults aged 18–49 years reported receiving hepatitis B vaccine, including 45.4% of adults at high risk for HBV infection. To accelerate elimination of HBV transmission in the United States, public health programs and clinical care providers should implement strategies to ensure that adults at high risk are offered hepatitis B vaccine.

NHIS is a multipurpose household health survey of the U.S. civilian, noninstitutionalized population, conducted by in-person interview. Hepatitis B vaccination coverage was estimated from self reports of sampled adults. The analysis was restricted to adults aged 18–49 years, age groups that account for approximately 80% of adult HBV infections.

In the 2004 NHIS, adults who responded "yes" to the question, "Have you ever received hepatitis B vaccine?" were assumed to have received ≥1 vaccine dose. For this analysis, adults were considered at high risk for HBV infection if they reported a risk factor in answering any of three questions related to human immunodeficiency virus (HIV) and sexually transmitted disease (STD) risk behaviors.*

For all adults aged ≥18 years, weighted age-specific and national hepatitis B vaccination coverage rates were estimated. Statistical analysis software was used to calculate weighted estimates and confidence intervals. Chi-square tests were used to compare coverage rates among groups. P-values <0.05 were considered statistically significant. Coverage rates with relative standard errors >0.30 were not reported. A logistic model was developed to determine whether high risk was an independent predictor of vaccination, including as possible confounders all terms identified to be predictors of vaccination in univariate analysis and those that have been determined to be associated in other studies. The final model fit the data (Hosmer-Lemeshow goodness-of-fit, p = 0.36).

During 2004, a total of 31,326 adults were interviewed, including 18,269 aged 18–49 years. The response rate was 72.5% (*2*). Of eligible adults aged 18–49 years, 17,249 (94%)

* 1) "What are your chances of getting HIV (the virus that causes AIDS)? Would you say high, medium, low, or none?"; 2) "In the past five years, have you had an STD other than HIV or AIDS?"; 3) "Tell me if any of these statements is true for you; do not tell me which statement or statements are true for you; just if any of them are: a) you have hemophilia and have received clotting factor concentrations; b) you are a man who has had sex with other men, even just one time; c) you have taken street drugs by needle, even just one time; d) you have traded sex for money or drugs, even just one time; e) you have tested positive for HIV (the virus that causes AIDS); f) you have had sex (even just one time) with someone who would answer 'yes' to any of these statements."

who responded to the hepatitis B vaccination questions were included in this analysis, including 1,048 (5.7%) adults at high risk.

A weighted analysis of adults who were surveyed indicated that 34.6% (95% CI = 33.5%–35.6%) reported receiving hepatitis B vaccine. Coverage was highest among persons aged 18–20 years and declined with increasing age (Table). Coverage also was higher for persons in occupations for which vaccination is specifically recommended, including health-care workers (80.5%; CI = 77.3%–83.4%) and police officers or firefighters (63.6%; CI = 56.6%–70.1%), and for adults at high risk (45.4%; CI = 41.7%–49.2%).

Report of hepatitis B vaccination also was associated with certain population characteristics, including female sex, non-Hispanic ethnicity, and higher educational achievement. Persons with a routine source of health care (e.g., primary doctor, health maintenance organization, or clinic) and persons with health insurance also were more likely to report vaccination than those with no routine source of health care (Table). The same demographic and health-care use characteristics were associated with higher likelihood of vaccination among persons at high risk as among other respondents. In a multivariate model, after controlling for age, sex, education, occupation, and HIV test history, high risk remained a statistically significant predictor (adjusted odds ratio = 1.3) of hepatitis B vaccination.

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Editorial Note: The findings in this report suggest that hepatitis B vaccination coverage among adults at high risk, as measured by NHIS, has increased substantially from 30% in 2000 to 45% in 2004 (*3*). Some of this increase in coverage represents the aging of persons vaccinated as adolescents, reflecting the effect of ACIP recommendations for routine vaccination of adolescents that were first made in 1995 (*4*). In addition, higher vaccination coverage among persons of all ages at high risk suggests successes vaccinating targeted adults and likely contributed to a decline in hepatitis B incidence. From 2000 to 2004, hepatitis B incidence among adults decreased 27%, from 3.7 to 2.7 per 100,000 population (CDC, unpublished data, 2006). However, hepatitis B vaccination coverage of adults at high risk remained lower than vaccination coverage of children (92%) and adolescents (86%) in 2004 (*5*), two other age groups included in the ACIP vaccination strategy to eliminate HBV transmission.

TABLE. Percentage of adults aged 18–49 years who reported ever receiving hepatitis B vaccine, by selected characteristics — National Health Interview Survey, United States, 2004

Characteristic	All adults aged 18–49 yrs	(95% CI*)	Adults at high risk† 18–49 yrs	(95% CI)
Total	**34.6**	**(33.5–35.6)**	**45.4**	**(41.7–49.2)**
Age group (yrs)				
18–20	58.1	(54.3–61.7)	57.4	(44.5–69.4)
21–25	48.1	(45.4–50.7)	53.4	(44.2–62.5)
26–30	35.6	(33.5–37.8)	48.3	(38.2–58.5)
31–40	29.2	(27.9–30.6)	42.5	(36.4–48.9)
41–49	25.6	(24.2–27.1)	35.1	(28.6–42.3)
Sex				
Male	29.7	(28.3–31.2)	39.0	(33.8–44.5)
Female	39.2	(37.9–40.5)	51.2	(46.1–56.3)
Race/Ethnicity				
Hispanic	26.8	(25.0–28.8)	35.4	(25.5–46.8)
White, non-Hispanic	35.0	(33.8–36.3)	46.2	(41.5–50.9)
Black, non-Hispanic	38.4	(35.7–41.2)	47.0	(38.1–56.1)
Other	41.8	(38.1–45.6)	55.5	(39.8–70.1)
Education				
High school or less	24.8	(22.8–27.0)	35.7	(27.9–44.4)
Above high school	36.5	(35.3–37.6)	47.6	(43.5–51.7)
Ever tested for HIV				
Yes	41.1	(39.7–42.5)	49.7	(45.5–54.0)
No	29.9	(28.5–31.3)	35.4	(28.5–43.1)
Place of routine health care				
Clinic or health center	37.0	(34.6–39.4)	53.1	(44.8–61.2)
Doctor's office or HMO§	35.9	(34.7–37.2)	47.8	(42.8–52.8)
Hospital emergency department	29.9	(24.1–36.5)	23.3	(10.9–43.1)
Hospital outpatient department	36.9	(29.2–45.4)	30.8	(9.5–65.3)
Some other place	53.9	(43.1–64.4)	42.3	(14.7–75.6)
None	28.1	(26.2–30.1)	36.1	(27.3–45.8)
Health insurance				
No insurance coverage	27.3	(25.6–29.2)	39.2	(31.8–47.2)
Some insurance coverage	36.5	(35.3–37.7)	47.8	(43.4–52.2)
Occupation				
Health-care worker	80.5	(77.3–83.4)	90.6	(79.0–96.1)
Police officer or firefighter	63.6	(56.6–70.1)	73.0	(45.5–89.7)
Other	32.0	(30.8–33.0)	42.1	(38.2–46.1)

* Confidence interval.
† Includes persons who considered themselves at high risk for HIV infection, persons who reported having a sexually transmitted disease other then HIV/AIDS during the previous 5 years, and persons who reported any one of the following risk factors: hemophilia with receipt of clotting factor concentrates, men who have sex with men, injecting street drugs, trading sex for money or drugs, testing positive for HIV, or having sex with someone with any of these risk factors.
§ Health maintenance organization.

Several factors contribute to low hepatitis B vaccination coverage among adults at high risk. In contrast to vaccination of children, national programs that support vaccine purchase and infrastructure for vaccine administration are not available for adults. As a result, adults at increased risk often have missed opportunities to receive hepatitis B vaccination. In a study of 483 adults with acute hepatitis B infection, 61% reported a missed opportunity for vaccination during STD treatment, incarceration, or drug treatment during 2001–2004 (*6*). In primary care settings, patients and providers might be

reluctant to discuss risk behaviors (*7*), and providers might not prioritize vaccination in the context of other clinical care services.

Adult vaccination coverage can be increased through the use of provider reminders and other interventions to increase access to vaccination (*8*). Demonstration projects have determined that provision of comprehensive HIV, viral hepatitis, and STD services increases vaccination coverage (*9*). In October 2005, ACIP provisionally recommended strategies to improve vaccination for adults at risk for hepatitis B, emphasizing vaccination of all adults at venues where a high proportion of persons are likely to have risk factors for HBV infection (e.g., STD/HIV testing and treatment facilities, correctional facilities, and drug-abuse treatment facilities) and the adoption of practices that remove barriers to vaccination in primary care settings (*10*).

The findings in this report are subject to at least four limitations. First, criteria for adults at high risk used in this study might not identify all persons who are at risk for HBV infection, such as persons with multiple sex partners, and might identify persons without risk, such as most persons with hemophilia. Second, the in-person format of the interview might lead to underreporting of risk behaviors. Third, hepatitis B vaccination was based on self-report and was not validated by medical records. Although differences might exist between self-reported vaccination and true vaccination, directional bias is unlikely, so correlates and trends in coverage are likely to reflect true trends. Finally, NHIS excludes all institutionalized persons (e.g., military or incarcerated) among whom both the risk for hepatitis B and vaccination coverage might differ from those of the rest of the population. Despite these limitations, NHIS is the only national survey that collects data related to adult hepatitis B vaccination.

Hepatitis B vaccine is safe and effective and the only licensed vaccine that prevents cancers. Despite these benefits, the majority of adults at risk for HBV remain unvaccinated. To increase coverage, public health programs and primary care providers should inform adults receiving preventive clinical services of the potential benefits of hepatitis B vaccination for their health, vaccinate all adults who seek protection from HBV, and adopt strategies appropriate for the practice setting to ensure that all adults at risk for HBV infection are offered hepatitis B vaccine.

Acknowledgments

This report is based, in part, on data contributed by S Stokley, MPH, National Center for Immunization and Respiratory Diseases (proposed); A Wasley, PhD, Div of Viral Hepatitis; and N Jain, MD, Div of STD Prevention, National Center for HIV, Viral Hepatitis, STDs, and Tuberculosis Prevention (proposed), CDC.

References

1. CDC. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States. Recommendations of the Advisory Committee on Immunization Practices (ACIP) Part 1: immunization of infants, children, and adolescents. MMWR 2005;54(No. RR-16):1–33.
2. National Center for Health Statistics. Data file documentation, National Health Interview Survey, 2004 [machine-readable data file and documentation]. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2004. Available at http://www.cdc.gov/nchs/nhis.htm.
3. Jain N, Yusuf H, Wortley PM, Euler GL, Walton S, Stokley S. Factors associated with receiving hepatitis B vaccination among high-risk adults in the United States: an analysis of the National Health Interview Survey, 2000. Fam Med 2004;36:480–6.
4. CDC. Update: recommendations to prevent hepatitis B virus transmission—United States. MMWR 1995;44:574–5.
5. Stokley S, McCauley M, Fishbein D, Stevenson J. Adolescent vaccination coverage levels: results from the 1997–2003 National Health Interview Survey [Abstract]. Presented at the 40th National Immunization Conference, Atlanta, GA; March 6, 2006. Available at http://cdc.confex.com/cdc/nic2006/techprogram/P10373.HTM.
6. Williams IT, Boaz K, Openo Kp, et al. Missed opportunities for hepatitis B vaccination in correctional settings, sexually transmitted disease (STD) clinics, and drug treatment programs [Abstract 1031]. Presented at the 43rd Annual Meeting of the Infectious Diseases Society of America, San Francisco, CA; October 5–9, 2005.
7. Liddicoat RV, Horton NJ, Urban R, Maier E, Christiansen D, Samet JH. Assessing missed opportunities for HIV testing in medical settings. J Gen Intern Med 2004;19:349–56.
8. CDC. Improving influenza, pneumococcal polysaccharide, and hepatitis B vaccination coverage among adults aged <65 years at high risk: a report on recommendations of the Task Force on Community Preventive Services. MMWR 2005;54(No. RR-5):1–11.
9. CDC. Hepatitis B vaccination among high-risk adolescents and adults—San Diego, California, 1998–2001. MMWR 2002;51:618–21.
10. Advisory Committee on Immunization Practices. Provisional recommendations: Advisory Committee on Immunization Practices (ACIP) voted to approve the following recommendations—October 2005. Atlanta, GA: Advisory Committee on Immunization Practices. Available at http://www.cdc.gov/nip/recs/provisional_recs/hepB_adult.pdf.

Vaccine Preventable Deaths and the Global Immunization Vision and Strategy, 2006–2015

Immunization is among the most successful and cost-effective public health interventions (*1,2*). Immunization programs have led to eradication of smallpox, elimination of measles and poliomyelitis in regions of the world, and substantial reductions in the morbidity and mortality attributed to diphtheria, tetanus, and pertussis. The World Health Organization (WHO) estimates that 2 million child deaths were prevented by vaccinations in 2003 (*3*). Nonetheless, more deaths can be prevented through optimal use of currently existing vaccines. This report summarizes estimates of deaths attributed to vaccine-preventable diseases (VPDs) and vaccination coverage by WHO region and outlines the

Global Immunization Vision and Strategy developed by WHO and the United Nations Children's Fund (UNICEF) and partners for implementation during 2006–2015.

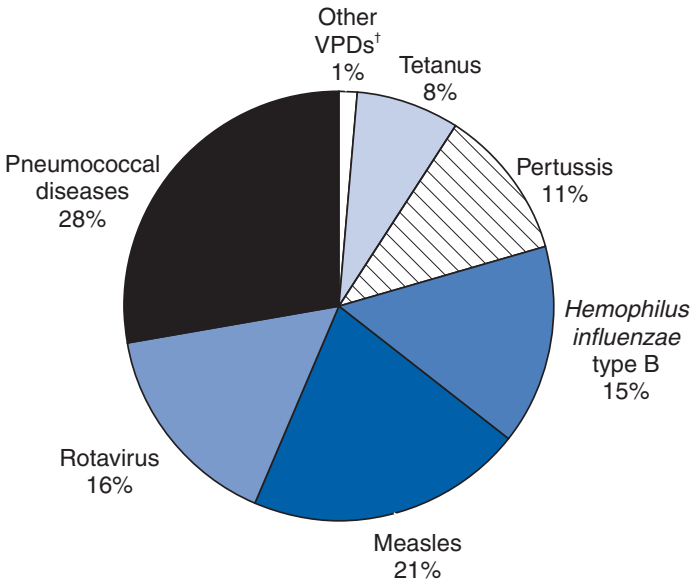
Estimates of Vaccine-Preventable Deaths, 2002, and Recommended Vaccines

Mortality estimates can be used to prioritize public health interventions. For VPDs, these estimates indicate the number of deaths that could be averted if existing vaccines were used to their fullest potential. In 2002, among diseases for which vaccines are universally recommended, WHO estimates that fewer than 1,000 children aged <5 years died from polio; 4,000 children died from diphtheria; 15,000 children died from yellow fever; 198,000 children died from tetanus; 294,000 children died from pertussis; 386,000 children died from *Hemophilus influenzae* type b (Hib); and 540,000 children died from measles (*4*). Among adults, 600,000 deaths were attributed to hepatitis B virus infections, the majority of which were acquired in childhood. In addition, other diseases can be prevented by vaccines that are not universally recommended by WHO. During 2002, the largest numbers of deaths from these VPDs among children aged <5 years were attributed to pneumococcal disease (716,000) and rotavirus infection (402,000) (*4*) (Figure 1); 240,000 adult deaths were attributed to human papilloma virus infection (WHO, unpublished data, 2002). During 2002, approximately 1.9 million (76%) of the 2.5 million VPD deaths among children aged <5 years worldwide occurred in Africa or Southeast Asia (Table).

Vaccines for measles, polio, diphtheria, pertussis, and tetanus have been part of the WHO recommended vaccination series since the inception of the Expanded Programme on Immunization in 1974. In 1988, WHO recommended inclusion of yellow fever vaccine in routine infant immunization programs in countries with populations at risk for yellow fever. Hepatitis B vaccine was universally recommended for infants by WHO in 1992; in 1998, WHO recommended that Hib vaccine be included in routine infant immunization programs, where suited to national capacities and priorities. In January 2006, the WHO Immunization Strategic Advisory Group recommended global implementation of Hib vaccination unless robust evidence exists of low disease burden or overwhelming impediments to implementation exist (*5*).

WHO has not issued a universal recommendation for pneumococcal vaccine. The only licensed pneumococcal conjugate vaccine does not contain serotypes 1 and 5, which are responsible for a substantial proportion of severe disease in developing countries. Vaccines containing these and additional serotypes are under development. Where the control of invasive pneumococcal disease is considered a public health priority and where available vaccine serotypes match the most important local serotypes, WHO recommends that the conjugate vaccine should be considered for inclusion in childhood vaccination programs. One rotavirus vaccine has been licensed in the United States since February 2006, and another is currently licensed in more than 36 countries outside the United States; nonetheless, no WHO universal recommendation has been issued for rotavirus vaccine because this vaccine is relatively new and vaccine efficacy data have not been established in all WHO regions. Human papilloma virus vaccine is under review by the Food and Drug Administration for licensure in the United States and is not licensed outside the United States.

FIGURE 1. Percentage of deaths from vaccine-preventable diseases (VPDs)* among children aged <5 years, by disease — worldwide, 2002



* An estimated 2.5 million deaths worldwide (of a total of 10.5 million for this age group) are caused by diseases for which vaccines are currently available.

† Diphtheria, hepatitis B, Japanese encephalitis, meningococcal disease, poliomyelitis, and yellow fever. (In older age groups, approximately 600,000 hepatitus B deaths are preventable by routine immunization.)

Estimated Vaccination Coverage, 2004

By convention, the success of routine immunization programs in reaching children has been measured by the vaccination coverage achieved with the third dose of diphtheria-tetanus-pertussis vaccine (DTP3) among children aged 12–23 months (*6*). WHO and UNICEF base estimates of routine vaccination coverage for all diseases (including DTP3) on review of administrative coverage data, surveys, national reports, and consultation with local and regional experts (*7*). Aggregated across member states, routine

TABLE. Estimated number of 2002 deaths from vaccine-preventable diseases (VPDs) among children aged <5 years, 2004 diphtheria-tetanus-pertussis (DTP) vaccine coverage, and numbers of unreached infants and incompletely vaccinated infants, by World Health Organization (WHO) region — worldwide

WHO region	No. of deaths	% coverage with 1 dose of DTP	No. of unreached infants*	% coverage with 3 doses of DTP	No. of incompletely vaccinated infants†
African	1,113,000	78	5,607,000	66	3,048,000
American	44,000	96	562,000	92	659,000
Eastern Mediterranean	353,000	86	1,948,000	78	1,186,000
European	32,000	96	458,000	94	158,000
South East Asian	757,000	77	8,082,000	69	2,959,000
Western Pacific	251,000	96	1,051,000	90	1,302,000
Total	**2,550,000**	**86**	**17,708,000**	**78**	**9,312,000**

* Number of surviving infants who did not receive 1 dose of DTP, calculated on the basis of WHO/UNICEF estimates of vaccination coverage with 1 dose of DTP and estimates of surviving infants from *World Population Prospects: The 2004 Revision*.

† Number of surviving infants who did not receive 3 doses of DTP; unvaccinated infants were excluded.

coverage with DTP3 ranged from 70% to 78% during 1990–2004 (Figure 2). Substantial differences exist in DTP3 coverage among WHO regions. The European, Western Pacific, and American regions had DTP3 coverage of ≥90% in 2004, whereas coverage was 69% in the South East Asia region and 66% in the African region. Poor coverage in a region contributes to a high burden of disease and is reflected in the number of child deaths (Table).

Prevention of hepatitis B virus infection is assessed by vaccination coverage with the third dose of hepatitis B vaccine (HepB3) among children aged 12–23 months. As of 2004, a total of 153 (80%) of 192 WHO member states were using the vaccine. Of these 153 countries, 102 (67%) had HepB3 coverage of ≥80%, 36 (24%) had coverage of <80%, and 15 (10%) either had not reported coverage data or had not introduced the vaccine nationwide. Overall vaccination coverage with HepB3 is increasing and had reached 48% of WHO member states in 2004 (Figure 2).

Prevention of Hib infection also is assessed by vaccination coverage with the third dose of the vaccine (Hib3). Ninety-two (48%) of the WHO member states have introduced Hib vaccine since 1986; in 2004, a total of 78 (85%) reported Hib3 coverage of ≥80% among children aged 12–23 months.

Global Immunization Vision and Strategy

In 2005, WHO and UNICEF worked with partners to create a Global Immunization Vision and Strategy (GIVS) for 2006–2015 (*8,9*). This strategy, which seeks to expand the reach of vaccination to every eligible person (*3*), is intended to be used as the basis for developing national comprehensive multiyear plans. GIVS articulates the WHO and UNICEF visions for global immunization in 2015 and is composed of four strategic areas: 1) protecting more persons in a changing world by improving routine immunization coverage, ensuring at least four immunization contacts per child, and expanding immunization programs to all ages; 2) introducing new vaccines and technologies; 3) integrating immunization, other linked health interventions, and surveillance in the health systems context; and 4) creating global partnerships to support and finance immunizations (*3*).

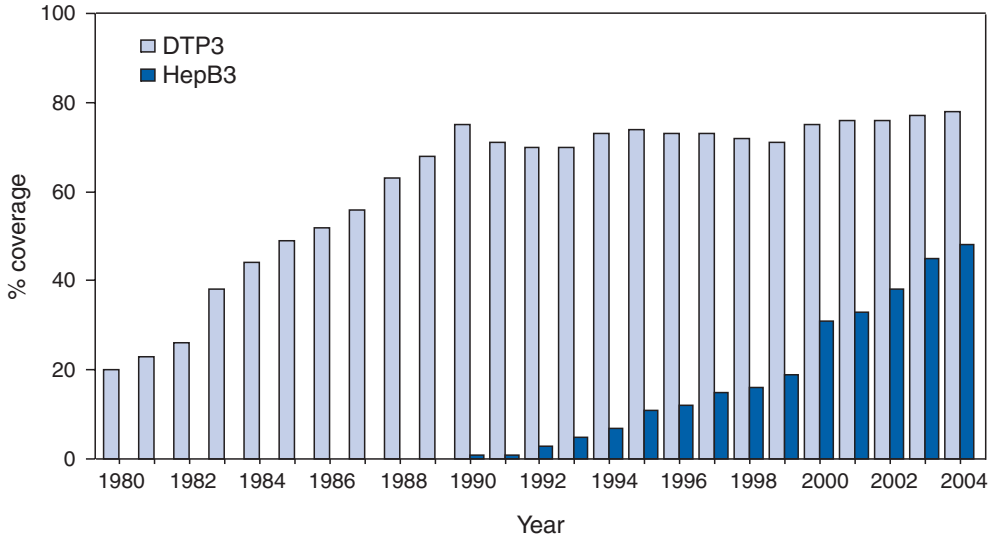
Reported by: *Dept of Immunization, Vaccines, and Biologicals, World Health Organization, Geneva, Switzerland. United Nations Children's Fund, New York, New York. Global Immunization Div, National Center for Immunization and Respiratory Diseases (proposed); M McMorrow, MD, EIS Officer, CDC.*

Editorial Note: Despite the successes of immunization programs worldwide, global estimates of VPD mortality and DTP3 coverage underscore that available vaccines are not being used to their fullest potential. Challenges include sustaining current vaccination coverage levels, extending vaccination to unreached populations and persons beyond infancy, and introducing new vaccines and technologies. GIVS provides a framework within which these challenges can be addressed.

Implementation of multiple activities outlined in GIVS actually began before development of this strategic vision. However, GIVS unifies these activities and, by serving as the basis for national comprehensive multiyear plans, provides countries with a method for identifying critical areas and resource needs, and an opportunity to track their national progress. At least 40 countries are developing these multiyear plans, which will include cost estimates for all immunization activities and outline future initiatives to improve vaccine coverage and extend vaccination to unreached populations (WHO, unpublished data, 2006). Fifty-three countries have implemented the Reaching Every District (RED) strategy, WHO's key strategy for increasing routine vaccination coverage. The RED strategy encourages supportive supervision, regular outreach services, community links with service delivery, improved data management, and improved planning based upon data (*3*).

Increasing access to new vaccines has the potential to greatly reduce the number of child deaths worldwide. Two GIVS priorities are to help countries develop the capacity to make informed decisions regarding vaccine introduction on the basis of robust evidence of disease burden, economic analysis,

FIGURE 2. Vaccination coverage with 3 doses of diphtheria-tetanus-pertussis vaccine (DTP3) and 3 doses of hepatitis B vaccine (HepB3) among children aged 12–23 months — World Health Organization member states, 1980–2004



and feasibility of introduction, and to ensure that national systems can sustain vaccine delivery programs. In 2005, a Hib initiative funded by the Global Alliance for Vaccines and Immunization (GAVI)* was launched to help countries decide whether to introduce *Haemophilus influenzae* type b vaccine into their immunization programs. GAVI-funded initiatives also exist for planning future introduction of pneumococcal and rotavirus vaccines.

The GIVS acknowledges the need to strengthen the health sector to decrease barriers to immunization, improve disease surveillance, and strengthen data management and suggests strategies for implementation. Furthermore, because immunization services often have the greatest community penetration of any public health intervention, the GIVS encourages linking immunizations to other interventions rather than providing them in isolation. For example, vitamin A supplements have been distributed through immunization services since 1987; during 2004, a total of 73 countries provided vitamin A to infants with routine immunizations, immunization campaigns, or both. In addition, during 2005, three immunization campaigns in Africa distributed antihelminthic medications and nine African countries distributed insecticide-treated mosquito bednets during immunization campaigns or routine services. Pilot projects also are in development to assess integration with routine immunization services of medical care for infants exposed to human immunodeficiency virus and intermittent preventive therapy against malaria for infants.

Various global partnerships and funding mechanisms are available to sustain immunization programs. For example, GAVI offers financial support to introduce new and underused vaccines, improve injection safety, and strengthen routine immunization services. In addition, the International Finance Facility for Immunization,† a United Kingdom initiative, uses legally binding, long-term commitments from donors to leverage funding from international capital markets by issuing bonds to increase the funds available for immunization programs.

By using the framework of the GIVS, WHO, UNICEF, and partners are continuing to develop plans of action within each of the strategic areas outlined above. In collaboration with WHO, CDC is assisting in the development of guidelines for integrated surveillance for all vaccine-preventable diseases. CDC will continue to provide technical support to WHO and UNICEF as requested to support the GIVS.

References

1. Miller MA, Hinman AR. Economic analyses of vaccine policies [Chapter 57]. In Plotkin SA, Orenstein WA, eds. Vaccines. 4th ed. Philadelphia, PA: Elsevier Inc.; 2004.
2. Hadler SC. Vaccination programs in developing countries [Chapter 55]. In Plotkin SA, Orenstein, WA eds. Vaccines. 4th ed. Philadelphia, PA: Elsevier Inc.; 2004.
3. World Health Organization and United Nations Children's Fund. Global Immunization Vision and Strategy, 2006–2015. Geneva, Switzerland: World Health Organization and United Nations Children's Fund; 2005. Available at http://www.who.int/vaccines/GIVS/english/GIVS_Final_17Oct05.pdf.
4. World Health Organization. 2004 global immunization data. Geneva, Switzerland: World Health Organization; 2005. Available at http://www.who.int/immunization_monitoring/data/GlobalImmunizationData.pdf.
5. World Health Organization. Conclusions and recommendations from the immunization strategic advisory group. Wkly Epidemiol Rec 2006;81:2–11.
6. World Health Organization. World health statistics 2005. Geneva, Switzerland: World Health Organization; 2005. Available at http://www.who.int/healthinfo/statistics/en.
7. World Health Organization. WHO vaccine preventable diseases: monitoring system: 2005 global summary. Geneva, Switzerland: World Health Organization; 2005. Available at http://www.who.int/vaccines-documents/globalsummary/globalsummary.pdf.

*GAVI is an alliance of public and private sector organizations that supports introduction of new vaccines through administration of the Vaccine Fund. GAVI also has been active in improving routine immunization program services and data quality and increasing support for vaccination globally. Additional information is available at http://www.gavialliance.org.

†Additional information is available at http://www.iffim.com.

8. World Health Organization. Draft global immunization strategy [WHA 58.15, agenda item 13.8]. Geneva, Switzerland: World Health Organization; 2005. Available at http://www.who.int/vaccines/givs/english/wha58_15en.pdf.
9. United Nations Children's Fund. UNICEF Executive Board Decision 2005/7. UNICEF/WHO Global immunization vision and strategy. New York, NY: United Nations Children's Fund; 2005. Available at http://www.unicef.org/about/execboard/files/2005-7_UNICEF_WHO.pdf.

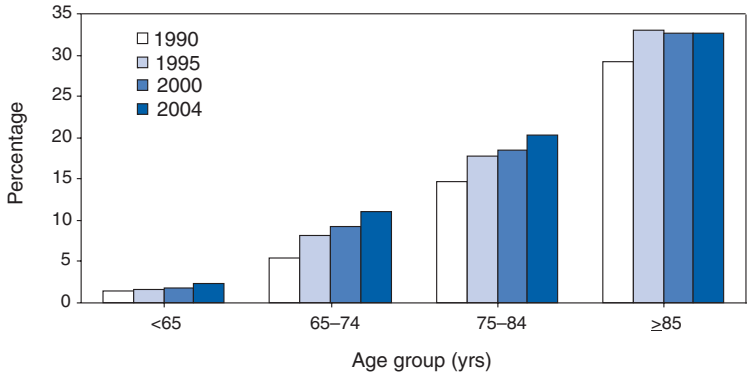
Errata: Vol. 55, No. 17

On page 492, in Table I, "Provisional cases of infrequently reported notifiable diseases (<1,000 cases during the preceding year) — United States, week ending April 29, 2006," in the row, "Influenza-associated pediatric mortality," in the column "Cum 2006," the total should be 25; in the column "States reporting cases during current week (No.)," the total reported by CA should be (2).

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Hospital Inpatients Transferred to Long-Term–Care Facilities, by Age Group — United States, 1990, 1995, 2000, and 2004



The percentage of hospital inpatients transferred to long-term facilities increases with age. However, during 1990–2004, the percentage transferred increased among all age groups except those aged ≥85 years. For that group, the percentage increased from 1990 to 1995 and then leveled off.

SOURCE: 1990–2004 National Hospital Discharge Survey annual data files. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics. Available at http://www.cdc.gov/nchs/about/major/hdasd/nhds.htm.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending May 6, 2006 (18th Week)*

Disease	Current week	Cum 2006	5-year weekly average†	Total cases reported for previous years 2005	2004	2003	2002	2001	States reporting cases during current week (No.)
Anthrax	—	1	—	—	—	—	2	23	
Botulism:									
foodborne	1	1	0	16	16	20	28	39	NC (1)
infant	1	23	1	87	87	76	69	97	PA (1)
other (wound & unspecified)	—	19	0	33	30	33	21	19	
Brucellosis	3	29	2	117	114	104	125	136	CA (3)
Chancroid	—	13	1	18	30	54	67	38	
Cholera	—	—	0	6	5	2	2	3	
Cyclosporiasis§	—	14	15	734	171	75	156	147	
Diphtheria	—	—	0	—	—	1	1	2	
Domestic arboviral diseases§¶:									
California serogroup	—	—	0	78	112	108	164	128	
eastern equine	—	—	—	21	6	14	10	9	
Powassan	—	—	—	1	1	—	1	N	
St. Louis	—	—	0	10	12	41	28	79	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis§:									
human granulocytic	—	16	4	768	537	362	511	261	
human monocytic	—	44	2	460	338	321	216	142	
human (other & unspecified)	—	4	1	124	59	44	23	6	
Haemophilus influenzae,** invasive disease (age <5 yrs):									
serotype b	—	2	1	10	19	32	34	—	
nonserotype b	1	37	4	131	135	117	144	—	MN (1)
unknown serotype	3	71	4	211	177	227	153	—	MA (1), PA (1), FL (1)
Hansen disease§	—	14	1	86	105	95	96	79	
Hantavirus pulmonary syndrome§	—	6	0	22	24	26	19	8	
Hemolytic uremic syndrome, postdiarrheal§	5	32	3	213	200	178	216	202	NC (1), GA (2), UT (1), CA (1)
Hepatitis C viral, acute	3	261	33	819	713	1,102	1,835	3,976	IN (1), MO (1), GA (1)
HIV infection, pediatric (age <13 yrs)§††	—	52	4	380	436	504	420	543	
Influenza-associated pediatric mortality§,§§,¶¶	2	27	0	49	—	N	N	N	KS (1), CA (1)
Listeriosis	4	162	10	876	753	696	665	613	PA (1), TX (1), CO (1), CA (1)
Measles	3	10***	1	65	37	56	44	116	KS (3)
Meningococcal disease,††† invasive:									
A, C, Y, & W-135	1	84	5	310	—	—	—	—	FL (1)
serogroup B	—	54	3	178	—	—	—	—	
other serogroup	1	11	0	27	—	—	—	—	OK (1)
Mumps	264	2,329	5	309	258	231	270	266	PA (8), OH (3), IN (2), WI (47), MN (4), IA (15), MO (21), SD (20), KS (114), FL (2), OK (28)
Plague	—	1	0	7	3	1	2	2	
Poliomyelitis, paralytic	—	—	—	1	—	—	—	—	
Psittacosis§	—	6	0	23	12	12	18	25	
Q fever§	—	36	1	130	70	71	61	26	
Rabies, human	—	—	—	2	7	2	3	1	
Rubella	—	1	0	9	10	7	18	23	
Rubella, congenital syndrome	—	1	—	1	—	1	1	3	
SARS-CoV§,§§	—	—	—	—	—	8	N	N	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	—	47	4	124	132	161	118	77	
Streptococcus pneumoniae,§ invasive disease (age <5 yrs)	11	414	17	1,191	1,162	845	513	498	MA (3), NY (1), OH (1), IN (3), MI (1), MN (2)
Syphilis, congenital (age <1 yr)	1	77	8	357	353	413	412	441	NC (1)
Tetanus	—	6	1	26	34	20	25	37	
Toxic-shock syndrome (other than streptococcal)§	—	37	2	93	95	133	109	127	
Trichinellosis	—	3	0	20	5	6	14	22	
Tularemia§	1	7	1	144	134	129	90	129	MO (1)
Typhoid fever	3	77	6	314	322	356	321	368	RI (1), WA (1), CA (1)
Vancomycin-intermediate *Staphylococcus aureus*§	—	1	—	2	—	N	N	N	
Vancomycin-resistant *Staphylococcus aureus*§	—	—	—	—	1	N	N	N	
Yellow fever	—	—	—	—	—	—	1	—	

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

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

¶¶ Of the 32 cases reported since October 2, 2005 (week 40), only 30 occurred during the current 2005–06 season.

*** Of the three measles cases reported for the current week, three were indigenous and none were imported from another country.

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

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 6, 2006, and May 7, 2005 (18th Week)*

Reporting area	Chlamydia†					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005
United States	9,731	18,665	34,875	311,570	331,102	9	116	1,643	3,016	1,316	34	72	854	782	686
New England	725	645	1,533	10,523	9,349	—	0	0	—	—	2	4	34	48	47
Connecticut	327	171	1,197	2,412	1,416	N	0	0	N	N	—	0	14	7	5
Maine	—	41	74	675	769	N	0	0	N	N	—	0	3	10	6
Massachusetts	274	286	432	5,215	4,956	—	0	0	—	—	—	2	15	21	14
New Hampshire	40	34	64	631	656	—	0	0	—	—	2	0	3	8	5
Rhode Island	72	65	99	1,160	1,189	—	0	0	—	—	—	0	6	—	1
Vermont§	12	19	43	430	363	N	0	0	N	N	—	0	5	2	16
Mid. Atlantic	1,089	2,257	3,697	39,153	40,386	—	0	0	—	—	7	10	598	114	92
New Jersey	92	376	526	6,153	6,306	N	0	0	N	N	—	0	8	3	7
New York (Upstate)	529	498	1,728	7,641	7,593	N	0	0	N	N	5	4	562	33	21
New York City	—	692	1,615	12,089	13,437	N	0	0	N	N	—	2	15	14	26
Pennsylvania	468	712	1,069	13,270	13,050	N	0	0	N	N	2	4	21	64	38
E.N. Central	807	3,167	12,575	55,798	56,867	1	0	3	14	3	5	13	162	151	145
Illinois	—	947	1,536	14,204	17,306	—	0	0	—	—	—	1	16	9	18
Indiana	331	389	553	6,806	7,012	N	0	0	N	N	1	1	13	12	11
Michigan	427	624	9,885	17,370	8,827	1	0	3	9	3	—	2	7	28	21
Ohio	38	801	1,445	10,868	16,610	—	0	1	5	—	4	5	109	71	42
Wisconsin	11	403	531	6,550	7,112	N	0	0	N	N	—	4	38	31	53
W.N. Central	283	1,123	1,462	18,294	20,477	—	0	12	—	3	10	9	51	126	87
Iowa	—	143	225	2,708	2,459	N	0	0	N	N	—	1	11	10	16
Kansas	138	154	269	2,803	2,588	N	0	0	N	N	1	1	5	19	8
Minnesota	—	231	298	3,014	4,389	—	0	12	—	3	8	3	22	56	25
Missouri	—	434	525	6,501	7,788	—	0	1	—	—	—	2	37	26	29
Nebraska§	70	97	176	1,771	1,781	N	0	1	N	N	—	0	3	3	1
North Dakota	18	31	50	563	502	N	0	0	N	N	—	0	1	1	—
South Dakota	57	52	117	934	970	N	0	0	N	N	1	0	4	11	8
S. Atlantic	3,269	3,213	4,833	56,765	61,667	—	0	1	2	—	8	15	54	215	137
Delaware	68	68	92	1,247	1,173	N	0	0	N	N	—	0	2	—	—
District of Columbia	—	61	101	673	1,383	—	0	0	—	—	—	0	3	5	1
Florida	745	874	1,092	15,881	14,938	N	0	0	N	N	8	6	28	87	51
Georgia	—	585	2,070	5,585	10,303	—	0	0	—	—	—	3	12	72	37
Maryland§	—	358	525	5,826	6,079	—	0	1	2	—	—	0	4	7	6
North Carolina	1,772	557	1,743	12,883	11,956	N	0	0	N	N	—	1	10	25	19
South Carolina§	286	258	1,306	6,211	6,869	—	0	0	—	—	—	0	4	4	9
Virginia§	361	425	840	7,214	8,168	N	0	0	N	N	—	1	8	13	10
West Virginia	37	56	224	1,245	798	N	0	0	N	N	—	0	3	2	4
E.S. Central	349	1,377	2,188	23,175	23,847	—	0	0	—	—	1	3	21	25	12
Alabama§	—	351	1,048	6,154	3,891	N	0	0	N	N	—	0	3	8	4
Kentucky	163	153	336	3,502	4,105	N	0	0	N	N	1	1	20	8	4
Mississippi	186	380	801	5,484	7,835	—	0	0	—	—	—	0	1	1	1
Tennessee§	—	477	614	8,035	8,016	N	0	0	N	N	—	1	4	8	3
W.S. Central	902	2,136	3,605	36,279	39,883	—	0	1	—	—	1	4	30	56	22
Arkansas	161	169	340	2,789	3,082	—	0	0	—	—	—	0	2	5	1
Louisiana	—	284	761	4,845	6,404	N	0	1	N	N	—	0	21	6	3
Oklahoma	266	226	2,159	3,681	3,680	N	0	0	N	N	—	0	10	11	7
Texas§	475	1,383	1,764	24,964	26,717	N	0	0	N	N	1	2	19	34	11
Mountain	502	1,076	1,718	16,554	21,471	—	87	452	2,229	766	—	2	9	25	40
Arizona	379	315	536	5,941	7,286	—	84	448	2,194	724	—	0	1	3	4
Colorado	—	261	482	2,211	5,256	N	0	0	N	N	—	1	3	9	12
Idaho§	52	51	235	1,169	754	N	0	0	N	N	—	0	2	2	2
Montana	3	42	181	702	811	N	0	0	N	N	—	0	2	5	4
Nevada§	—	129	448	1,346	2,620	—	1	4	16	30	—	0	1	1	5
New Mexico§	—	168	338	3,191	2,824	—	0	2	—	8	—	0	3	—	7
Utah	21	88	138	1,484	1,536	—	0	3	17	4	—	0	3	5	4
Wyoming	47	24	43	510	384	—	0	2	2	—	—	0	1	—	2
Pacific	1,805	3,195	4,998	55,029	57,155	8	30	1,179	771	544	—	4	52	22	104
Alaska	77	77	121	1,406	1,338	—	0	0	—	—	—	0	2	1	—
California	1,222	2,467	4,231	42,181	44,202	8	30	1,179	771	544	—	3	14	—	69
Hawaii	—	107	135	1,751	1,871	N	0	0	N	N	—	0	1	—	—
Oregon§	150	180	315	3,366	3,071	N	0	0	N	N	—	1	20	21	16
Washington	356	357	604	6,325	6,673	N	0	0	N	N	—	0	38	—	19
American Samoa	U	0	0	U	U	U	0	0	U	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	—	64	—	0	0	—	—	—	0	0	—	—
Puerto Rico	162	76	160	1,719	1,508	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	4	8	—	122	—	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.
† Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 6, 2006, and May 7, 2005 (18th Week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes				
	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	203	331	1,010	4,450	5,491	2,572	6,552	13,999	106,092	110,330	26	37	126	704	915
New England	7	28	73	335	506	158	108	286	1,780	1,726	1	2	18	43	61
Connecticut	—	0	37	82	116	93	43	239	608	472	—	0	9	8	16
Maine	1	3	11	24	48	—	2	6	40	47	—	0	1	5	4
Massachusetts	3	12	34	149	194	52	47	76	860	966	1	1	5	24	25
New Hampshire	—	0	7	9	19	5	4	9	85	49	—	0	1	1	—
Rhode Island	2	0	25	24	21	7	7	25	167	178	—	0	7	2	6
Vermont†	1	3	15	47	108	1	1	4	20	14	—	0	2	3	10
Mid. Atlantic	21	63	264	761	1,023	279	651	1,014	10,659	11,440	5	7	28	131	161
New Jersey	—	7	18	55	147	73	111	150	1,840	1,921	—	1	4	12	23
New York (Upstate)	16	22	237	304	309	99	123	455	2,036	2,232	1	2	25	44	47
New York City	1	15	32	175	311	—	182	402	2,960	3,514	—	1	4	12	29
Pennsylvania	4	16	29	227	256	107	216	390	3,823	3,773	4	3	8	63	62
E.N. Central	13	55	114	605	908	285	1,321	7,044	24,090	21,979	4	5	14	91	151
Illinois	—	13	32	24	231	—	373	567	5,563	6,572	—	1	5	14	38
Indiana	N	0	0	N	N	144	159	229	2,939	2,717	3	1	6	22	33
Michigan	1	14	29	213	234	122	267	5,877	8,389	3,285	—	0	3	14	10
Ohio	12	16	34	260	200	17	380	681	4,999	7,454	1	2	6	31	55
Wisconsin	—	15	39	108	243	2	121	172	2,200	1,951	—	1	3	10	15
W.N. Central	94	33	247	470	643	64	364	461	5,503	6,334	3	1	12	36	39
Iowa	—	6	14	70	81	—	30	54	524	528	—	0	0	—	1
Kansas	2	4	9	51	54	38	48	124	795	860	1	0	2	7	1
Minnesota	87	7	238	165	294	—	63	88	728	1,187	2	0	9	14	17
Missouri	5	10	32	137	140	—	181	240	2,877	3,190	—	0	7	12	14
Nebraska†	—	1	6	23	40	18	22	56	425	416	—	0	2	3	5
North Dakota	—	0	3	3	1	4	2	6	38	27	—	0	2	—	1
South Dakota	—	2	7	21	33	4	6	15	116	126	—	0	0	—	—
S. Atlantic	20	56	108	824	852	841	1,444	2,240	23,175	26,205	8	9	25	194	220
Delaware	—	1	3	8	19	23	21	44	506	284	—	0	1	1	—
District of Columbia	—	1	5	20	16	—	39	67	492	710	—	0	1	1	1
Florida	17	19	39	302	275	366	403	512	7,291	6,516	5	3	9	69	56
Georgia	1	15	68	276	241	—	268	918	2,461	4,531	3	2	5	47	59
Maryland†	—	4	11	48	57	—	134	242	2,277	2,305	—	1	5	22	33
North Carolina	N	0	0	N	N	262	270	766	5,164	5,795	—	0	11	15	27
South Carolina†	—	1	9	23	39	130	112	748	2,678	2,985	—	1	3	14	10
Virginia†	2	10	55	141	194	44	149	288	1,990	2,861	—	1	9	16	21
West Virginia	—	0	6	6	11	16	16	42	316	218	—	0	4	9	13
E.S. Central	1	8	19	115	124	102	539	868	8,938	8,971	—	2	8	47	48
Alabama†	1	4	13	60	57	—	183	491	2,796	2,419	—	0	4	11	9
Kentucky	N	0	0	N	N	52	53	116	1,203	1,298	—	0	2	2	7
Mississippi	—	0	0	—	—	50	137	225	2,027	2,324	—	0	1	2	—
Tennessee†	—	4	11	55	67	—	173	279	2,912	2,930	—	2	5	32	32
W.S. Central	1	5	23	70	74	368	848	1,431	15,048	15,674	4	1	6	35	55
Arkansas	—	2	6	22	27	91	87	186	1,544	1,559	—	0	1	2	—
Louisiana	—	1	6	21	10	—	172	461	2,921	3,493	—	0	3	7	28
Oklahoma	1	3	16	27	37	59	83	764	1,245	1,576	4	1	4	26	27
Texas†	N	0	0	N	N	218	523	712	9,338	9,046	—	0	1	—	—
Mountain	8	29	57	405	389	126	226	529	3,567	4,491	—	4	10	85	103
Arizona	—	2	36	40	54	118	77	176	1,490	1,608	—	1	9	36	46
Colorado	3	10	33	152	135	—	58	90	579	1,086	—	1	4	27	23
Idaho†	2	2	11	35	41	3	2	10	71	33	—	0	1	2	3
Montana	1	1	7	23	11	—	2	13	37	46	—	0	0	—	—
Nevada†	—	2	6	12	27	—	50	195	522	973	—	0	1	—	11
New Mexico†	—	1	6	13	17	—	29	64	536	487	—	0	3	10	15
Utah	2	8	19	124	96	3	15	22	276	238	—	0	4	9	4
Wyoming	—	1	2	6	8	2	2	6	56	20	—	0	2	1	1
Pacific	38	62	203	865	972	349	799	941	13,332	13,510	1	3	20	42	77
Alaska	—	1	6	11	24	7	10	23	188	170	—	0	19	3	2
California	25	43	105	633	776	237	651	806	10,906	11,311	—	0	9	8	18
Hawaii	—	1	6	18	22	—	19	36	326	336	—	0	2	6	5
Oregon†	4	8	21	123	97	14	28	58	470	560	1	1	7	24	52
Washington	9	6	92	80	53	91	73	142	1,442	1,133	—	0	4	1	—
American Samoa	U	0	0	U	U	U	0	0	U	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	—	—	—	0	0	—	1	—	0	0	—	—
Puerto Rico	—	3	14	4	46	5	6	16	121	137	—	0	1	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	4	—	36	—	0	0	—	—

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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 May 6, 2006, and May 7, 2005 (18th 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	47	75	252	1,208	1,356	32	88	561	1,368	1,844	10	40	122	390	360
New England	—	6	22	67	139	—	2	8	42	41	—	2	11	15	18
Connecticut	—	1	3	10	20	—	0	5	—	17	—	0	8	4	4
Maine	—	0	2	3	—	—	0	2	2	4	—	0	1	2	1
Massachusetts	—	4	14	33	98	—	1	7	33	12	—	1	5	7	9
New Hampshire	—	1	12	14	14	—	0	2	4	4	—	0	1	1	3
Rhode Island	—	0	4	2	5	—	0	2	3	—	—	0	10	—	1
Vermont†	—	0	2	5	2	—	0	1	—	4	—	0	3	1	—
Mid. Atlantic	—	10	24	62	229	2	10	54	127	261	3	11	53	103	106
New Jersey	—	2	9	17	44	—	3	10	36	101	—	1	13	6	14
New York (Upstate)	—	1	16	16	30	1	1	42	25	26	3	3	30	41	28
New York City	—	3	10	14	113	—	1	5	14	55	—	2	20	9	16
Pennsylvania	—	1	6	15	42	1	3	9	52	79	—	5	17	47	48
E.N. Central	4	6	17	88	143	2	8	26	95	194	1	7	26	68	85
Illinois	—	1	9	11	44	—	1	7	—	53	—	1	5	7	13
Indiana	—	1	6	8	17	1	0	17	11	7	—	0	6	2	8
Michigan	—	2	8	39	41	—	3	7	46	68	1	2	6	21	22
Ohio	4	1	4	29	24	1	2	8	36	54	—	3	19	36	34
Wisconsin	—	0	5	1	17	—	0	6	2	12	—	0	3	2	8
W.N. Central	5	2	29	46	44	1	5	14	43	86	—	1	12	12	11
Iowa	—	0	2	3	9	—	0	2	1	5	—	0	1	—	1
Kansas	1	0	5	17	7	—	0	3	3	12	—	0	1	1	1
Minnesota	—	0	29	2	3	1	0	9	3	6	—	0	10	—	1
Missouri	4	0	2	16	22	—	3	8	35	50	—	0	3	8	7
Nebraska†	—	0	3	3	3	—	0	2	1	12	—	0	2	2	—
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	1	—	1
South Dakota	—	0	3	5	—	—	0	1	—	1	—	0	6	1	—
S. Atlantic	5	12	34	182	194	12	23	66	362	547	3	9	21	110	74
Delaware	—	0	2	4	2	—	0	4	14	17	—	0	4	1	1
District of Columbia	1	0	2	2	2	—	0	4	4	—	—	0	2	4	1
Florida	2	5	18	67	72	5	9	19	147	189	3	2	8	51	28
Georgia	2	1	6	17	34	2	3	6	41	91	—	0	4	4	6
Maryland†	—	2	7	23	17	—	2	8	42	63	—	2	9	21	19
North Carolina	—	0	20	40	26	1	0	23	68	53	—	0	3	13	9
South Carolina†	—	1	3	7	10	—	2	9	17	54	—	0	2	1	2
Virginia†	—	1	12	21	29	—	1	20	12	67	—	1	9	14	5
West Virginia	—	0	1	1	2	4	0	17	17	13	—	0	3	1	3
E.S. Central	1	3	16	42	90	3	6	20	102	144	—	1	6	11	11
Alabama†	—	0	6	2	11	3	1	7	31	28	—	0	2	3	5
Kentucky	1	0	5	20	7	—	1	5	30	29	—	0	4	2	2
Mississippi	—	0	2	2	12	—	1	4	5	30	—	0	1	—	1
Tennessee†	—	1	8	18	60	—	2	12	36	57	—	1	4	6	3
W.S. Central	—	9	80	99	147	7	15	286	341	173	—	1	29	10	4
Arkansas	—	0	7	22	5	—	1	3	9	22	—	0	3	—	1
Louisiana	—	1	4	2	31	—	1	6	7	30	—	0	2	4	—
Oklahoma	—	0	2	3	3	—	0	5	1	16	—	0	3	1	—
Texas†	—	7	76	72	108	7	12	282	324	105	—	0	26	5	3
Mountain	2	5	19	100	115	3	9	39	107	190	3	1	8	23	33
Arizona	1	3	18	65	56	—	5	32	69	129	—	0	3	10	9
Colorado	—	1	4	16	12	2	1	5	13	14	—	0	3	2	7
Idaho†	—	0	2	3	15	1	0	2	5	5	2	0	2	2	1
Montana	1	0	1	2	6	—	0	7	—	—	—	0	1	—	2
Nevada†	—	0	2	3	6	—	1	4	9	13	—	0	2	3	6
New Mexico†	—	0	3	5	7	—	0	3	1	9	—	0	1	—	2
Utah	—	0	2	5	12	—	0	5	10	19	1	0	2	6	4
Wyoming	—	0	1	1	1	—	0	1	—	1	—	0	1	—	2
Pacific	30	19	163	522	255	2	10	63	149	208	—	2	9	38	18
Alaska	—	0	1	—	3	—	0	2	1	3	—	0	1	—	—
California	29	15	162	485	212	1	7	41	119	148	—	2	9	38	18
Hawaii	—	0	2	7	9	—	0	1	1	1	—	0	1	—	—
Oregon†	1	1	5	14	15	—	2	6	18	41	N	0	0	N	N
Washington	—	1	13	16	16	1	0	18	10	15	—	0	0	—	—
American Samoa	U	0	1	U	—	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	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	1	0	4	5	28	1	1	6	5	7	1	0	0	1	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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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 May 6, 2006, and May 7, 2005 (18th 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	90	289	1,879	1,614	2,182	24	24	123	307	371
New England	2	57	759	87	253	—	1	12	12	20
Connecticut	—	9	753	47	18	—	0	10	1	—
Maine	1	2	26	15	17	—	0	1	2	1
Massachusetts	—	20	197	1	199	—	0	4	6	16
New Hampshire	1	3	13	19	13	—	0	1	2	2
Rhode Island	—	0	12	—	2	—	0	8	—	1
Vermont†	—	1	5	5	4	—	0	2	1	—
Mid. Atlantic	75	158	928	1,133	1,299	—	5	15	44	97
New Jersey	—	26	310	184	436	—	0	7	—	22
New York (Upstate)	68	73	900	593	240	—	1	11	9	18
New York City	—	4	33	—	74	—	3	8	24	45
Pennsylvania	7	45	387	356	549	—	1	2	11	12
E.N. Central	—	14	155	56	115	—	2	6	35	27
Illinois	—	0	6	—	3	—	0	2	7	9
Indiana	—	0	4	1	2	—	0	3	5	3
Michigan	—	1	7	10	1	—	0	2	6	8
Ohio	—	1	5	13	17	—	1	3	12	3
Wisconsin	—	11	145	32	92	—	0	3	5	4
W.N. Central	6	12	99	43	58	12	0	31	18	16
Iowa	—	0	8	2	12	—	0	1	1	2
Kansas	—	0	3	—	2	—	0	1	—	1
Minnesota	6	7	96	39	43	12	0	30	14	5
Missouri	—	0	2	1	1	—	0	2	1	8
Nebraska†	—	0	2	1	—	—	0	2	—	—
North Dakota	—	0	0	—	—	—	0	1	1	—
South Dakota	—	0	1	—	—	—	0	1	1	—
S. Atlantic	4	33	125	231	403	5	6	16	98	83
Delaware	4	9	37	97	156	—	0	1	2	1
District of Columbia	—	0	2	7	2	—	0	2	—	2
Florida	—	1	5	12	10	2	1	6	18	16
Georgia	—	0	1	—	1	3	1	6	28	14
Maryland†	—	16	87	99	184	—	1	9	21	27
North Carolina	—	0	5	8	15	—	0	8	10	11
South Carolina†	—	0	3	2	7	—	0	2	3	3
Virginia†	—	3	22	6	28	—	0	9	15	8
West Virginia	—	0	44	—	—	—	0	2	1	1
E.S. Central	—	0	4	—	8	—	1	2	7	8
Alabama†	—	0	1	—	—	—	0	1	3	3
Kentucky	—	0	1	—	1	—	0	2	1	2
Mississippi	—	0	0	—	—	—	0	1	1	—
Tennessee†	—	0	4	—	7	—	0	2	2	3
W.S. Central	—	1	7	1	22	3	1	30	18	32
Arkansas	—	0	2	—	2	—	0	2	—	2
Louisiana	—	0	1	—	3	—	0	1	—	1
Oklahoma	—	0	0	—	—	—	0	6	2	2
Texas†	—	0	7	1	17	3	1	29	16	27
Mountain	—	0	4	2	2	1	1	9	15	16
Arizona	—	0	4	2	—	1	0	9	3	2
Colorado	—	0	1	—	—	—	0	3	4	8
Idaho†	—	0	1	—	—	—	0	0	—	—
Montana	—	0	0	—	—	—	0	1	1	—
Nevada†	—	0	2	—	—	—	0	2	—	—
New Mexico†	—	0	1	—	—	—	0	1	—	1
Utah	—	0	1	—	1	—	0	2	7	4
Wyoming	—	0	1	—	1	—	0	1	—	1
Pacific	3	3	18	61	22	3	4	12	60	72
Alaska	—	0	1	—	1	—	0	1	4	2
California	3	2	18	61	19	2	2	10	44	61
Hawaii	N	0	0	N	N	—	0	4	—	4
Oregon†	—	0	3	—	2	—	0	2	4	2
Washington	—	0	3	—	—	1	0	5	8	3
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	—	—

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 6, 2006, and May 7, 2005 (18th Week)*

Reporting area	Meningococcal disease, invasive: All serogroups					Meningococcal disease, invasive: 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	15	21	84	469	554	13	13	58	320	323	124	437	2,672	3,600	6,594
New England	—	1	6	19	36	—	0	3	19	12	10	27	53	396	460
Connecticut	—	0	2	4	9	—	0	2	4	1	—	1	5	10	28
Maine	—	0	1	2	1	—	0	1	2	1	—	1	5	16	15
Massachusetts	—	0	3	11	16	—	0	3	11	4	3	23	44	323	322
New Hampshire	—	0	2	2	3	—	0	2	2	3	6	0	3	16	—
Rhode Island	—	0	1	—	2	—	0	0	—	—	—	0	17	—	5
Vermont†	—	0	2	—	5	—	0	2	—	3	1	1	14	31	90
Mid. Atlantic	2	2	13	59	70	2	2	11	45	52	33	24	136	545	529
New Jersey	—	0	2	2	18	—	0	2	2	18	—	4	10	67	72
New York (Upstate)	1	0	7	13	18	1	0	5	2	5	21	11	122	202	179
New York City	—	0	5	16	11	—	0	5	16	11	—	2	6	21	34
Pennsylvania	1	1	5	28	23	1	1	5	25	18	12	10	25	255	244
E.N. Central	1	2	9	46	58	1	1	6	33	47	18	55	124	480	1,536
Illinois	—	0	4	9	11	—	0	4	9	11	—	12	31	12	324
Indiana	—	0	5	8	7	—	0	2	2	3	3	4	75	56	116
Michigan	—	1	3	10	14	—	0	3	6	9	3	5	23	127	102
Ohio	1	1	5	19	18	1	0	4	16	16	12	17	30	243	606
Wisconsin	—	0	1	—	8	—	0	1	—	8	—	15	41	42	388
W.N. Central	2	1	4	26	30	2	0	3	14	13	11	64	516	500	902
Iowa	—	0	2	6	11	—	0	2	3	3	—	11	55	96	284
Kansas	—	0	1	1	4	—	0	1	1	4	5	11	29	147	102
Minnesota	1	0	2	4	5	1	0	1	3	1	1	0	485	71	137
Missouri	1	0	3	9	7	1	0	2	3	3	5	10	43	138	147
Nebraska†	—	0	1	5	2	—	0	1	3	2	—	4	14	39	84
North Dakota	—	0	1	1	—	—	0	1	1	—	—	0	28	4	67
South Dakota	—	0	1	—	1	—	0	0	—	—	—	1	8	5	81
S. Atlantic	2	4	14	84	93	1	2	7	37	39	19	23	92	337	453
Delaware	—	0	1	2	2	—	0	1	2	2	—	0	1	2	13
District of Columbia	—	0	1	—	4	—	0	1	—	3	—	0	3	3	3
Florida	1	1	6	35	35	—	0	5	14	12	2	4	14	78	57
Georgia	1	0	2	9	8	1	0	2	9	8	—	1	3	6	13
Maryland†	—	0	2	6	8	—	0	2	3	—	—	4	8	59	86
North Carolina	—	0	11	14	11	—	0	3	3	2	—	0	21	70	21
South Carolina†	—	0	2	7	10	—	0	1	2	7	—	5	22	45	169
Virginia†	—	0	4	10	11	—	0	3	4	4	17	1	73	70	67
West Virginia	—	0	1	1	4	—	0	1	—	1	—	0	5	4	24
E.S. Central	1	1	4	15	27	1	1	4	11	18	—	7	25	76	180
Alabama†	1	0	1	4	2	1	0	1	4	1	—	1	9	23	34
Kentucky	—	0	2	4	9	—	0	2	4	9	—	1	10	6	57
Mississippi	—	0	1	1	4	—	0	1	1	4	—	1	4	9	25
Tennessee†	—	0	2	6	12	—	0	2	2	4	—	3	17	38	64
W.S. Central	1	2	22	45	55	—	1	9	19	15	10	46	237	246	396
Arkansas	—	0	3	5	8	—	0	2	4	1	2	4	21	26	88
Louisiana	—	0	4	23	20	—	0	3	12	5	—	0	3	5	14
Oklahoma	1	0	3	6	6	—	0	3	—	1	—	0	1	2	—
Texas†	—	1	16	11	21	—	0	4	3	8	8	39	216	213	294
Mountain	—	2	7	34	41	—	0	4	22	10	12	65	232	731	1,405
Arizona	—	0	4	16	18	—	0	4	16	6	—	15	178	193	192
Colorado	—	0	2	11	11	—	0	1	2	—	10	24	40	428	573
Idaho†	—	0	2	1	2	—	0	2	1	2	—	2	13	20	86
Montana	—	0	1	1	—	—	0	0	—	—	1	5	29	43	291
Nevada†	—	0	2	—	3	—	0	1	—	—	1	0	6	12	19
New Mexico†	—	0	1	—	3	—	0	1	—	2	—	2	6	9	95
Utah	—	0	2	3	4	—	0	1	1	—	—	9	32	—	139
Wyoming	—	0	2	2	—	—	0	2	2	—	—	1	5	26	10
Pacific	6	5	31	141	144	6	4	25	120	117	11	75	1,334	289	733
Alaska	—	0	1	1	1	—	0	1	1	1	—	2	15	27	14
California	4	2	14	79	71	4	2	14	79	71	—	41	1,136	46	239
Hawaii	—	0	1	3	7	—	0	1	3	2	—	3	10	31	56
Oregon†	2	2	8	39	46	2	1	6	29	25	—	4	33	48	291
Washington	—	0	25	19	19	—	0	11	8	18	11	11	195	137	133
American Samoa	U	0	1	—	—	U	0	1	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	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	1	2	5	—	0	1	2	5	—	0	1	—	4
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 6, 2006, and May 7, 2005 (18th Week)*

Reporting area	Rabies, animal					Rocky Mountain spotted fever					Salmonellosis				
	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	54	100	188	1,459	2,139	4	36	98	318	197	326	870	2,209	8,378	8,915
New England	6	13	26	185	288	—	0	2	—	1	5	38	111	445	549
Connecticut	—	3	13	38	51	—	0	0	—	—	—	8	104	104	113
Maine	1	1	4	23	20	N	0	0	N	N	—	2	8	15	43
Massachusetts	5	4	17	101	166	—	0	1	—	—	5	20	41	271	290
New Hampshire	—	0	2	5	2	—	0	1	—	—	—	2	12	27	31
Rhode Island	—	0	4	1	5	—	0	2	—	1	—	0	17	20	15
Vermont†	—	1	14	17	44	—	0	0	—	—	—	1	11	8	57
Mid. Atlantic	10	18	40	274	281	—	1	8	5	12	39	91	274	882	1,091
New Jersey	N	0	0	N	N	—	0	3	—	3	—	14	41	79	212
New York (Upstate)	10	11	24	140	128	—	0	2	—	—	21	22	234	233	254
New York City	—	0	3	—	10	—	0	2	2	—	5	21	44	229	305
Pennsylvania	—	7	22	134	143	—	1	6	3	9	13	31	60	341	320
E.N. Central	2	2	69	10	21	—	0	6	4	4	17	95	206	1,058	1,201
Illinois	—	0	4	—	9	—	0	3	1	1	—	27	126	170	398
Indiana	2	0	3	2	2	—	0	1	1	—	4	11	69	146	102
Michigan	—	0	4	6	6	—	0	1	—	1	3	18	35	202	227
Ohio	—	0	66	2	4	—	0	3	2	2	10	24	52	339	249
Wisconsin	N	0	2	N	N	—	0	1	—	—	—	15	45	201	225
W.N. Central	2	5	16	72	109	2	2	17	12	13	23	44	90	591	587
Iowa	—	0	4	14	—	—	0	2	—	1	1	7	18	90	109
Kansas	—	1	5	24	34	1	0	2	1	2	4	7	17	87	67
Minnesota	1	1	5	8	23	—	0	1	1	—	5	10	30	147	147
Missouri	1	1	7	7	12	1	2	15	10	9	13	15	40	193	160
Nebraska†	—	0	0	—	—	—	0	2	—	—	—	3	10	40	51
North Dakota	—	0	4	2	8	—	0	0	—	—	—	0	5	4	13
South Dakota	—	1	5	17	32	—	0	2	—	1	—	3	11	30	40
S. Atlantic	14	35	57	514	841	—	18	94	278	130	104	264	522	2,212	2,246
Delaware	—	0	0	—	—	—	0	2	2	1	—	2	9	22	18
District of Columbia	—	0	0	—	—	—	0	1	—	—	—	1	7	19	13
Florida	—	0	27	58	201	—	0	3	9	8	67	99	230	1,018	884
Georgia	—	4	27	43	104	—	1	11	16	14	13	37	88	329	325
Maryland†	—	6	16	59	97	—	2	7	13	10	—	14	39	123	176
North Carolina	9	8	20	110	163	—	5	87	228	85	21	30	114	394	357
South Carolina†	—	3	11	39	63	—	1	6	5	7	—	21	146	98	203
Virginia†	—	10	26	175	200	—	2	10	5	4	3	21	78	185	237
West Virginia	5	1	13	30	13	—	0	2	—	1	—	3	19	24	33
E.S. Central	6	3	9	77	66	1	5	24	11	14	4	56	135	412	507
Alabama†	6	1	5	25	19	1	0	9	6	3	1	14	39	148	123
Kentucky	—	0	3	4	4	—	0	1	—	—	3	8	26	91	83
Mississippi	—	0	1	—	—	—	0	3	—	1	—	13	66	49	91
Tennessee†	—	1	7	48	43	—	3	18	5	10	—	14	41	124	210
W.S. Central	11	13	30	241	400	1	2	34	6	7	42	85	884	906	726
Arkansas	2	0	3	11	11	—	0	32	4	2	8	16	67	245	100
Louisiana	—	0	0	—	—	—	0	2	—	2	—	14	42	91	188
Oklahoma	9	1	7	20	38	1	0	23	1	3	7	6	26	68	80
Texas†	—	12	27	210	351	—	0	8	1	—	27	45	844	502	358
Mountain	—	4	16	36	80	—	0	6	2	16	17	48	110	585	579
Arizona	—	2	11	33	69	—	0	6	1	12	—	14	67	172	174
Colorado	—	0	3	—	1	—	0	1	—	—	13	11	45	183	143
Idaho†	—	0	12	—	—	—	0	2	—	—	1	2	15	36	45
Montana	—	0	3	3	—	—	0	0	—	1	1	2	16	34	28
Nevada†	—	0	2	—	—	—	0	0	—	—	—	3	8	23	57
New Mexico†	—	0	1	—	1	—	0	1	—	2	—	4	13	40	61
Utah	—	0	5	—	—	—	0	0	—	—	2	5	30	77	60
Wyoming	—	0	2	—	9	—	0	1	1	1	—	1	12	20	11
Pacific	3	4	15	50	53	—	0	1	—	—	75	102	425	1,287	1,429
Alaska	—	0	4	9	1	—	0	0	—	—	2	1	7	31	17
California	3	3	15	41	52	—	0	0	—	—	59	73	292	956	1,117
Hawaii	—	0	0	—	—	—	0	0	—	—	—	5	15	73	96
Oregon†	—	0	1	—	—	—	0	1	—	—	—	8	25	109	111
Washington	U	0	0	U	U	N	0	0	N	N	14	9	124	118	88
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	2	U	1
C.N.M.I.	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	1
Puerto Rico	1	2	4	34	30	N	0	0	N	N	4	6	23	23	134
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 6, 2006, and May 7, 2005 (18th Week)*

Reporting area	Shiga toxin-producing *E. coli* (STEC)†					Shigellosis					Streptococcal disease, invasive, group A				
	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	13	53	273	319	483	88	301	659	2,644	3,639	57	88	271	1,978	1,933
New England	1	3	14	32	49	4	5	21	85	69	2	5	13	76	129
Connecticut	—	1	13	13	14	—	0	15	15	15	U	1	4	U	U
Maine	—	0	5	—	8	—	0	3	—	5	—	0	2	7	3
Massachusetts	—	2	7	16	17	4	4	11	62	37	2	2	7	49	48
New Hampshire	1	0	2	3	3	—	0	4	4	4	—	0	3	14	5
Rhode Island	—	0	2	—	1	—	0	6	3	2	—	0	3	3	6
Vermont§	—	0	4	2	6	—	0	4	1	6	—	0	4	3	14
Mid. Atlantic	—	5	101	4	46	2	18	70	197	388	10	14	44	336	434
New Jersey	—	1	7	—	13	—	5	18	50	101	—	2	8	10	92
New York (Upstate)	5	2	98	24	17	2	4	58	76	96	7	4	33	144	142
New York City	—	0	2	4	—	—	5	14	41	168	—	3	8	41	79
Pennsylvania	—	2	8	—	16	—	2	48	30	23	3	6	13	141	121
E.N. Central	2	9	33	76	79	2	18	79	246	301	11	13	37	370	407
Illinois	—	1	8	—	27	—	6	26	56	76	—	3	9	56	109
Indiana	—	1	7	9	9	—	1	56	42	33	—	2	11	51	46
Michigan	—	0	4	19	—	1	3	10	65	105	—	4	11	107	112
Ohio	2	2	14	26	26	1	3	11	54	20	11	4	19	130	89
Wisconsin	—	3	15	22	17	—	3	10	29	67	—	1	4	26	51
W.N. Central	4	7	35	55	65	11	39	65	247	227	12	5	57	164	122
Iowa	—	1	10	10	11	—	1	7	10	39	N	0	0	N	N
Kansas	—	0	4	—	12	1	4	20	28	12	—	1	5	33	21
Minnesota	4	3	19	42	10	1	2	6	24	21	11	0	52	78	41
Missouri	2	1	7	21	16	9	22	45	138	125	1	1	5	30	37
Nebraska§	—	1	4	5	13	—	2	10	24	20	—	0	4	13	9
North Dakota	—	0	2	—	1	—	0	2	4	2	—	0	3	5	4
South Dakota	—	0	5	3	2	—	2	17	19	8	—	0	3	5	10
S. Atlantic	3	7	39	56	95	37	51	122	755	539	15	20	41	458	358
Delaware	—	0	2	1	—	—	0	2	—	5	1	0	2	4	—
District of Columbia	—	0	1	—	—	—	0	2	3	4	1	0	2	5	4
Florida	3	1	29	23	51	26	23	66	326	241	8	5	12	109	90
Georgia	—	0	6	—	9	11	13	34	270	143	3	4	11	108	71
Maryland§	—	1	5	2	9	—	2	8	34	22	—	3	12	84	70
North Carolina	5	1	11	26	12	—	2	22	65	57	—	1	21	61	58
South Carolina§	—	0	2	3	1	—	2	9	41	36	—	0	6	27	22
Virginia§	—	1	9	—	13	—	2	9	16	31	2	2	11	52	34
West Virginia	—	0	2	—	—	—	0	1	—	—	—	0	4	8	9
E.S. Central	—	2	12	15	22	5	17	50	190	485	1	3	10	88	79
Alabama§	—	0	3	1	6	—	3	20	38	90	N	0	0	N	N
Kentucky	—	1	9	11	4	5	7	31	103	36	1	0	5	22	21
Mississippi	—	0	2	—	—	—	1	7	22	37	—	0	0	—	—
Tennessee§	—	1	4	21	12	—	3	46	27	322	—	3	9	66	58
W.S. Central	1	2	43	4	18	1	66	250	249	845	2	7	50	171	99
Arkansas	—	0	2	1	3	1	1	8	31	18	1	0	5	15	7
Louisiana	—	0	2	—	7	—	2	11	37	46	—	0	2	5	5
Oklahoma	1	0	3	3	2	—	7	41	29	226	1	2	8	54	55
Texas§	—	1	43	18	6	—	52	243	152	555	—	5	43	97	32
Mountain	—	5	16	34	61	7	17	47	197	198	2	10	77	282	266
Arizona	—	0	4	13	7	—	9	29	102	89	—	4	57	153	114
Colorado	—	1	6	15	14	5	3	18	38	33	1	3	8	66	97
Idaho§	1	1	8	9	9	—	0	4	5	3	—	0	2	5	1
Montana	—	0	2	—	2	—	0	1	1	2	—	0	0	—	—
Nevada§	—	0	3	2	10	—	1	6	12	25	—	0	6	—	—
New Mexico§	—	0	3	2	5	—	2	9	24	32	—	1	6	24	28
Utah	—	0	7	5	13	2	1	4	14	14	1	1	6	32	25
Wyoming	—	0	3	1	1	—	0	1	1	—	—	0	1	2	1
Pacific	2	7	59	43	48	19	39	149	478	587	2	2	8	33	39
Alaska	—	0	2	—	3	—	0	2	6	8	—	0	0	—	—
California	1	3	18	30	27	16	33	104	349	523	—	0	0	—	—
Hawaii	—	0	4	4	3	—	1	4	12	10	2	2	8	33	39
Oregon§	—	1	47	14	6	—	1	31	59	25	N	0	0	N	N
Washington	1	1	41	9	9	3	2	43	52	21	N	0	0	N	N
American Samoa	U	0	0	U	U	U	0	2	U	3	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	—	—	—	0	0	—	1	—	0	0	—	—
Puerto Rico	—	0	1	—	1	—	0	1	1	—	N	0	0	N	N
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.
† Includes *E. coli* O157:H7; Shiga toxin positive, serogroup non-0157; and Shiga toxin positive, not serogrouped.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 6, 2006, and May 7, 2005 (18th Week)*

Reporting area	*Streptococcus pneumoniae*, invasive disease Drug resistant, all ages					Syphilis, primary and secondary					Varicella (chickenpox)				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005
United States	42	51	332	1,144	1,204	69	169	331	2,542	2,759	897	702	3,127	18,557	10,553
New England	—	2	24	10	112	1	4	17	63	64	34	47	163	525	1,806
Connecticut	U	1	7	U	U	—	0	11	15	3	U	15	67	U	649
Maine	N	0	0	N	N	—	0	2	3	1	—	5	20	85	133
Massachusetts	—	1	6	—	52	1	2	5	36	53	—	4	85	2	998
New Hampshire	—	0	0	—	—	—	0	2	4	3	4	5	38	143	—
Rhode Island	—	0	11	1	6	—	0	6	3	4	—	0	0	—	—
Vermont†	—	0	4	9	9	—	0	1	2	—	30	8	25	295	26
Mid. Atlantic	2	2	15	61	123	10	20	36	350	350	77	111	183	2,186	2,069
New Jersey	N	0	0	N	N	6	2	7	66	44	—	0	0	—	—
New York (Upstate)	—	1	10	16	46	2	2	15	54	25	—	0	0	—	—
New York City	U	0	0	U	U	—	11	21	155	229	—	0	0	—	—
Pennsylvania	2	2	9	45	77	2	4	9	75	52	77	111	183	2,186	2,069
E.N. Central	12	12	40	286	275	8	17	38	280	287	390	155	559	7,409	2,622
Illinois	—	0	2	8	3	—	8	23	116	154	—	1	5	4	34
Indiana	8	3	21	69	81	—	1	5	24	23	N	0	347	N	N
Michigan	—	1	4	9	19	3	2	19	47	29	86	91	231	2,127	1,612
Ohio	4	6	32	200	172	5	4	11	78	72	304	42	423	4,920	742
Wisconsin	N	0	0	N	N	—	1	3	15	9	—	11	41	358	234
W.N. Central	1	1	191	21	25	—	4	9	60	87	18	20	84	767	79
Iowa	N	0	0	N	N	—	0	1	3	4	N	0	0	N	N
Kansas	N	0	0	N	N	—	0	2	9	7	—	0	0	—	—
Minnesota	—	0	191	—	—	—	1	4	11	23	—	0	0	—	—
Missouri	1	1	3	21	22	—	3	8	36	51	17	15	82	720	12
Nebraska†	—	0	1	—	1	—	0	1	1	2	—	0	1	—	—
North Dakota	—	0	1	—	—	—	0	1	—	—	—	0	25	18	10
South Dakota	—	0	1	—	2	—	0	1	—	—	1	1	12	29	57
S. Atlantic	24	23	51	594	477	23	43	182	621	613	32	55	859	1,839	866
Delaware	—	0	2	—	1	1	0	2	10	6	1	1	5	33	12
District of Columbia	—	0	3	19	13	—	2	9	35	36	—	0	5	14	15
Florida	14	13	36	328	244	13	15	29	249	252	—	0	0	—	—
Georgia	10	7	19	207	176	—	8	143	47	83	—	0	0	—	—
Maryland†	—	0	0	—	—	—	5	19	100	93	—	0	0	—	—
North Carolina	N	0	0	N	N	7	5	17	108	82	—	0	0	—	—
South Carolina†	—	0	0	—	—	2	1	7	25	24	—	15	48	447	229
Virginia†	N	0	0	N	N	—	3	12	47	35	23	17	813	639	101
West Virginia	—	2	10	40	43	—	0	1	—	2	8	24	70	706	509
E.S. Central	2	3	14	91	82	2	9	20	184	148	—	0	16	16	—
Alabama†	N	0	0	N	N	—	3	12	84	60	—	0	16	16	—
Kentucky	2	0	5	20	15	2	1	8	29	11	N	0	0	N	N
Mississippi	—	0	0	—	—	—	0	5	11	19	—	0	0	—	—
Tennessee†	—	3	13	71	67	—	4	11	60	58	N	0	0	N	N
W.S. Central	—	1	8	42	79	17	24	37	446	438	274	180	1,717	4,431	1,720
Arkansas	—	0	3	6	6	5	1	6	33	19	26	3	110	330	—
Louisiana	—	1	5	36	73	—	4	17	39	88	—	0	17	82	99
Oklahoma	N	0	0	N	N	4	1	6	27	12	—	0	0	—	—
Texas†	N	0	0	N	N	8	17	30	347	319	248	170	1,607	4,019	1,621
Mountain	1	1	27	39	31	5	8	17	118	149	72	49	135	1,384	1,391
Arizona	N	0	0	N	N	5	3	13	64	47	—	0	0	—	—
Colorado	N	0	0	N	N	—	1	3	10	18	34	35	76	749	956
Idaho†	N	0	0	N	N	—	0	3	2	13	—	0	0	—	—
Montana	—	0	1	—	—	—	0	1	—	5	—	0	0	—	—
Nevada†	—	0	27	1	2	—	2	6	22	41	1	0	2	4	—
New Mexico†	—	0	0	—	—	—	1	5	19	20	—	3	32	198	114
Utah	—	0	8	19	13	—	0	1	1	5	37	9	55	424	278
Wyoming	1	0	3	19	16	—	0	0	—	—	—	0	3	9	43
Pacific	—	0	0	—	—	3	32	45	420	623	—	0	0	—	—
Alaska	—	0	0	—	—	—	0	4	5	4	—	0	0	—	—
California	N	0	0	N	N	2	30	42	332	555	—	0	0	—	—
Hawaii	—	0	0	—	—	—	0	2	7	1	N	0	0	N	N
Oregon†	N	0	0	N	N	—	0	6	5	10	N	0	0	N	N
Washington	N	0	0	N	N	1	2	11	71	53	N	0	0	N	N
American Samoa	—	0	0	—	—	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	—	0	0	—	—	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	26
Puerto Rico	N	0	0	N	N	—	4	16	53	45	1	6	27	96	305
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 May 6, 2006, and May 7, 2005 (18th 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	—	1	154	1	1	—	2	203	—	4
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	—	—	—	0	4	—	—
New Jersey	—	0	1	—	—	—	0	2	—	—
New York (Upstate)	—	0	7	—	—	—	0	2	—	—
New York City	—	0	2	—	—	—	0	2	—	—
Pennsylvania	—	0	3	—	—	—	0	2	—	—
E.N. Central	—	0	39	—	—	—	0	18	—	—
Illinois	—	0	25	—	—	—	0	16	—	—
Indiana	—	0	2	—	—	—	0	1	—	—
Michigan	—	0	14	—	—	—	0	3	—	—
Ohio	—	0	9	—	—	—	0	4	—	—
Wisconsin	—	0	3	—	—	—	0	2	—	—
W.N. Central	—	0	26	—	—	—	0	80	—	—
Iowa	—	0	3	—	—	—	0	5	—	—
Kansas	—	0	3	—	—	N	0	3	N	N
Minnesota	—	0	5	—	—	—	0	5	—	—
Missouri	—	0	4	—	—	—	0	3	—	—
Nebraska§	—	0	9	—	—	—	0	24	—	—
North Dakota	—	0	4	—	—	—	0	15	—	—
South Dakota	—	0	7	—	—	—	0	33	—	—
S. Atlantic	—	0	6	—	—	—	0	4	—	—
Delaware	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	1	—	—	—	0	1	—	—
Florida	—	0	2	—	—	—	0	4	—	—
Georgia	—	0	3	—	—	—	0	3	—	—
Maryland§	—	0	2	—	—	—	0	1	—	—
North Carolina	—	0	1	—	—	—	0	1	—	—
South Carolina§	—	0	1	—	—	—	0	0	—	—
Virginia§	—	0	0	—	—	—	0	1	—	—
West Virginia	—	0	0	—	—	N	0	0	N	N
E.S. Central	—	0	10	1	—	—	0	5	—	—
Alabama§	—	0	1	—	—	—	0	2	—	—
Kentucky	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	9	1	—	—	0	5	—	—
Tennessee§	—	0	3	—	—	—	0	1	—	—
W.S. Central	—	0	32	—	—	—	0	22	—	2
Arkansas	—	0	3	—	—	—	0	2	—	—
Louisiana	—	0	20	—	—	—	0	9	—	2
Oklahoma	—	0	6	—	—	—	0	3	—	—
Texas§	—	0	16	—	—	—	0	13	—	—
Mountain	—	0	16	—	1	—	0	39	—	—
Arizona	—	0	8	—	1	—	0	8	—	—
Colorado	—	0	5	—	—	—	0	13	—	—
Idaho§	—	0	2	—	—	—	0	3	—	—
Montana	—	0	3	—	—	—	0	9	—	—
Nevada§	—	0	3	—	—	—	0	8	—	—
New Mexico§	—	0	3	—	—	—	0	4	—	—
Utah	—	0	6	—	—	—	0	8	—	—
Wyoming	—	0	2	—	—	—	0	1	—	—
Pacific	—	0	50	—	—	—	0	90	—	2
Alaska	—	0	0	—	—	—	0	0	—	—
California	—	0	50	—	—	—	0	89	—	2
Hawaii	—	0	0	—	—	—	0	0	—	—
Oregon§	—	0	1	—	—	—	0	2	—	—
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).

TABLE III. Deaths in 122 U.S. cities,* week ending May 6, 2006 (18th Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
New England	596	433	115	33	7	8	61
Boston, MA	134	90	31	5	5	3	22
Bridgeport, CT	30	25	5	—	—	—	3
Cambridge, MA	21	16	3	2	—	—	4
Fall River, MA	31	26	2	2	1	—	4
Hartford, CT	50	32	13	5	—	—	1
Lowell, MA	15	14	1	—	—	—	1
Lynn, MA	11	7	4	—	—	—	3
New Bedford, MA	25	17	7	1	—	—	1
New Haven, CT	47	30	11	5	—	1	5
Providence, RI	74	58	10	2	1	3	6
Somerville, MA	6	3	3	—	—	—	—
Springfield, MA	43	34	8	1	—	—	6
Waterbury, CT	33	22	7	4	—	—	1
Worcester, MA	76	59	10	6	—	1	4
Mid. Atlantic	1,885	1,347	384	94	28	31	93
Albany, NY	48	30	14	2	1	1	1
Allentown, PA	21	18	3	—	—	—	—
Buffalo, NY	66	45	13	4	1	3	1
Camden, NJ	26	15	7	2	—	2	—
Elizabeth, NJ	18	11	2	3	—	1	—
Erie, PA	45	35	9	1	—	—	2
Jersey City, NJ	50	35	13	1	—	1	—
New York City, NY	1,026	743	201	51	15	16	51
Newark, NJ	58	32	16	8	1	1	6
Paterson, NJ	16	11	2	2	1	—	—
Philadelphia, PA	211	154	44	11	2	—	10
Pittsburgh, PA§	33	18	13	—	—	2	—
Reading, PA	21	16	5	—	—	—	1
Rochester, NY	119	91	21	1	3	3	13
Schenectady, NY	22	20	1	—	1	—	2
Scranton, PA	29	20	6	2	1	—	2
Syracuse, NY	27	21	2	2	1	1	3
Trenton, NJ	22	12	6	3	1	—	1
Utica, NY	11	8	2	1	—	—	—
Yonkers, NY	16	12	4	—	—	—	—
E.N. Central	2,195	1,461	485	135	57	57	139
Akron, OH	49	32	14	3	—	—	3
Canton, OH	41	31	8	1	—	1	3
Chicago, IL	364	228	84	34	9	9	35
Cincinnati, OH	89	62	18	2	2	5	11
Cleveland, OH	246	185	51	9	1	—	8
Columbus, OH	197	147	36	7	3	4	11
Dayton, OH	127	90	32	4	1	—	12
Detroit, MI	220	112	59	23	9	17	10
Evansville, IN	39	27	7	4	—	1	1
Fort Wayne, IN	59	41	12	2	3	1	8
Gary, IN	15	8	4	2	1	—	—
Grand Rapids, MI	53	40	5	2	3	3	4
Indianapolis, IN	205	130	50	17	3	5	11
Lansing, MI	49	32	14	1	1	1	—
Milwaukee, WI	126	76	33	7	9	1	6
Peoria, IL	54	29	14	2	6	3	3
Rockford, IL	64	49	10	3	—	2	1
South Bend, IN	61	40	10	6	3	2	2
Toledo, OH	78	56	15	4	3	—	2
Youngstown, OH	59	46	9	2	—	2	8
W.N. Central	590	390	128	51	14	7	35
Des Moines, IA	50	32	11	3	4	—	4
Duluth, MN	30	26	1	2	1	—	5
Kansas City, KS	23	11	10	2	—	—	2
Kansas City, MO	81	63	10	4	1	3	7
Lincoln, NE	53	39	12	2	—	—	2
Minneapolis, MN	65	34	19	11	1	—	2
Omaha, NE	106	76	20	7	—	3	6
St. Louis, MO	62	26	18	13	5	—	3
St. Paul, MN	53	42	7	3	1	—	1
Wichita, KS	67	41	20	4	1	1	3
S. Atlantic	1,304	790	352	95	40	27	89
Atlanta, GA	173	100	49	17	4	3	3
Baltimore, MD	197	115	55	16	9	2	26
Charlotte, NC	92	57	19	8	5	3	8
Jacksonville, FL	152	94	41	8	5	4	7
Miami, FL	132	87	29	10	5	1	7
Norfolk, VA	46	20	20	3	—	3	4
Richmond, VA	36	19	11	4	—	2	2
Savannah, GA	81	42	29	5	2	3	1
St. Petersburg, FL	67	34	27	1	3	2	9
Tampa, FL	200	135	43	17	4	1	13
Washington, D.C.	110	76	24	5	3	2	4
Wilmington, DE	18	11	5	1	—	1	5
E.S. Central	773	517	166	54	25	11	49
Birmingham, AL	170	121	28	14	4	3	13
Chattanooga, TN	64	44	13	4	3	—	5
Knoxville, TN	107	68	31	6	2	—	3
Lexington, KY	63	39	14	8	2	—	—
Memphis, TN	139	85	31	10	9	4	10
Mobile, AL	63	46	13	3	—	1	6
Montgomery, AL	35	29	5	1	—	—	4
Nashville, TN	132	85	31	8	5	3	8
W.S. Central	1,442	911	360	101	29	41	88
Austin, TX	92	64	26	2	—	—	10
Baton Rouge, LA	30	23	6	1	—	—	3
Corpus Christi, TX	51	28	13	5	3	2	5
Dallas, TX	189	120	38	20	3	8	9
El Paso, TX	101	72	17	6	3	3	2
Fort Worth, TX	113	67	37	2	—	7	4
Houston, TX	342	191	98	35	6	12	11
Little Rock, AR	68	43	16	5	3	1	4
New Orleans, LA¶	U	U	U	U	U	U	U
San Antonio, TX	250	171	60	11	5	3	29
Shreveport, LA	63	37	17	4	1	4	7
Tulsa, OK	143	95	32	10	5	1	4
Mountain	932	599	201	65	39	28	71
Albuquerque, NM	133	84	32	10	5	2	14
Boise, ID	42	26	10	2	3	1	5
Colorado Springs, CO	59	39	12	3	4	1	3
Denver, CO	76	51	17	2	1	5	4
Las Vegas, NV	269	175	65	15	9	5	21
Ogden, UT	34	24	6	2	1	1	1
Phoenix, AZ	182	112	31	21	12	6	7
Pueblo, CO	33	25	6	1	—	1	4
Salt Lake City, UT	104	63	22	9	4	6	12
Tucson, AZ	U	U	U	U	U	U	U
Pacific	1,864	1,323	390	88	40	23	164
Berkeley, CA	16	8	8	—	—	—	3
Fresno, CA	155	115	31	5	2	2	10
Glendale, CA	18	14	4	—	—	—	1
Honolulu, HI	142	114	20	2	2	4	—
Long Beach, CA	61	38	17	3	2	1	7
Los Angeles, CA	362	267	70	19	4	2	37
Pasadena, CA	20	12	6	—	—	2	5
Portland, OR	134	85	36	6	5	2	8
Sacramento, CA	201	145	37	11	4	4	11
San Diego, CA	165	110	36	12	6	1	12
San Francisco, CA	138	93	28	11	6	—	26
San Jose, CA	153	120	24	2	4	3	19
Santa Cruz, CA	34	21	10	3	—	—	4
Seattle, WA	121	78	30	7	5	1	10
Spokane, WA	54	37	14	3	—	—	7
Tacoma, WA	90	66	19	4	—	1	4
Total	11,581**	7,771	2,581	716	279	233	789

U: Unavailable. —:No reported cases.

* Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of ≥100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

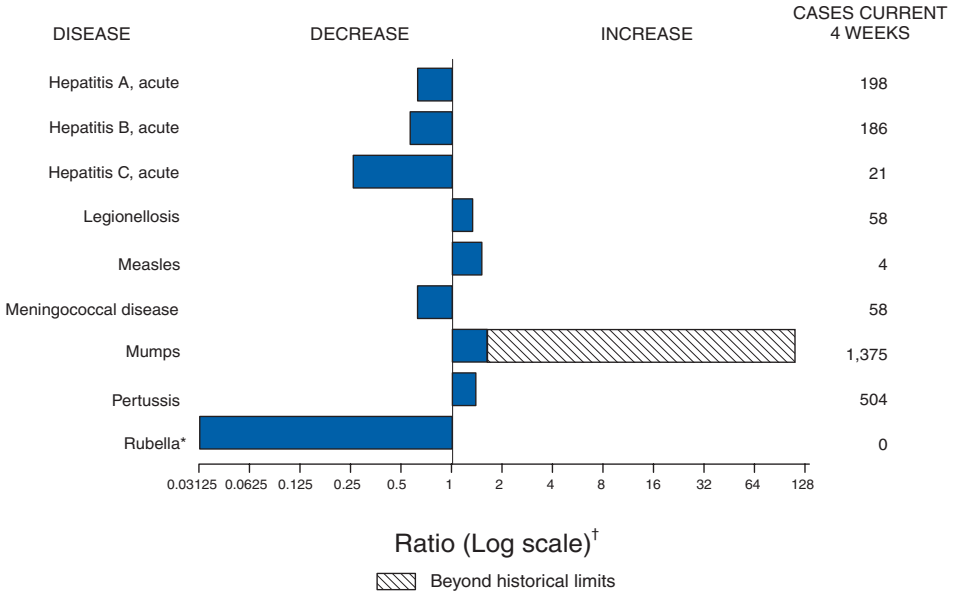
† Pneumonia and influenza.

§ Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶ Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted.

** Total includes unknown ages.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals May 6, 2006, with historical data



* No rubella cases were reported for the current 4-week period yielding a ratio for week 18 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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