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Acute Respiratory Distress Syndrome in Persons with Tickborne Relapsing Fever — Three States, 2004–2005

Tickborne relapsing fever (TBRF) is a bacterial illness caused by certain species of *Borrelia* and transmitted through brief and painless bites from *Ornithodoros* ticks (*1,2*). Illness usually is characterized by intermittent periods of fever, fatigue, and muscle aches. In April 2005, CDC received reports of two cases of severe TBRF associated with acute respiratory distress syndrome (ARDS) in residents of California and Nevada. After a report describing these cases was posted on CDC's Epidemic Information Exchange (Epi-X), health officials in Washington reported a third severe case associated with ARDS. This report summarizes these three cases and the results of the subsequent epidemiologic investigations. The findings indicate that ARDS might occur more frequently in patients with TBRF than previously recognized. Optimal management of TBRF requires both prompt diagnosis and careful observation during the initial phases of treatment.

Case Reports

Nevada. On February 17, 2005, a previously healthy woman aged 46 years from Washoe County, Nevada, had onset of nonspecific leg pain, which progressed during the next 24 hours to generalized myalgia. She visited a local hospital emergency department (ED), where a viral syndrome was diagnosed. She was treated with intravenous (IV) fluids and pain medication and discharged home. Two days later, she returned to the ED with fever, chills, fatigue, anorexia, nausea, and an episode of syncope. On arrival, she was noted to be tachycardic (130 beats per minute [bpm]), tachypneic (24 breaths per minute), and hypotensive (systolic blood pressure: 89 mm Hg) with a temperature of 96.8°F (36.0°C). A physical examination was otherwise unremarkable. Pulse oximetry on room air indicated an oxygen saturation of 96%. Initial laboratory testing revealed a white blood cell count (WBC) of 11.4 × $10^3/\mu$L, hemoglobin level of 13 g/dL, platelet count of 66 × $10^3/\mu$L, and alanine aminotransferase (ALT) of 153 U/L. A chest radiograph revealed a right middle lobe infiltrate, consistent with community-acquired pneumonia.

She was treated with gatifloxacin and transferred to the intensive care unit (ICU). Approximately 10 hours after admission, she was intubated for worsening tachypnea (respiratory rate [RR]: 40 breaths per minute). Diffuse bilateral infiltrates were noted on chest radiograph, and an arterial blood gas sample yielded oxygenation of 53 mmHg on 100% inspired oxygen. The patient's antimicrobial treatment was broadened to include vancomycin and doxycycline. The next day, the treating physician was notified that spirochetes were observed during examination of a blood smear obtained when the patient was admitted; the smear had been manually reviewed because of thrombocytopenia.

INSIDE

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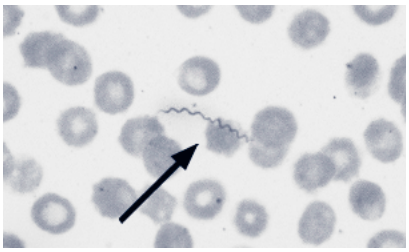
The patient remained intubated for 12 days for what was ultimately determined to be ARDS. During this time, she was administered three additional antimicrobials (ciprofloxacin, tobramycin, and ceftriaxone) and drotrecogin-α.* She was discharged after 21 days and recovered completely. The causative organism was identified as *Borrelia hermsii* by polymerase chain reaction (PCR) performed on a whole blood sample and serologic testing of convalescent-phase serum, both performed at CDC. Although the patient did not recall receiving a tick bite, she did report staying at a resort near South Lake Tahoe (an area known to be highly endemic for TBRF) 5 days before becoming ill.

California. On April 12, 2005, a previously healthy woman aged 43 years from El Dorado County, California, had onset of lethargy and myalgia. She went to a local hospital ED on April 14 with fever, chills, headache, myalgia, and dehydration. She was febrile (100.5°F [38.1°C]), tachycardic (138 bpm), mildly tachypneic (16 breaths per minute), and hypotensive (systolic blood pressure: 97 mm Hg). A physical examination was otherwise unremarkable. Pulse oximetry on room air indicated an oxygen saturation of 97%. A chest radiograph was not obtained, but initial blood tests indicated an elevated bilirubin level of 3.6 mg/dL, aspartate aminotransferase (AST) of 93 U/L, and ALT of 88 U/L. She was treated with acetaminophen and discharged home with instructions to return for reevaluation of blood tests the next day.

The patient returned the next day with headache, sweating, fatigue, and nausea. A physical examination revealed rhonchi; a chest radiograph was obtained and read as normal. She was treated with IV fluids and IV ceftriaxone. Within 1 hour of receiving antibiotics, her pulse increased to 127 bpm, her systolic blood pressure decreased to 85 mm Hg, and pulse oximetry on room air indicated an oxygen saturation of 95%. TBRF was diagnosed by observation of spirochetes in smears of peripheral blood (Figure). The patient was treated with dopamine for hypotension and doxycycline for TBRF and transferred to another medical center. Shortly after arrival, a chest radiograph taken because of worsening respiratory distress demonstrated diffuse bilateral infiltrates. The patient was intubated for respiratory failure (RR: 44 breaths per minute; oxygen saturation of 82% on 100% inspired oxygen via nonrebreather mask) attributed to ARDS. Laboratory testing revealed a WBC of $3.4 \times 10^3/\mu$L, hemoglobin level of 11.4 g/dL, and

* Drotrecogin-α (Xigris®) primarily is used to treat severe sepsis. The drug is a recombinant form of human activated protein C that has antithrombocytic, antiinflammatory, and profibrinolytic properties.

FIGURE. Spirochete (noted by arrow) on peripheral blood smear obtained from California patient (Giemsa stain)



Photo/CDC

platelet count of 19 × $10^3/\mu$L. Platelets and fresh frozen plasma were administered.

The patient remained intubated for 10 days, during which she was administered four different antimicrobials (vancomycin, piperacillin/tazobactam, metronidazole, and doxycycline) and drotrecogin-a. She was discharged after 19 days of hospitalization and eventually recovered from her illness. A blood sample obtained early in illness and cultured at CDC yielded *B. hermsii*. An environmental investigation was conducted at her home, located 5 miles south of Lake Tahoe and approximately 10 miles from the resort visited by the Nevada patient. An engorged soft tick was found in her bedroom, and removal of house siding revealed multiple rodent nests from which approximately 30 *Ornithodoros hermsi* ticks were recovered.

Washington. A woman aged 40 years from King County, Washington, visited a hospital ED on September 21, 2004, with myalgia, arthralgia, nausea, vomiting, and headache. She was treated with IV fluids, promethazine, and hydrocodone. Hospital admission was recommended, but she refused. After experiencing a syncopal episode at home, she returned and was noted to be febrile (102°F [38.9°C]), hypotensive (systolic blood pressure: 100 mm Hg), mildly tachycardic (107 bpm), and hypoxic (oxygen saturation: 92% on 4 L of oxygen). A physical examination was otherwise unremarkable. Her chest radiograph revealed bilateral lower lobe infiltrates. Initial laboratory studies indicated a WBC of 9.5 x $10^3/\mu$L, hematocrit of 33%, platelet count of 49 x $10^3/\mu$L, ALT of 192 U/L, and a D-dimer of 754. She was admitted for presumed community-acquired pneumonia with sepsis and treated empirically with IV cefuroxime and azithromycin. After receiving the cefuroxime, she was transiently hypotensive and became somnolent. She was intubated and transferred to the ICU with a diagnosis of ARDS and worsening mental status.

Because of thrombocytopenia, a peripheral blood smear was examined, revealing spirochetes diagnostic of TBRF. Her transient hypotension was attributed to a Jarisch-Herxheimer reaction (JHR).† She remained intubated for 3 days, was discharged home after 10 days, and eventually recovered from her illness. The most likely site of exposure was a forest cabin in Chelan County, Washington, where she had slept approximately 11 days before illness onset. On inspection, the cabin had evidence of rodent infestation; however, attempts to trap ticks and rodents were unsuccessful.

Epidemiologic Investigations

To determine the frequency of ARDS among patients with TBRF acquired in the South Lake Tahoe area, case-report forms for all TBRF cases reported to Nevada and California state and local health departments during 1995–2004 were reviewed. Additionally, cases were ascertained by 1) a computerized search of discharge records from Lake Tahoe area hospitals where cases had been diagnosed; 2) interviews with physicians and laboratorians from area hospitals and private practices where cases had been diagnosed; and 3) postings on Epi-X and the Emerging Infections Network.

Including the California and Nevada cases described in this report, 65 cases of TBRF among persons who reported living in or visiting the Lake Tahoe area during the usual incubation period of 2–18 days before illness onset were ascertained. Thirty (46%) were in patients who required hospitalization. Detailed clinical information from medical records was available for 38 (58%) patients. Among these 38 patients, 16 (42%) experienced one or more of the following complications: eight (21%), JHR; six (16%), hypoxia; five (13%), elevated liver enzyme levels; three (8%), arrhythmia or myocarditis; two (5%), azotemia; and two (5%), ARDS.

TBRF cases in Washington state were similarly reviewed by using all case reports submitted to the state health department during 1996–2005. Including the single case described in this report, 46 TBRF cases were reported in Washington during 1996–2005, of which 37 (80%) were in patients who required hospitalization. Comments on case-report forms indicated that five (13%) patients required care in an ICU, three (6%) had JHR, and three (6%) had ARDS. All three ARDS cases occurred after 2001.

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† JHR is an acute exacerbation of symptoms, attributed to decreasing bacterial numbers and a massive cytokine release, which can occur during initial treatment of spirochetal infections (e.g., relapsing fever and syphilis) with an effective antibiotic. Symptoms include hypotension, tachycardia, chills, rigors, diaphoresis, and elevated body temperature (*1*).

DVM, J Mohle-Boetani, MD, California Dept of Health Svcs. C Skilton, MS, Public Health Seattle–King County, Washington. K Kugeler, MPH, M Schriefer, PhD, P Mead, MD, Div of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases; L Minicucci, DVM, E Sergienko, MD, JE Staples, MD, C Wheeler, MD, EIS officers, CDC.

Editorial Note: Although TBRF is not a nationally notifiable disease, it is a reportable condition in 11 western states. Each year, approximately 25 cases are reported to CDC, all among residents of or visitors to western states where the disease is endemic (CDC, unpublished data, 2007). Most cases are caused by *B. hermsii*, which is transmitted to humans through the bite of *O. hermsi* ticks (*1,2*). These ticks typically feed for less than 30 minutes and usually at night; consequently, most patients do not recall being bitten. Rodents are vertebrate reservoirs for the disease, and cabins or homes located at elevations of 2,000–7,000 feet in coniferous forests are common exposure sites. Outbreaks associated with such sites have been reported from Arizona, California, Colorado, Montana, New Mexico, and Washington (*3–8*).

Clinical symptoms of TBRF have included fever, headache, myalgia, chills, and nausea. Without antimicrobial treatment, patients typically experience multiple episodes of febrile illness. Rarely reported complications include uveitis, cranial nerve palsy, myocarditis, splenic rupture, and JHR (*1,2*). Only one case of TBRF with ARDS has been described previously (*9*), and this case occurred in a woman who was pregnant and therefore more susceptible to severe TBRF (*10*).

Results of this investigation indicate that ARDS might occur more frequently in patients with TBRF than previously recognized and can occur in persons without predisposing conditions. All cases of TBRF-associated ARDS identified in this review occurred after 2001, but further surveillance will be needed to determine whether the risk for ARDS in TBRF is increasing. Increases might be related to changes in medical practice, use of newer antimicrobials, or possibly the emergence of a more virulent strain. All three cases described in this report occurred in women, but no common medical history (e.g., menopausal status, hormone replacement therapy, or oral contraceptive use) was identified. All three patients had received antimicrobial treatment before onset of ARDS; however, whether they had ARDS as a result of JHR or underlying sepsis could not be determined.

The findings in this report are subject to at least two limitations. First, cases were evaluated in only two geographic areas; therefore, results might not be generalizable to the endemic western states. Second, TBRF is not a nationally notifiable disease, and each state has different reporting requirements; therefore, case information is subject to underreporting and ascertainment bias. These methodological differences might have affected the observed rates of hospitalization and classification of ARDS.

Health-care professionals should report suspected TBRF cases to local or state health departments, providing a thorough clinical and exposure history and, as appropriate, samples (i.e., serum or whole blood) for diagnostic testing. The observation of spirochetes in a Wright- or Giemsa-stained peripheral blood smear collected during a febrile episode is considered diagnostic of TBRF and is not typical of other spirochetal infections (*1*). Laboratory diagnosis also can be made by culture, serology, or PCR of serum and blood at certain reference laboratories.

TBRF can be prevented by minimizing rodent infestations in homes. Health officials in endemic areas should consider educational measures that increase awareness of potential exposures, demonstrate methods for rodent proofing dwellings, and promote early recognition of cases by health-care professionals (*5*). These measures are especially important in mountainous resort areas that serve numerous visitors.

Acknowledgment

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Emergence of Antimicrobial-Resistant Serotype 19A *Streptococcus pneumoniae* — Massachusetts, 2001–2006

Streptococcus pneumoniae (pneumococcus) is a leading cause of otitis, sinusitis, pneumonia, and meningitis worldwide. Treatment of the most serious type of pneumococcal infection, invasive pneumococcal disease (IPD),* is complicated by antimicrobial resistance. Widespread introduction in 2000 of heptavalent pneumococcal conjugate vaccine (PCV7) against serotypes 4, 6B, 9V, 14, 18C, 19F, and 23F resulted in a decline in antimicrobial-nonsusceptible IPD in the United States (*1*,*2*), including in Massachusetts (*3*). However, development of antimicrobial resistance in serotypes not covered by PCV7 is a growing concern (*1*,*4*). In Massachusetts during 2001–2006, IPD surveillance identified an increased number of cases in children caused by pneumococcal serotypes (most notably 19A) not covered by PCV7 and an associated increase in antimicrobial resistance among these isolates. This report examines these trends and clinical characteristics of Massachusetts patients with antimicrobial-nonsusceptible, non–PCV7-type IPD. The findings indicated that, despite increases in incidence of antimicrobial-nonsusceptible IPD, overall rates of IPD remained stable during 2001–2006. In addition, persons with IPD caused by antimicrobial-nonsusceptible *S. pneumoniae* had clinical outcomes comparable to persons with IPD caused by antimicrobial-susceptible serotypes. Although PCV7 is effective in preventing IPD, these results confirm that antimicrobial resistance among serotypes not covered by PCV7 remains a concern.

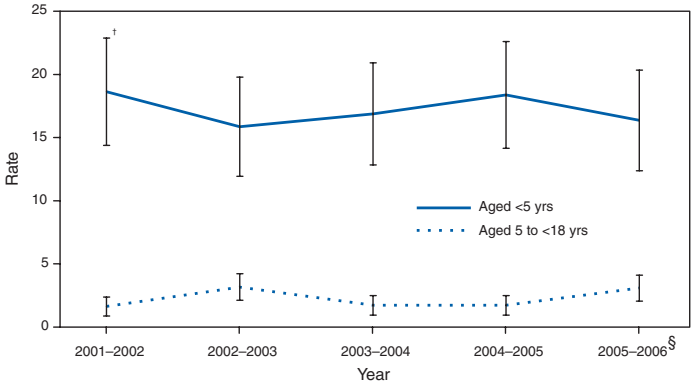
On October 1, 2001, the Massachusetts Department of Public Health and the Section of Pediatric Infectious Diseases at Boston University Medical Center initiated statewide laboratory- and population-based surveillance for IPD among children.† For this report, cases of IPD were defined by isolation of pneumococcus from a normally sterile body site (e.g., blood or cerebrospinal, pleural, or joint fluid) in a Massachusetts resident aged <18 years during October 1, 2001–September 30, 2006. Demographic and clinical data were obtained from telephone interviews with primary-care providers or adult caregivers. PCV7 vaccination rates were estimated using CDC's National Immunization Survey.§

Serotyping was performed at Boston University Medical Center, using the Quellung reaction with pneumococcal antisera. Susceptibility to five antimicrobials often used in pediatric patients (i.e., amoxicillin, penicillin, ceftriaxone, azithromycin, and trimethoprim-sulfamethoxazole) was determined by E-test (epsilometer test, an agar diffusion method), and interpretations were based on Clinical and Laboratory Standards Institute 2007 guidelines (*5*). For each antimicrobial agent tested, isolates with either intermediate-level or high-level antimicrobial resistance were considered nonsusceptible to the antimicrobial agent unless otherwise indicated. Population denominators were obtained from 2000–2005 census figures. Mantel-Haenszel chi-square test for trend was used to identify changes in serotype distribution or antimicrobial resistance over time. Chi-square or Fisher's exact tests of proportions were used to compare risk factors and clinical characteristics of disease. Because IPD surveillance did not begin until after introduction of PCV7, no data on pre-PCV7 susceptibility were available for comparison.

PCV7 was administered widely to Massachusetts children beginning in 2000. Although PCV7 shortages occurred nationwide, shortages were moderate in Massachusetts. By 2005, approximately 95% of Massachusetts children aged 19–35 months had received ≥3 PCV7 doses.

During October 2001–September 2006, surveillance identified 467 cases of IPD in Massachusetts residents aged <18 years. Throughout this period, annual IPD incidence rates were stable, ranging from 15.9 to 18.6 per 100,000 children aged <5 years (Figure 1); rates were approximately 70% lower than the pre-PCV7 annual IPD incidence of 56.9 per 100,000 children aged <5 years documented in

FIGURE 1. Incidence rate* for invasive pneumococcal disease among persons aged <5 years and aged 5 to <18 years — Massachusetts, October 1, 2001–September 30, 2006



* Per 100,000 population.
† 95% confidence interval.
§ Data are preliminary for 2005–2006.

* IPD is defined by isolation of *S. pneumoniae* from a normally sterile body site (e.g., blood or cerebrospinal, pleural, or joint fluid).
† Partial support for the IPD surveillance was provided by Wyeth as part of the investigator-initiated proposal.
§ Information available at http://www.cdc.gov/vaccines/stats-surv/imz-coverage.htm#nis.

surveillance during 1990–1991 (*6*). A total of 353 isolates (76%) from 467 cases were available for serotyping. During 2001–2006, a total of 94 (27%) isolates were serotype 19A. During that period, the number and percentage of IPD cases caused by serotype 19A increased from six (10% of all cases) during 2001–2002 to 33 (41%) during 2005–2006 (p<0.01) (Figure 2). No significant changes were noted in the proportions of IPD caused by other PCV7 or PCV7-related serotypes or by non-PCV7 serogroups (Figure 2).

Because 19A was the most common serotype isolated during 2005–2006, the antimicrobial susceptibility of 19A isolates was examined further (Table). The majority of 19A isolates were nonsusceptible to penicillin. During 2001–2006, significant increases were noted in the proportion of 19A isolates that were nonsusceptible to amoxicillin (minimum inhibitory concentration [MIC] >2 μg/mL), ceftriaxone (MIC >0.5 μg/mL), or three or more classes of antimicrobials (Table). Fourteen (15%) of 94 isolates of 19A were highly resistant to ceftriaxone (MIC ≥2 μg/ml), a first-line antimicrobial used for empiric bacterial meningitis treatment. No significant trends in the antimicrobial resistance of non-19A isolates were noted.

To describe the clinical features of and identify risk factors for infection with ceftriaxone-nonsusceptible serotype 19A, demographic and clinical characteristics of the 14 patients with highly ceftriaxone-resistant 19A IPD were compared with those of 73 patients with ceftriaxone-susceptible 19A IPD and 237 patients with ceftriaxone-susceptible non-19A IPD. The results indicated that patients with highly ceftriaxone-resistant 19A disease did not differ from the other groups with regard to established risk factors for antimicrobial-nonsusceptible pneumococcal disease, including age, sex, race/ethnicity, geographic region, degree of household crowding, or day care exposure. Underlying medical conditions that might predispose to IPD (e.g., sickle cell disease or congenital or acquired immune deficiencies) were not significantly more common among patients with highly ceftriaxone-resistant 19A IPD (three of 14 [21%]) than among patients in the ceftriaxone-susceptible 19A group (nine of 73 [12%]) or the non-19A group (33 of 237 [14%]). In addition, no significant differences among the three groups were detected in the proportion of patients with meningitis, pneumonia, or bacteremia without focus, case-fatality ratios, rates of hospitalization (79% versus 68% and 59%, respectively), or longer hospital stay (64% with ≥4 days versus 40% and 51%, respectively).

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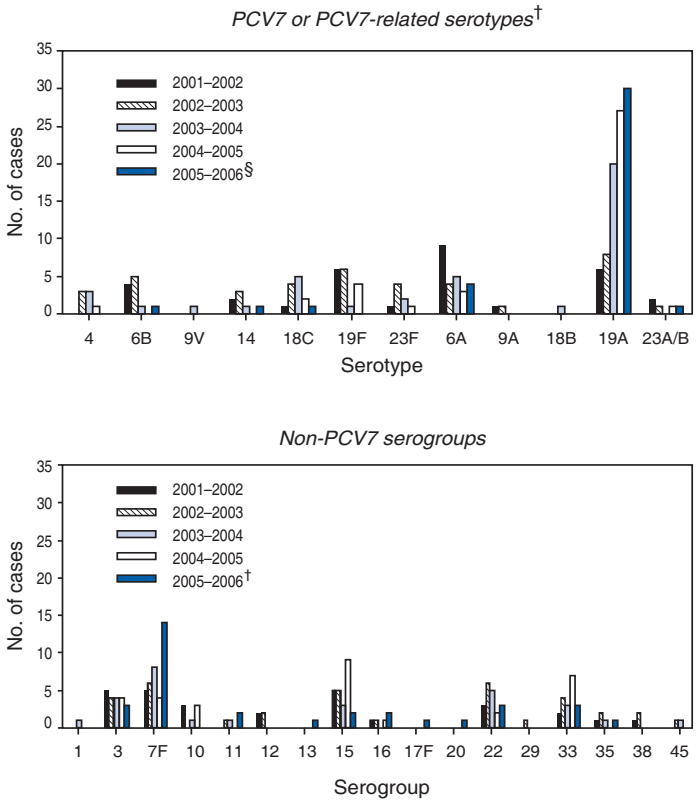
Editorial Note: During 2001–2006, Massachusetts surveillance identified an increase in the proportion of childhood IPD cases caused by serotype 19A and increasing resistance of 19A isolates to commonly used antimicrobials. Increases in the proportion of IPD caused by pneumococcal serotypes not covered by PCV7 have been reported previously (*1,4,7,8*). In Massachusetts and in other states, serotype 19A has emerged as the most common cause of IPD, and the proportion of 19A isolates that are nonsusceptible to commonly used antimicrobials is greater than the proportion for other serotypes (*1,4*). As a member of the same serogroup as the PCV7-type 19F, serotype 19A is considered a PCV7-related serotype. However, PCV7-induced antibodies to 19F are not active against serotype 19A (*9*).

FIGURE 2. Number of cases of invasive pneumococcal disease among persons aged <18 years, by PCV7* status of *Streptococcus pneumoniae* serotypes — Massachusetts, October 1, 2001–September 30, 2006



* Heptavalent pneumococcal conjugate vaccine.
† PCV7-related serotypes are in the same serogroups as PCV7 vaccine serotypes (4, 6B, 9V, 14, 18C, 19F, and 23F).
§ Data are preliminary for 2005–2006.

TABLE. Antimicrobial nonsusceptibility of invasive *Streptococcus pneumoniae* isolates from persons aged <18 years, by serotype and antimicrobial — Massachusetts, October 1, 2001–September 30, 2006

	2001–2002				2002–2003				2003–2004				2004–2005				2005–2006*				Total			
	19A (n = 6)		Non-19A (n = 54)		19A (n = 8)		Non-19A (n = 66)		19A (n = 20)		Non-19A (n = 48)		19A (n = 27)		Non-19A (n = 43)		19A (n = 33)		Non-19A (n = 48)		19A (n = 94)		Non-19A (n = 259)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Amoxicillin	0	—†	0	—	1	(13)†	2	(3)	0	—†	1	(2)	6	(22)†	1	(2)	10	(30)†	0	—	**17**	**(18)**	**4**	**(2)**
Penicillin	5	(83)	12	(22)	5	(63)	12	(18)	14	(70)	26	(54)	17	(63)	9	(21)	20	(61)	11	(23)	**61**	**(65)**	**70**	**(27)**
Ceftriaxone, high resistance§	0	—†	3	(6)	1	(13)†	3	(5)	0	—†	0	—	5	(19)†	1	(2)	8	(24)†	1	(2)	**14**	**(15)**	**8**	**(3)**
Ceftriaxone, intermediate resistance	0	—	2	(4)	0	—	4	(6)	0	—	1	(2)	1	(4)	0	—	4	(12)	3	(6)	**5**	**(5)**	**10**	**(4)**
Azithromycin	2	(33)	22	(41)	4	(50)	24	(36)	5	(25)	7	(15)	8	(30)	16	(37)	22	(67)	22	(46)	**41**	**(44)**	**91**	**(35)**
Trimethoprim-sulfamethoxazole	1	(17)	13	(24)	2	(25)	17	(26)	3	(15)	10	(21)	9	(33)	12	(28)	15	(45)	8	(17)	**30**	**(32)**	**60**	**(23)**
Three or more antibiotic classes	0	—†	5	(9)	1	(13)†	6	(9)	3	(15)†	3	(6)	7	(26)†	3	(7)	14	(42)†	4	(8)	**25**	**(27)**	**21**	**(8)**

* Data are preliminary for 2005–2006.
† p<0.05; Mantel-Haenszel chi-square test for trend.
§ Clinical and Laboratory Standards Institute. Performance standards for antimicrobial susceptibility testing. Seventeenth informational supplement. Approved standard M100-S17. Wayne, PA: Clinical and Laboratory Standards Institute; 2007.

Concern exists that emergence of antimicrobial-nonsusceptible non–PCV7-type IPD could erode the success of PCV7 against pneumococcal infections. The limited number of 19A cases restricted the ability of this study to identify risk factors or characteristic clinical features of antimicrobial-nonsusceptible 19A disease. However, the study found no evidence that infections caused by antimicrobial-nonsusceptible serotype 19A had different clinical syndromes or outcomes than infections caused by antimicrobial-susceptible 19A. Despite the lack of continuous surveillance data before PCV7 introduction, the overall stability of IPD incidence in Massachusetts during the study period indicates that the decline in IPD resulting from PCV7 introduction is being maintained (*3*,*6*). Furthermore, antimicrobial-nonsusceptible infections have not negated the positive impact of PCV7. Accordingly, vaccination with PCV7 remains a priority in Massachusetts.

Nonetheless, the emergence of antimicrobial-nonsusceptible non–PCV7-type IPD is of concern. Continued surveillance for IPD in Massachusetts will provide data on the clinical impact of antimicrobial-nonsusceptible 19A infection and will be useful in development and monitoring of new pneumococcal vaccines.

The findings in this report support the continued empiric use of combination therapy with vancomycin and cefotaxime or ceftriaxone (the antimicrobials of choice to treat nonsusceptible pneumococci) for children with bacterial meningitis caused by, or possibly caused by, *S. pneumoniae*, and for critically ill children with nonmeningeal IPD (*10*). Antimicrobial-resistance data obtained through surveillance will continue to guide empiric treatment regimens for IPD in Massachusetts and provide data that can be used to tailor treatment recommendations to state-specific resistance patterns. State-based surveillance also will help detect trends in the emergence of nonsusceptible non-PCV7 IPD.

The recent development of polymerase chain reaction (PCR)-based serotyping provides the opportunity for state public health laboratories and academic partners to identify IPD isolates by serotype. Serotyping based on the Quellung reaction requires expensive reagents and substantial training and experience to perform reliably. In contrast, PCR-based serotyping can be performed using commercially available reagents and equipment and technical expertise already available in most state public health laboratories.[¶] If applied in other states, these techniques might increase understanding of IPD trends that have occurred nationally since introduction of PCV7.

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Update: Prevention of Hepatitis A After Exposure to Hepatitis A Virus and in International Travelers. Updated Recommendations of the Advisory Committee on Immunization Practices (ACIP)

In 1995, highly effective inactivated hepatitis A vaccines were first licensed in the United States for preexposure prophylaxis against hepatitis A virus (HAV) among persons aged ≥2 years. In 2005, vaccine manufacturers received Food and Drug Administration approval for use of the vaccines in children aged 12–23 months (*1*).

The Advisory Committee on Immunization Practices (ACIP) issued recommendations for preexposure use of hepatitis A vaccine in 1996, 1999, and 2006 (*1*). Currently, ACIP recommends hepatitis A vaccination of all children at age 12–23 months, catch-up vaccination of older children in selected areas, and vaccination of persons at increased risk for hepatitis A (e.g., travelers to endemic areas, users of illicit drugs, or men who have sex with men) (*1*).

For decades, immune globulin (IG) has been recommended for prophylaxis after exposure to HAV (*1*). IG also has been recommended in addition to hepatitis A vaccine for preexposure prophylaxis for travelers to countries with high or intermediate hepatitis A endemicity who are scheduled to depart <4 weeks after receiving the initial vaccine dose. This report details updated recommendations, made by ACIP in June 2007, for prevention of hepatitis A after exposure to HAV and in departing international travelers (Box) and incorporates existing ACIP recommendations for prevention of hepatitis A (*1*).

BOX. Summary of updated recommendations for prevention of hepatitis A after exposure to hepatitis A virus (HAV) and in departing international travelers

Postexposure prophylaxis

Persons who recently have been exposed to HAV and who previously have not received hepatitis A vaccine should be administered a single dose of single-antigen hepatitis A vaccine or immune globulin (IG) (0.02 mL/kg) as soon as possible.

- For healthy persons aged 12 months–40 years, single-antigen hepatitis A vaccine at the age-appropriate dose is preferred.
- For persons aged >40 years, IG is preferred; vaccine can be used if IG cannot be obtained.
- For children aged <12 months, immunocompromised persons, persons who have had chronic liver disease diagnosed, and persons for whom vaccine is contraindicated, IG should be used.

International travel

All susceptible persons traveling to or working in countries that have high or intermediate hepatitis A endemicity should be vaccinated or receive IG before departure. Hepatitis A vaccine at the age-appropriate dose is preferred to IG. The first dose of hepatitis A vaccine should be administered as soon as travel is considered.

- One dose of single-antigen hepatitis A vaccine administered at any time before departure can provide adequate protection for most healthy persons.
- Older adults, immunocompromised persons, and persons with chronic liver disease or other chronic medical conditions planning to depart to an area in ≤2 weeks should receive the initial dose of vaccine and also simultaneously can be administered IG (0.02 mL/kg) at a separate anatomic injection site.
- Travelers who elect not to receive vaccine, are aged <12 months, or are allergic to a vaccine component should receive a single dose of IG (0.02 mL/kg), which provides effective protection for up to 3 months.

NOTE: Previous recommendations remain unchanged regarding 1) settings in which postexposure prophylaxis is indicated, and 2) timing of administration of postexposure prophylaxis.

Rationale and Methods for Updated Recommendations

When administered within 2 weeks of last exposure, IG is 80%–90% effective in preventing clinical hepatitis A. Despite previously available limited data suggesting that hepatitis A vaccine might be efficacious when administered after exposure (*2*), in the absence of an appropriately

designed clinical trial comparing the postexposure efficacy of vaccine with that of IG, ACIP continued to recommend IG exclusively for postexposure use (*1*). Hepatitis A vaccine, if recommended for other reasons, could be given at the same time. ACIP was prompted to revisit these recommendations when findings became available from a randomized, double-blind noninferiority clinical trial comparing the efficacy of hepatitis A vaccine and IG after exposure to HAV (*3*).

The results of this clinical trial were presented to ACIP at its February 2007 meeting. During April–May 2007, the ACIP Hepatitis Vaccines Workgroup considered these results in a series of teleconferences. During these teleconferences, the workgroup also considered the experiences of other countries (e.g., Canada and the United Kingdom) where hepatitis A vaccine has been recommended for postexposure use for >5 years and reviewed data on the immunogenicity of hepatitis A vaccine, the risk for HAV transmission in various settings, and factors known to affect the severity of hepatitis A. Additionally, the workgroup took into account potential advantages of vaccine, recognized disadvantages of IG, and relevance of these data to existing recommendations for use of hepatitis A vaccine and IG in international travelers departing <4 weeks after receiving the first dose of hepatitis A vaccine. The workgroup also considered the likelihood that no additional postexposure efficacy data would become available, because of the difficulties of conducting postexposure efficacy studies of IG and vaccine.

On the basis of this evidence and the expert opinions of workgroup members, other scientists, and feedback from ACIP partner organizations, the ACIP Hepatitis Vaccines Workgroup drafted a revision of the hepatitis A postexposure prophylaxis and travel recommendations. These updated recommendations were deliberated and approved by ACIP at the June 2007 meeting.

I. Prevention of Hepatitis A After Exposure to HAV

Efficacy of hepatitis A vaccine versus IG. The clinical trial comparing hepatitis A vaccine with IG was conducted among 1,090 persons aged 2–40 years who were contacts of hepatitis A cases and susceptible to HAV infection. The trial compared the efficacy of hepatitis A vaccine and IG in preventing laboratory-confirmed symptomatic hepatitis A (i.e., the primary outcome) when administered ≤14 days after exposure to HAV (*3*). The primary outcome occurred among 25 (4.4%) of 568 recipients of hepatitis A vaccine and 17 (3.3%) of 522 IG recipients (relative risk: 1.35; 95% confidence interval [CI] = 0.70–2.67); the prespecified statistical criterion for noninferiority was met. The low frequency of study endpoints among IG and vaccine recipients indicated that both interventions provided good protection. The risk for hepatitis A in the vaccine group was never more than 1.5 percentage points greater than that for the IG group for the primary outcome or any secondary study endpoint. Assuming IG is 90% efficacious, the point estimate for hepatitis A vaccine efficacy relative to IG in preventing clinical hepatitis A was 86% (CI = 73%–93%) (*3*). This clinical trial suggested that the performance of vaccine, when administered ≤14 days after exposure, approaches that of IG in healthy children and adults aged ≤40 years. However, these findings might not be generalizable to all populations and settings. In contrast, years of experience have demonstrated that IG performs well as postexposure prophylaxis in all populations and settings.

Advantages of hepatitis A vaccine. The ability to use hepatitis A vaccine for postexposure prophylaxis provides numerous public health advantages, including the induction of active immunity and longer protection, greater ease of administration, higher acceptability and availability, and a cost per dose that is similar to IG. Also, the greater availability and ease of administration of hepatitis A vaccine might increase the number of persons at risk for infection who receive postexposure prophylaxis.

Risk for HAV transmission in various settings. The risk for transmission of HAV is influenced by host and environmental factors and varies considerably in different settings. For example, without postexposure prophylaxis, secondary attack rates of 15%–30% have been reported in households, with higher rates of transmission occurring from infected young children than from infected adolescents and adults (*4–6*). In contrast, attack rates among patrons of food service establishments who have been exposed to HAV-infected food handlers generally are low (*7*). Indeed, most food handlers with hepatitis A do not transmit HAV to exposed consumers or restaurant patrons (*7*). Given the wide range of HAV transmission risks in various settings for which postexposure prophylaxis is recommended, magnitude of risk in each situation is an important factor in determining whether to use IG or vaccine.

Factors affecting clinical manifestations of hepatitis A. Older persons and persons with chronic liver disease are more likely to have severe manifestations of hepatitis A. Among older children and adults, infection typically is symptomatic, with jaundice occurring in >70% of patients (*8*). The case-fatality rate among cases reported through national surveillance reaches a high of 1.8% among persons aged ≥60 years, and fulminant hepatitis has been reported more frequently among older patients with hepatitis A (*9*). Although

not at increased risk for HAV infection, persons with chronic liver disease also are at increased risk for fulminant hepatitis A (*10*). Because of the frequency of severe consequences, preventing hepatitis A among exposed older persons and persons with chronic liver disease is particularly vital. The performance of hepatitis A vaccine as postexposure prophylaxis in these groups was not assessed in the recent clinical trial and remains unknown. In contrast, IG has been recommended and used successfully for many years in these groups and in the general population.

These recommendations replace previous ACIP recommendations for postexposure prophylaxis with IG (*1*), incorporating new recommendations for use of single-antigen hepatitis A vaccine and updated recommendations for use of IG postexposure. These recommendations also incorporate and consolidate existing recommendations regarding recommended settings for which postexposure prophylaxis is indicated, including close personal contact with a person with hepatitis A and selected circumstances in which hepatitis A is recognized in a food handler or in a child care center (*1*). Also, the updated recommendations leave unchanged the recommendation that postexposure prophylaxis (using vaccine or IG) should be administered as soon as possible. No information exists regarding the efficacy of IG or vaccine if administered >2 weeks after exposure (*1*). The updated recommendations for use of hepatitis A vaccine alone for postexposure prophylaxis do not apply to the combination hepatitis A/hepatitis B vaccine because no data exist regarding the performance of the combination vaccine for prophylaxis after exposure to HAV. The concentration of HAV antigen in the currently available combination vaccine formulation is half that included in the single-antigen vaccine available from the same manufacturer (*1*).

Recommendations for postexposure prophylaxis with IG or hepatitis A vaccine. Persons who recently have been exposed to HAV and who previously have not received hepatitis A vaccine should be administered a single dose of single-antigen vaccine or IG (0.02 mL/kg) as soon as possible. Information about the relative efficacy of vaccine compared with IG postexposure is limited, and no data are available for persons aged >40 years or those with underlying medical conditions. Therefore, decisions to use vaccine or IG should take into account patient characteristics associated with more severe manifestations of hepatitis A, including older age and chronic liver disease.

For healthy persons aged 12 months–40 years, single-antigen hepatitis A vaccine at the age-appropriate dose is preferred to IG because of vaccine advantages that include long-term protection and ease of administration. For persons aged >40 years, IG is preferred because of the absence of information regarding vaccine performance and the more severe manifestations of hepatitis A in this age group; vaccine can be used if IG cannot be obtained. The magnitude of the risk for HAV transmission from the exposure should be considered in decisions to use IG or vaccine. IG should be used for children aged <12 months, immunocompromised persons, persons who have had chronic liver disease diagnosed, and persons for whom vaccine is contraindicated.

Persons administered IG for whom hepatitis A vaccine also is recommended for other reasons should receive a dose of vaccine simultaneously with IG. For persons who receive vaccine, the second dose should be administered according to the licensed schedule to complete the series. The efficacy of IG or vaccine when administered >2 weeks after exposure has not been established.

Close personal contact. Hepatitis A vaccine or IG should be administered to all previously unvaccinated household and sexual contacts of persons with serologically confirmed hepatitis A. In addition, persons who have shared illicit drugs with a person who has serologically confirmed hepatitis A should receive hepatitis A vaccine, or IG and hepatitis A vaccine simultaneously. Consideration also should be given to providing IG or hepatitis A vaccine to persons with other types of ongoing, close personal contact (e.g., regular babysitting) with a person with hepatitis A.

Child care centers. Hepatitis A vaccine or IG should be administered to all previously unvaccinated staff members and attendees of child care centers or homes if 1) one or more cases of hepatitis A are recognized in children or employees or 2) cases are recognized in two or more households of center attendees. In centers that do not provide care to children who wear diapers, hepatitis A vaccine or IG need be administered only to classroom contacts of the index patient. When an outbreak occurs (i.e., hepatitis A cases in three or more families), hepatitis A vaccine or IG also should be considered for members of households that have children (center attendees) in diapers.

Common-source exposure. If a food handler receives a diagnosis of hepatitis A, vaccine or IG should be administered to other food handlers at the same establishment. Because common-source transmission to patrons is unlikely, hepatitis A vaccine or IG administration to patrons typically is not indicated but may be considered if 1) during the time when the food handler was likely to be infectious, the food handler both directly handled uncooked or cooked foods and had diarrhea or poor hygienic practices and 2) patrons can be identified and treated ≤2 weeks after the exposure. In settings in which repeated exposures to HAV might have

occurred (e.g., institutional cafeterias), stronger consideration of hepatitis A vaccine or IG use could be warranted. In the event of a common-source outbreak, postexposure prophylaxis should not be provided to exposed persons after cases have begun to occur because the 2-week period after exposure during which IG or hepatitis A vaccine is known to be effective will have been exceeded.

Schools, hospitals, and work settings. Hepatitis A postexposure prophylaxis is not routinely indicated when a single case occurs in an elementary or secondary school or an office or other work setting, and the source of infection is outside the school or work setting. Similarly, when a person who has hepatitis A is admitted to a hospital, staff members should not routinely be administered hepatitis A postexposure prophylaxis; instead, careful hygienic practices should be emphasized. Hepatitis A vaccine or IG should be administered to persons who have close contact with index patients if an epidemiologic investigation indicates HAV transmission has occurred among students in a school or among patients or between patients and staff members in a hospital.

II. Prevention of Hepatitis A Before International Travel

Hepatitis A vaccination is recommended to prevent hepatitis A among travelers to countries with high or intermediate hepatitis A endemicity. Previously, however, because few data were available regarding the immunogenicity of hepatitis A vaccine during the 4 weeks immediately following administration of the first dose, ACIP recommended that, for optimal protection, persons traveling to an area where the risk for transmission was high <4 weeks after the initial vaccine dose also could be administered IG (*1*). In June 2007, ACIP concluded that if hepatitis A vaccine alone can be recommended for prophylaxis after exposure to HAV, vaccine also should be recommended for healthy international travelers aged ≤40 years regardless of their scheduled dates for departure. Similar to updated recommendations for postexposure prophylaxis, ACIP recognized that, for certain international travelers (e.g., older adults or those with underlying medical conditions), the performance of vaccine alone is unknown and clinical manifestations of hepatitis A tend to be more severe. Hence, under the updated recommendations for international travelers, for optimal protection, IG can be considered in addition to vaccine for older adults, immunocompromised persons, and persons with chronic liver disease or other chronic medical conditions who are traveling to an area within 2 weeks.

The following recommendation updates recommendations for prevention of hepatitis A among travelers departing in <4 weeks to areas where prophylaxis is recommended and consolidates other recommendations for prevention of hepatitis A among international travelers (*1*). These recommendations replace previous ACIP recommendations for preexposure protection against hepatitis A for travelers (*1*).

Recommendations for preexposure protection against hepatitis A for travelers. All susceptible persons traveling to or working in countries that have high or intermediate hepatitis A endemicity are at increased risk for HAV infection and should be vaccinated or receive IG before departure.* Hepatitis A vaccination at the age-appropriate dose is preferred to IG. Data are not available regarding the risk for hepatitis A for persons traveling to certain areas of the Caribbean, although prophylaxis should be considered if travel to areas with questionable sanitation is anticipated. Travelers to Australia, Canada, western Europe, Japan, or New Zealand (i.e., countries in which endemicity is low) are at no greater risk for infection than persons living or traveling in the United States.

The first dose of hepatitis A vaccine should be administered as soon as travel is considered. Based on limited data indicating equivalent postexposure efficacy of IG and vaccine among healthy persons aged ≤40 years, 1 dose of single-antigen hepatitis A vaccine administered at any time before departure can provide adequate protection for most healthy persons. However, no data are available for other populations or other hepatitis A vaccine formulations (e.g., Twinrix®). For optimal protection, older adults, immunocompromised persons, and persons with chronic liver disease or other chronic medical conditions planning to depart to an area in ≤2 weeks should receive the initial dose of vaccine and also simultaneously can be administered IG (0.02 mL/kg) at a separate anatomic injection site. Completion of the vaccine series according to the licensed schedule is necessary for long-term protection.

Travelers who elect not to receive vaccine, are aged <12 months, or are allergic to a vaccine component should receive a single dose of IG (0.02 mL/kg), which provides effective protection against hepatitis A for up to 3 months. Such travelers whose travel period is expected to be >2 months should be administered IG at 0.06 mL/kg; administration must be repeated if the travel period is >5 months. The full statement containing licensed vaccination schedule and recommended dose of IG and vaccine has been published previously (*1*).

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* Additional information is available at http://wwwn.cdc.gov/travel/yellowbook ch4-hepa.aspx.

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West Nile Virus Update — United States, January 1–October 16, 2007

This report summarizes 2007 West Nile virus (WNV) surveillance data reported to CDC through ArboNET as of 3 a.m. Mountain Daylight Time, October 16, 2007. A total of 42 states have reported 3,022 cases of human WNV illness to CDC (Table, Figure). A total of 1,646 (55%) cases for which such data were available occurred in males; median age of patients was 51 years (range: 15 months–97 years). Dates of illness onset ranged from January 8 to October 9; a total of 76 cases were fatal.

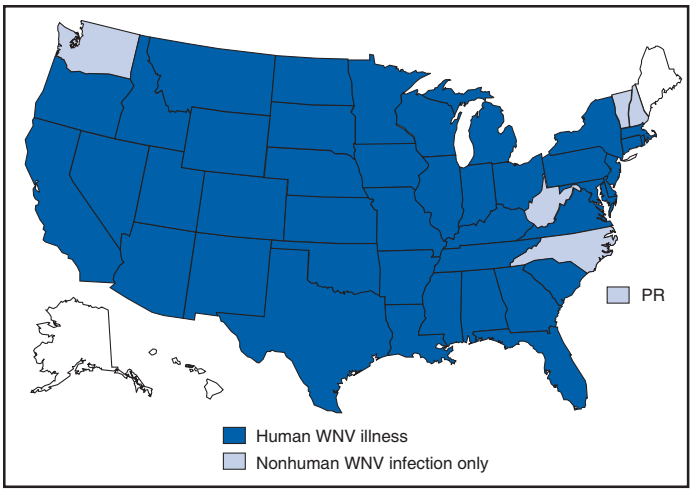
A total of 265 presumptive West Nile viremic blood donors (PVDs) have been reported to ArboNET during 2007. Of these, 46 were reported from California; 37 from Texas; 24 from North Dakota; 21 from South Dakota; 20 from Colorado; 17 from Minnesota; 16 from Oklahoma; 13 from Montana; 12 from Mississippi; 11 from Missouri; seven from Arizona; six from Ohio; five each from Iowa and Utah; four each from Kentucky and New Mexico; three each from Puerto Rico and Wyoming; two each from Indiana and Pennsylvania; and one each from Louisiana, New York, North Carolina, South Carolina, Tennessee, Virginia, and Wisconsin. Of the 265 PVDs, two persons (median age: 66 years [range: 60–71 years]) subsequently had neuroinvasive illness, and 52 persons (median age: 48 years [range: 18–79 years]) subsequently had West Nile fever.

TABLE. Number of human cases of West Nile virus (WNV) illness, by state — United States, 2007*

State	Neuroinvasive disease†	West Nile fever§	Other clinical/ unspecified¶	Total reported to CDC**	Deaths
Alabama	13	4	0	**17**	3
Arizona	28	14	20	**62**	0
Arkansas	10	5	0	**15**	1
California	143	191	9	**343**	14
Colorado	95	449	0	**544**	6
Connecticut	3	1	0	**4**	0
Delaware	1	0	0	**1**	0
Florida	3	0	0	**3**	1
Georgia	22	19	3	**44**	2
Idaho	6	96	2	**104**	1
Illinois	39	19	10	**68**	4
Indiana	6	4	0	**10**	1
Iowa	10	11	2	**23**	2
Kansas	11	26	0	**37**	1
Kentucky	3	0	0	**3**	0
Louisiana	1	1	0	**2**	0
Maryland	4	4	1	**9**	0
Massachusetts	3	3	0	**6**	0
Michigan	11	0	1	**12**	0
Minnesota	42	54	0	**96**	2
Mississippi	39	69	0	**108**	3
Missouri	52	9	0	**61**	2
Montana	36	157	0	**193**	3
Nebraska	18	117	0	**135**	3
Nevada	2	5	4	**11**	0
New Jersey	1	0	0	**1**	0
New Mexico	36	21	0	**57**	3
New York	10	1	0	**11**	1
North Dakota	49	303	0	**352**	2
Ohio	10	4	1	**15**	1
Oklahoma	48	37	1	**86**	7
Oregon	4	18	0	**22**	0
Pennsylvania	3	3	0	**6**	0
Rhode Island	0	1	0	**1**	0
South Carolina	2	2	0	**4**	0
South Dakota	48	158	0	**206**	5
Tennessee	4	2	1	**7**	1
Texas	89	20	0	**109**	5
Utah	21	26	0	**47**	1
Virginia	2	1	0	**3**	0
Wisconsin	3	3	0	**6**	0
Wyoming	15	149	14	**178**	1
Total	**946**	**2,007**	**69**	**3,022**	**76**

* As of October 16, 2007.
† Cases with neurologic manifestations (i.e., West Nile meningitis, West Nile encephalitis, and West Nile myelitis).
§ Cases with no evidence of neuroinvasion.
¶ Illnesses for which sufficient clinical information was not provided.
** Total number of human cases of WNV illness reported to ArboNET by state and local health departments.

FIGURE. Areas reporting West Nile virus (WNV) activity — United States, 2007*



* As of October 16, 2007.

In addition, 1,489 dead corvids and 435 other dead birds with WNV infection have been reported in 34 states and New York City during 2007. WNV infections have been reported in horses in 31 states, in three canines in Idaho and Oregon, in 26 squirrels in California and Oregon, and in three unidentified animal species in Idaho and Montana. WNV seroconversions have been reported in 637 sentinel chicken flocks in 11 states (Arizona, Arkansas, California, Delaware, Florida, Iowa, North Carolina, North Dakota, Oregon, Utah, and Virginia) and Puerto Rico. A total of 7,208 WNV-positive mosquito pools have been reported from 36 states, the District of Columbia, and New York City.

Additional information about national WNV activity is available from CDC at http://www.cdc.gov/ncidod/dvbid/westnile/index.htm and at http://westnilemaps.usgs.gov.

Notice to Readers

Recommendations for Public Health Curriculum — Consensus Conference on Undergraduate Public Health Education, November 2006

The Institute of Medicine of the National Academies has recommended that all undergraduates have access to education in public health (*1*). To implement this recommendation, a Consensus Conference on Undergraduate Public Health Education was convened November 7–8, 2006, in Boston, Massachusetts. The conference included leaders in public health, arts and sciences, and health-professions education and was sponsored by the Association for Prevention Teaching and Research, the Association of Schools of Public Health (ASPH), and the Council of Colleges of Arts and Sciences (CCAS). The conference was supported by the Josiah Macy, Jr. Foundation through a grant to the Healthy People Curriculum Task Force (HPCTF), a coalition of seven health-profession educational associations, including allopathic and osteopathic medicine, dentistry, nursing and nurse practitioners, pharmacy, and physician assistants. Participating in the conference were representatives from CDC, the Association of American Colleges and Universities, and HPCTF.

Conference attendees agreed that undergraduate public health education can help produce an educated citizenry that is better prepared to cope with public health challenges ranging from acquired immunodeficiency syndrome to aging, avian influenza, and health-care costs. Conference working groups recommended that two introductory courses, Public Health 101 and Epidemiology 101, be offered by all U.S. colleges and universities to fulfill undergraduate social science and science distribution requirements, respectively. The groups further recommended that high-quality minors in public health should be developed, with core courses, experience-based learning, and focus areas such as global health. The full recommendations from the conference have been published online by CCAS at http://www.ccas.net.

The modern era of undergraduate public health education began at Johns Hopkins University in the mid-1970s, when a public health major was approved through the School of Arts and Sciences in collaboration with what was then the School of Hygiene and Public Health. After slow growth in the 1980s, interest in undergraduate public health education grew rapidly in the 1990s. By the end of the 20th century, a substantial number of schools of public health were experimenting with undergraduate courses, minors, and majors. Programs in public health also were revising professionally focused curricula and developing broader approaches to undergraduate public health education (*2,3*).

Recent surveys indicate that the majority of the approximately 40 accredited public health schools (ASPH, unpublished data, 2006) and approximately 60 accredited public health programs (Association for Prevention Teaching and Research, unpublished data, 2006) offer undergraduate courses in public health. However, public health courses are offered rarely among the 1,900 colleges and universities that have no public health schools or programs yet might choose to include public health in their arts and sciences curricula.

The conference working groups recommended that Public Health 101 and Epidemiology 101 be designed to fit within the broadest possible array of arts and science

education programs and institutional types. The Public Health 101 working group said making that course a part of general education can stimulate critical thinking and decision making, provide students with a methodology for understanding populations, and expose students to ongoing health-care and policy matters. Similarly, the Epidemiology 101 working group noted that epidemiology can play a key role in general education if taught broadly as a method for critical thinking. Epidemiology 101, the group said, can enable students to acquire quantitative and information literacy; learn the methods, ethics, and applications of the scientific method; and recognize the link between natural and social sciences, thus enriching their understanding of public policy and other population-based disciplines.

Methods for integrating recommendations from the conference into the nation's long-term strategy for public health also were discussed. These included 1) websites to provide information on undergraduate public health and share curriculum materials, 2) faculty development measures to assist colleges and universities in developing new introductory public health courses, 3) encouragement of applicants by health professions education and graduate public health degree programs to enroll in introductory undergraduate public health courses, 4) continued discussion of approaches for developing minors in public health and global health in institutions with and without schools or programs in public health, and 5) participation by public-health practitioners in experiential or service-learning and other components of undergraduate education.

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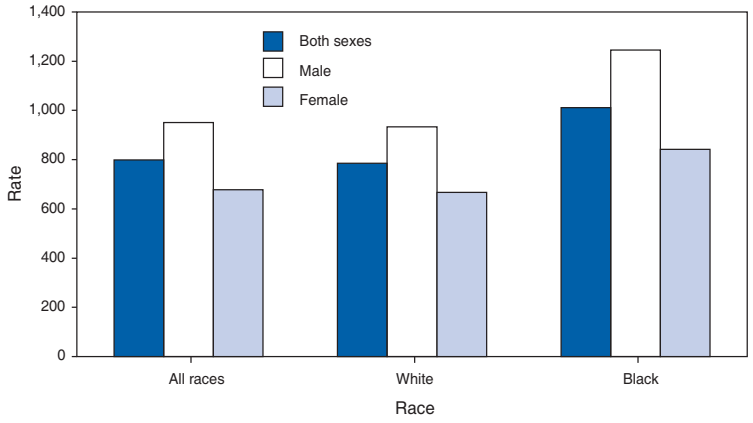
QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Age-Adjusted Death Rates,* by Race and Sex — United States, 2005



* Per 100,000 U.S. standard population.

In 2005, black males had the highest age-adjusted death rate compared with females, white males, and all races. The higher rate for black males reflects higher death rates for most of the leading causes of death.

SOURCE: Kung HC, Hoyert DL, Xu JQ, Murphy SL. Deaths: preliminary data for 2005. Hyattsville, MD: US Department of Health and Human Services, CDC; 2007. Available at http://www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimdeaths05/prelimdeaths05.htm.

MMWR™ QuickGuide

Weekly October 19, 2007 / Vol. 56 / No. 41

Recommended Adult Immunization Schedule — United States, October 2007–September 2008

The Advisory Committee on Immunization Practices (ACIP) annually reviews the recommended Adult Immunization Schedule to ensure that the schedule reflects current recommendations for the licensed vaccines. In June 2007, ACIP approved the Adult Immunization Schedule for October 2007–September 2008. Additional information is available as follows: schedule (in English and Spanish) at http://www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm; adult vaccinations at http://www.cdc.gov/vaccines/default.htm; ACIP statements for specific vaccines at http://www.cdc.gov/vaccines/pubs/acip-list.htm; and reporting adverse events at http://www.vaers.hhs.gov or by telephone, 800-822-7967.

Changes for October 2007–September 2008

Age-Based Schedule (Figure 1)

- The yellow bar for varicella vaccine has been extended through all age groups, indicating that the vaccine is recommended for all adults without evidence of immunity to varicella.
- Zoster vaccine has been added, with a yellow bar indicating that the vaccine is recommended for persons aged ≥60 years.

Medical/Other Indications Schedule (Figure 2)

- The title has been changed to "Vaccines that might be indicated for adults based on medical and other indications," indicating that not all of the vaccines are recommended based on medical indications.
- The word "contraindicated" has been added to the red bars and removed from the legend.
- The "immunocompromising conditions" column heading has been shortened by removing the list of conditions.
- The "human immunodeficiency virus (HIV) infection" column has been moved next to the "immunocompromising conditions" column.
- The HIV column has been split into CD4+ T lymphocyte counts of <200 cells/μL and ≥200 cells/μL.
- The indication "recipients of clotting factor concentrates" has been removed from the column heading "chronic liver disease" because only one vaccine has this recommendation. The indication remains in the hepatitis A vaccine footnote.
- The varicella vaccine yellow bar has been extended to include persons infected with HIV who have CD4+ T lymphocyte counts of ≥200 cells/μL (*1*).
- The influenza vaccine yellow bar for "health-care personnel" indicates that health-care personnel can receive either trivalent inactivated influenza vaccine (TIV) or live, attenuated influenza vaccine (LAIV).
- The yellow bar for influenza vaccine has been extended to include persons in the "asplenia" risk group.
- The bar for meningococcal vaccine has been revised to indicate that 1 or more doses might be indicated.
- Zoster vaccine has been added to the schedule with a yellow bar to indicate that the vaccine is recommended for all indications except pregnancy, immunocompromising conditions, and HIV. A red bar, indicating a contraindication, has been inserted for pregnancy, immunocompromising conditions, and HIV infection with a CD4+ T lymphocyte count of <200 cells/μL.

Footnotes (Figures 1 and 2)

- Text for vaccine contraindications in pregnancy has been removed from the footnotes of human papillomavirus (HPV) (#2); measles, mumps, rubella (MMR) (#3); and varicella (#4) to be consistent with the intent of the footnotes to summarize the indications for vaccine use. Pregnancy contraindications are indicated with a red bar.
- The HPV footnote (#2) has been revised to clarify evidence of prior infection, clarify that HPV vaccine is not specifically indicated based on medical conditions, and indicate that efficacy and immunogenicity might be lower in persons with certain medical conditions.
- The varicella footnote (#4) has been revised to clarify that birth before 1980 for immunocompromised persons is not evidence of immunity and to add a requirement for evidence of immunity.
- The pneumococcal polysaccharide vaccine (PPV) footnote (#6) has been revised by adding chronic alcoholism and cerebrospinal fluid leaks and deleting the immunocompromising conditions.
- The hepatitis B footnote (#9) has been revised by removing persons who receive clotting factor concentrates as a risk group and by clarifying the special formulations dose.
- The meningococcal vaccine footnote (#10) has been revised to clarify that persons who remain at increased risk for infection might be indicated for revaccination.
- A footnote (#11) has been added to reflect ACIP recommendations for herpes zoster vaccination for persons aged ≥60 years.
- A footnote (#13) has been added to provide a reference for vaccines in persons with immunocompromising conditions.

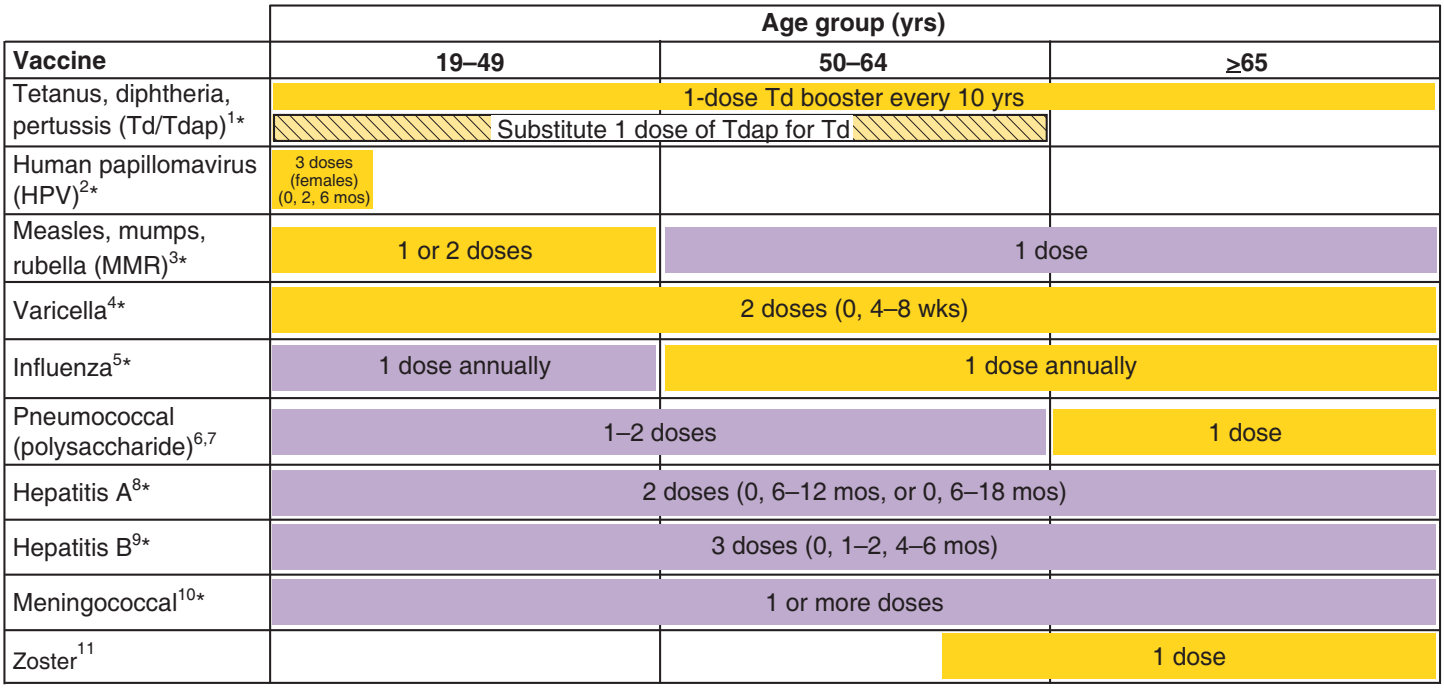
Reference

1. CDC. Prevention of varicella: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2007; 56(No. RR-4).

The Recommended Adult Immunization Schedule has been approved by the Advisory Committee on Immunization Practices, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, and the American College of Physicians. The standard *MMWR* footnote format has been modified for publication of this schedule.

Suggested citation: Centers for Disease Control and Prevention. Recommended Adult Immunization Schedule—United States, October 2007–September 2008. MMWR 2007;56:Q1–Q4.

FIGURE 1. Recommended adult immunization schedule, by vaccine and age group — United States, October 2007–September 2008



NOTE: These recommendations must be read along with the footnotes, which are on pages Q2–Q4 of this schedule.

Approved by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, and the American College of Physicians. Complete statements from ACIP are available at http://www.cdc.gov/vaccines/pubs/acip-list.htm.

1. Tetanus, diphtheria, and acellular pertussis (Td/Tdap) vaccination

Tdap should replace a single dose of Td for adults aged <65 years who have not previously received a dose of Tdap. Only one of two Tdap products (Adacel® [Sanofi Pasteur]) is licensed for use in adults.

Adults with uncertain histories of a complete primary vaccination series with tetanus and diphtheria toxoid–containing vaccines should begin or complete a primary vaccination series. A primary series for adults is 3 doses of tetanus and diphtheria toxoid–containing vaccines; administer the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second. However, Tdap can substitute for any one of the doses of Td in the 3-dose primary series. The booster dose of tetanus and diphtheria toxoid–containing vaccine should be administered to adults who have completed a primary series and if the last vaccination was received ≥10 years previously. Tdap or Td vaccine may be used, as indicated.

If the person is pregnant and received the last Td vaccination ≥10 years previously, administer Td during the second or third trimester; if the person received the last Td vaccination in <10 years, administer Tdap during the immediate postpartum period. A one-time administration of 1 dose of Tdap with an interval as short as 2 years from a previous Td vaccination is recommended for postpartum women, close contacts of infants aged <12 months, and all health-care workers with direct patient contact. In certain situations, Td can be deferred during pregnancy and Tdap substituted in the immediate postpartum period, or Tdap can be administered instead of Td to a pregnant woman after an informed discussion with the woman.

Consult the ACIP statement for recommendations for administering Td as prophylaxis in wound management.

2. Human papillomavirus (HPV) vaccination

HPV vaccination is recommended for all females aged ≤26 years who have not completed the vaccine series. History of genital warts, abnormal Papanicolaou test, or positive HPV DNA test is not evidence of prior infection with all vaccine HPV types; HPV vaccination is still recommended for these persons.

Ideally, vaccine should be administered before potential exposure to HPV through sexual activity; however, females who are sexually active should still be vaccinated. Sexually active females who have not been infected with any of the HPV vaccine types receive the full benefit of the vaccination. Vaccination is less beneficial for females who have already been infected with one or more of the HPV vaccine types.

A complete series consists of 3 doses. The second dose should be administered 2 months after the first dose; the third dose should be administered 6 months after the first dose.

Although HPV vaccination is not specifically recommended for females with the medical indications described in Figure 2, "Vaccines that might be indicated for adults based on medical and other indications," it is not a live-virus vaccine and can be administered. However, immune response and vaccine efficacy might be less than in persons who do not have the medical indications described or who are immunocompetent.

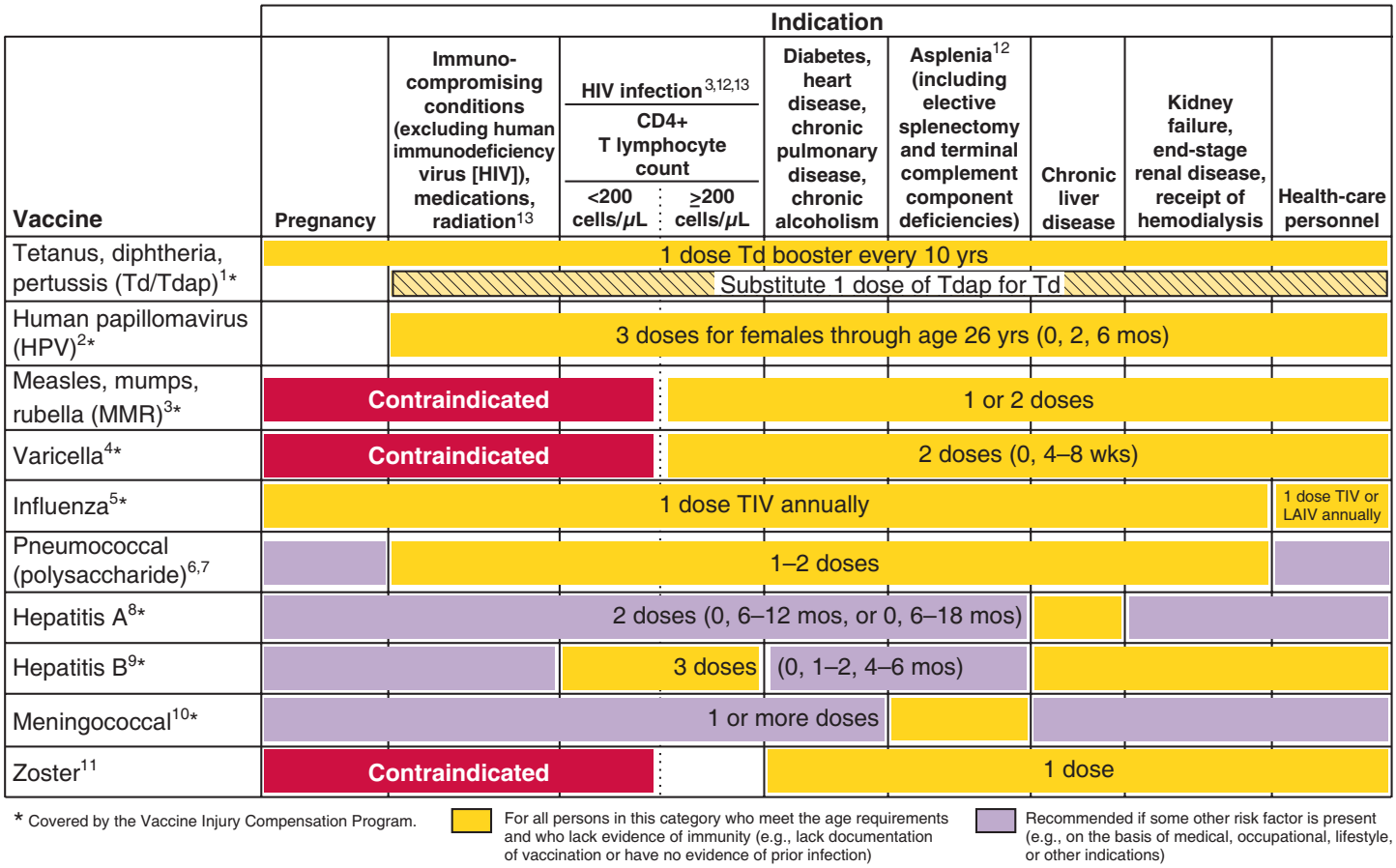
3. Measles, mumps, rubella (MMR) vaccination

Measles component: adults born before 1957 can be considered immune to measles. Adults born during or after 1957 should receive ≥1 dose of MMR unless they have a medical contraindication, documentation of ≥1 dose, history of measles based on health-care provider diagnosis, or laboratory evidence of immunity.

A second dose of MMR is recommended for adults who 1) have been recently exposed to measles or are in an outbreak setting; 2) have been previously vaccinated with killed measles vaccine; 3) have been vaccinated with an unknown type of measles vaccine during 1963–1967; 4) are students in postsecondary educational institutions; 5) work in a health-care facility; or 6) plan to travel internationally.

Mumps component: adults born before 1957 can generally be

FIGURE 2. Vaccines that might be indicated for adults based on medical and other indications — United States, October 2007–September 2008



considered immune to mumps. Adults born during or after 1957 should receive 1 dose of MMR unless they have a medical contraindication, history of mumps based on health-care provider diagnosis, or laboratory evidence of immunity.

A second dose of MMR is recommended for adults who 1) are in an age group that is affected during a mumps outbreak; 2) are students in postsecondary educational institutions; 3) work in a health-care facility; or 4) plan to travel internationally. For unvaccinated health-care workers born before 1957 who do not have other evidence of mumps immunity, consider administering 1 dose on a routine basis and strongly consider administering a second dose during an outbreak.

Rubella component: administer 1 dose of MMR vaccine to women whose rubella vaccination history is unreliable or who lack laboratory evidence of immunity. For women of childbearing age, regardless of birth year, routinely determine rubella immunity and counsel women regarding congenital rubella syndrome. Women who do not have evidence of immunity should receive MMR vaccine on completion or termination of pregnancy and before discharge from the health-care facility.

4. Varicella vaccination

All adults without evidence of immunity to varicella should receive 2 doses of single-antigen varicella vaccine unless they have a medical contraindication. Special consideration should be given to those who 1) have close contact with persons at high risk for severe disease (e.g., health-care personnel and family contacts of immunocompromised persons) or 2) are at high risk for exposure or transmission (e.g., teachers; child care employees; residents and staff members of institutional settings, including correctional institutions; college students; military personnel; adolescents and adults living in households with children; nonpregnant women of childbearing age; and international travelers).

Evidence of immunity to varicella in adults includes any of the following: 1) documentation of 2 doses of varicella vaccine at least 4 weeks apart; 2) U.S.-born before 1980 (although for health-care personnel and pregnant women, birth before 1980 should not be considered evidence of immunity); 3) history of varicella based on diagnosis or verification of varicella by a health-care provider (for a patient reporting a history of or presenting with an atypical case, a mild case, or both, health-care providers should seek either an epidemiologic link with a typical varicella case or to a laboratory-confirmed case or evidence of laboratory confirmation, if it was performed at the time of acute disease); 4) history of herpes zoster based on health-care provider diagnosis; or 5) laboratory evidence of immunity or laboratory confirmation of disease.

Assess pregnant women for evidence of varicella immunity. Women who do not have evidence of immunity should receive the first dose of varicella vaccine upon completion or termination of pregnancy and before discharge from the health-care facility. The second dose should be administered 4–8 weeks after the first dose.

5. Influenza vaccination

Medical indications: chronic disorders of the cardiovascular or pulmonary systems, including asthma; chronic metabolic diseases, including diabetes mellitus, renal or hepatic dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or human immunodeficiency virus [HIV]); any condition that compromises respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injury, or seizure disorder or other neuromuscular disorder); and pregnancy during the influenza season. No data exist on the risk for severe or complicated influenza disease among persons with asplenia; however, influenza is a risk factor for secondary bacterial infections that can cause severe disease among persons with asplenia.

Occupational indications: health-care personnel and employees of long-term–care and assisted-living facilities.

Other indications: residents of nursing homes and other long-term–care and assisted-living facilities; persons likely to transmit influenza to persons at high risk (e.g., in-home household contacts and caregivers of children aged 0–59 months, or persons of all ages with high-risk conditions); and anyone who would like to be vaccinated. Healthy, nonpregnant adults aged ≤49 years without high-risk medical conditions who are not contacts of severely immunocompromised persons in special care units can receive either intranasally administered live, attenuated influenza vaccine (FluMist®) or inactivated vaccine. Other persons should receive the inactivated vaccine.

6. Pneumococcal polysaccharide vaccination

Medical indications: chronic pulmonary disease (excluding asthma); chronic cardiovascular diseases; diabetes mellitus; chronic liver diseases, including liver disease as a result of alcohol abuse (e.g., cirrhosis); chronic alcoholism, chronic renal failure, or nephrotic syndrome; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy [if elective splenectomy is planned, vaccinate at least 2 weeks before surgery]); immunosuppressive conditions; and cochlear implants and cerebrospinal fluid leaks. Vaccinate as close to HIV diagnosis as possible.

Other indications: Alaska Natives and certain American Indian populations and residents of nursing homes or other long-term–care facilities.

7. Revaccination with pneumococcal polysaccharide vaccine

One-time revaccination after 5 years for persons with chronic renal failure or nephrotic syndrome; functional or anatomic asplenia (e.g., sickle cell disease or splenectomy); or immunosuppressive conditions. For persons aged ≥65 years, one-time revaccination if they were vaccinated ≥5 years previously and were aged <65 years at the time of primary vaccination.

8. Hepatitis A vaccination

Medical indications: persons with chronic liver disease and persons who receive clotting factor concentrates.

Behavioral indications: men who have sex with men and persons who use illegal drugs.

Occupational indications: persons working with hepatitis A virus (HAV)-infected primates or with HAV in a research laboratory setting.

Other indications: persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A (a list of countries is available at http://wwwn.cdc.gov/travel/contentdiseases.aspx) and any person seeking protection from HAV infection.

Single-antigen vaccine formulations should be administered in a 2-dose schedule at either 0 and 6–12 months (Havrix®), or 0 and 6–18 months (Vaqta®). If the combined hepatitis A and hepatitis B vaccine (Twinrix®) is used, administer 3 doses at 0, 1, and 6 months.

9. Hepatitis B vaccination

Medical indications: persons with end-stage renal disease, including patients receiving hemodialysis; persons seeking evaluation or treatment for a sexually transmitted disease (STD); persons with HIV infection; and persons with chronic liver disease.

Occupational indications: health-care personnel and public-safety workers who are exposed to blood or other potentially infectious body fluids.

Behavioral indications: sexually active persons who are not in a long-term, mutually monogamous relationship (e.g., persons with more than one sex partner during the previous 6 months); current or recent injection-drug users; and men who have sex with men.

Other indications: household contacts and sex partners of persons with chronic hepatitis B virus (HBV) infection; clients and staff members of institutions for persons with developmental disabilities; international travelers to countries with high or intermediate prevalence of chronic HBV infection (a list of countries is available at http://wwwn.cdc.gov/travel/contentdiseases.aspx); and any adult seeking protection from HBV infection.

Settings where hepatitis B vaccination is recommended for all adults: STD treatment facilities; HIV testing and treatment facilities; facilities providing drug-abuse treatment and prevention services; health-care settings targeting services to injection-drug users or men who have sex with men; correctional facilities; end-stage renal disease programs and facilities for chronic hemodialysis patients; and institutions and nonresidential day care facilities for persons with developmental disabilities.

Special formulation indications: for adult patients receiving hemodialysis and other immunocompromised adults, 1 dose of 40 μg/mL (Recombivax HB®) or 2 doses of 20 μg/mL (Engerix-B®), administered simultaneously.

10. Meningococcal vaccination

Medical indications: adults with anatomic or functional asplenia or terminal complement component deficiencies.

Other indications: first-year college students living in dormitories; microbiologists who are routinely exposed to isolates of *Neisseria meningitidis*; military recruits; and persons who travel to or live in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the "meningitis belt" of sub-Saharan Africa during the dry season [December–June]), particularly if their contact with local populations will be prolonged. Vaccination is required by the government of Saudi Arabia for all travelers to Mecca during the annual Hajj.

Meningococcal conjugate vaccine is preferred for adults with any of the preceding indications who are aged ≤55 years, although meningococcal polysaccharide vaccine (MPSV4) is an acceptable alternative. Revaccination after 3–5 years might be indicated for adults previously vaccinated with MPSV4 who remain at increased risk for infection (e.g., persons residing in areas in which disease is epidemic).

11. Herpes zoster vaccination

A single dose of zoster vaccine is recommended for adults aged ≥60 years regardless of whether they report a prior episode of herpes zoster. Persons with chronic medical conditions may be vaccinated unless a contraindication or precaution exists for their condition.

12. Selected conditions for which *Haemophilus influenzae* type b (Hib) vaccine may be used

Hib conjugate vaccines are licensed for children aged 6 weeks–71 months. No efficacy data are available on which to base a recommendation concerning use of Hib vaccine for older children and adults with the chronic conditions associated with an increased risk for Hib disease. However, studies suggest good immunogenicity in patients who have sickle cell disease, leukemia, or HIV infection or who have had splenectomies; administering vaccine to these patients is not contraindicated.

13. Immunocompromising conditions

Inactivated vaccines generally are acceptable (e.g., pneumococcal, meningococcal, and influenza [trivalent inactivated influenza vaccine]) and live vaccines generally are avoided in persons with immune deficiencies or immune suppressive conditions. Information on specific conditions is available at http://www.cdc.gov/vaccines/pubs/acip-list.htm.

This schedule indicates the recommended age groups and medical indications for routine administration of currently licensed vaccines for persons aged ≥19 years, as of October 1, 2007. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or those issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (available at http://www.cdc.gov/vaccines/pubs/acip-list.htm).

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at http://www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at http://www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending October 13, 2007 (41st Week)*

Disease	Current week	Cum 2007	5-year weekly average†	Total cases reported for previous years 2006	2005	2004	2003	2002	States reporting cases during current week (No.)
Anthrax	—	—	—	1	—	—	—	2	
Botulism:									
foodborne	—	15	0	20	19	16	20	28	
infant	—	63	2	97	85	87	76	69	
other (wound & unspecified)	—	18	1	48	31	30	33	21	
Brucellosis	1	94	2	121	120	114	104	125	CA (1)
Chancroid	2	24	1	33	17	30	54	67	WI (1), TX (1)
Cholera	—	3	0	9	8	5	2	2	
Cyclosporiasis§	1	84	1	136	543	171	75	156	FL (1)
Diphtheria	—	—	0	—	—	—	1	1	
Domestic arboviral diseases§,¶:									
California serogroup	—	24	4	67	80	112	108	164	
eastern equine	—	3	0	8	21	6	14	10	
Powassan	—	1	—	1	1	1	—	1	
St. Louis	—	2	1	10	13	12	41	28	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis§:									
human granulocytic	4	384	10	646	786	537	362	511	NY (3), FL (1)
human monocytic	8	490	9	578	506	338	321	216	NY (2), NC (1), FL (2), AR (3)
human (other & unspecified)	1	128	1	231	112	59	44	23	MD (1)
Haemophilus influenzae,**									
invasive disease (age <5 yrs):									
serotype b	—	12	0	29	9	19	32	34	
nonserotype b	2	106	2	175	135	135	117	144	OH (1), AZ (1)
unknown serotype	1	164	3	179	217	177	227	153	AZ (1)
Hansen disease§	—	41	1	66	87	105	95	96	
Hantavirus pulmonary syndrome§	—	19	0	40	26	24	26	19	
Hemolytic uremic syndrome, postdiarrheal§	5	169	5	288	221	200	178	216	MN (1), MO (1), GA (1), TN (1), CA (1)
Hepatitis C viral, acute	7	517	20	802	652	713	1,102	1,835	TN (2), OK (4), TX (1)
HIV infection, pediatric (age <13 yrs)††	—	—	5	52	380	436	504	420	
Influenza-associated pediatric mortality§,§§	—	73	—	43	45	—	N	N	
Listeriosis	13	503	21	875	896	753	696	665	VT (1), NY (1), OH (2), MN (1), NC (3), FL (2), UT (1), CA (1), AK (1)
Measles¶¶	—	30	0	55	66	37	56	44	
Meningococcal disease, invasive***:									
A, C, Y, & W-135	2	210	4	318	297	—	—	—	IN (1), TX (1)
serogroup B	—	102	2	193	156	—	—	—	
other serogroup	1	21	0	32	27	—	—	—	NC (1)
unknown serogroup	4	473	10	651	765	—	—	—	ME (1), NYC (1), MI (1), MN (1)
Mumps	3	603	13	6,584	314	258	231	270	ME (1), FL (2)
Novel influenza A virus infections	—	3	—	N	N	N	N	N	
Plague	—	4	0	17	8	3	1	2	
Poliomyelitis, paralytic	—	—	0	—	1	—	—	—	
Poliovirus infection, nonparalytic§	—	—	—	N	N	N	N	N	
Psittacosis§	—	6	0	21	16	12	12	18	
Q fever§	—	133	2	169	136	70	71	61	
Rabies, human	—	—	0	3	2	7	2	3	
Rubella†††	—	11	0	11	11	10	7	18	
Rubella, congenital syndrome	—	—	—	1	1	—	1	1	
SARS-CoV§,§§§	—	—	—	—	—	—	8	N	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	—	77	1	125	129	132	161	118	
Syphilis, congenital (age <1 yr)	3	324	8	380	329	353	413	412	FL (1), LA (1), TX (1)
Tetanus	1	14	1	41	27	34	20	25	FL (1)
Toxic-shock syndrome (staphylococcal)§	1	64	1	101	90	95	133	109	NC (1)
Trichinellosis	—	5	0	15	16	5	6	14	
Tularemia	—	100	3	95	154	134	129	90	
Typhoid fever	4	266	8	353	324	322	356	321	OH (1), FL (2), CA (1)
Vancomycin-intermediate *Staphylococcus aureus*§	—	18	0	6	2	—	N	N	
Vancomycin-resistant *Staphylococcus aureus*§	—	—	0	1	3	1	N	N	
Vibriosis (noncholera *Vibrio* species infections)§	5	255	2	N	N	N	N	N	GA (1), FL (1), CA (3)
Yellow fever	—	—	—	—	—	—	—	1	

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

* Incidence data for reporting year 2007 are provisional, whereas data for 2002, 2003, 2004, 2005, and 2006 are finalized.

† Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 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. Data from states where the condition is not notifiable are excluded from this table, except in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/epo/dphsi/phs/infdis.htm.

¶ Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.

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

†† Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Updates of pediatric HIV data have been temporarily suspended until upgrading of the national HIV/AIDS surveillance data management system is completed. Data for HIV/AIDS, when available, are displayed in Table IV, which appears quarterly.

§§ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. A total of 71 cases were reported for the 2006–07 flu season.

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

*** Data for meningococcal disease (all serogroups) are available in Table II.

††† No rubella cases were reported for the current week.

§§§ Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Chlamydia†					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006
		Med	Max				Med	Max				Med	Max		
United States	11,326	20,421	25,327	800,902	804,763	64	142	658	5,840	6,347	224	82	942	8,096	4,506
New England	824	713	1,357	27,246	26,059	—	0	1	2	—	4	4	37	244	334
Connecticut	368	223	829	8,134	7,436	N	0	0	N	N	—	0	37	37	38
Maine§	42	50	74	2,021	1,780	—	0	0	—	—	—	1	6	41	36
Massachusetts	339	305	600	12,347	11,829	—	0	0	—	—	—	2	7	80	163
New Hampshire	—	39	70	1,612	1,543	—	0	1	2	—	—	1	5	44	40
Rhode Island§	53	63	106	2,449	2,532	—	0	0	—	—	2	0	3	8	14
Vermont§	22	19	45	683	939	N	0	0	N	N	2	1	3	34	43
Mid. Atlantic	2,040	2,727	4,284	110,702	98,146	—	0	0	—	—	8	10	109	989	536
New Jersey	215	401	528	16,034	15,934	N	0	0	N	N	—	0	2	9	41
New York (Upstate)	510	515	2,758	21,002	18,935	N	0	0	N	N	8	3	20	199	130
New York City	1,149	925	1,682	38,815	32,063	N	0	0	N	N	—	1	6	51	122
Pennsylvania	166	764	1,760	34,851	31,214	N	0	0	N	N	—	4	103	730	243
E.N. Central	1,262	3,123	6,213	129,855	135,663	—	1	3	24	36	58	18	117	1,364	1,145
Illinois	472	944	1,367	37,489	42,481	—	0	0	—	—	—	2	10	110	178
Indiana	227	398	646	16,268	15,601	—	0	0	—	—	6	1	12	82	71
Michigan	360	713	1,059	27,790	28,146	—	0	3	16	32	2	2	10	138	121
Ohio	93	704	3,640	33,621	33,078	—	0	2	8	4	28	5	61	476	294
Wisconsin	110	371	443	14,687	16,357	N	0	0	N	N	22	6	51	558	481
W.N. Central	625	1,178	1,429	46,534	48,789	—	0	54	6	1	41	13	121	1,191	716
Iowa	186	161	252	6,858	6,594	N	0	0	N	N	3	2	59	514	157
Kansas	—	151	294	6,194	6,278	N	0	0	N	N	—	1	15	76	70
Minnesota	—	231	314	8,106	10,184	—	0	54	—	—	34	3	34	208	155
Missouri	339	453	565	18,249	18,066	—	0	1	6	1	—	2	13	115	165
Nebraska§	27	103	183	3,956	4,152	N	0	0	N	N	3	1	21	124	84
North Dakota	18	27	61	1,143	1,442	N	0	0	N	N	1	0	11	15	9
South Dakota	55	49	84	2,028	2,073	N	0	0	N	N	—	2	16	139	76
S. Atlantic	2,478	3,999	6,760	157,720	154,289	—	0	1	3	3	33	20	66	903	893
Delaware	30	66	140	2,650	2,796	—	0	0	—	—	—	0	4	16	13
District of Columbia	—	103	166	4,303	2,303	—	0	0	—	—	—	0	2	3	12
Florida	1,139	1,115	1,767	45,719	38,877	N	0	0	N	N	22	11	35	499	381
Georgia	1	628	3,822	19,385	27,851	N	0	0	N	N	5	4	22	171	224
Maryland§	278	399	696	15,804	16,785	—	0	1	3	3	—	0	2	24	15
North Carolina	—	562	1,905	22,648	26,405	—	0	0	—	—	6	1	9	78	81
South Carolina§	639	497	3,030	25,524	18,115	N	0	0	N	N	—	1	5	57	117
Virginia§	379	485	685	19,381	18,860	N	0	0	N	N	—	1	4	45	42
West Virginia	12	57	91	2,306	2,297	N	0	0	N	N	—	0	5	10	8
E.S. Central	847	1,451	2,044	55,886	59,943	—	0	0	—	—	10	3	60	474	144
Alabama§	—	348	558	12,235	18,560	N	0	0	N	N	—	1	12	71	52
Kentucky	78	148	691	6,313	6,437	N	0	0	N	N	6	1	39	219	34
Mississippi	351	355	959	15,497	14,898	N	0	0	N	N	—	0	10	74	22
Tennessee§	418	505	724	21,841	20,048	N	0	0	N	N	4	1	19	110	36
W.S. Central	1,820	2,288	2,971	95,252	91,390	—	0	1	1	1	9	5	41	259	327
Arkansas§	320	168	288	7,202	6,496	N	0	0	N	N	—	0	8	25	18
Louisiana	157	359	855	15,009	14,374	—	0	1	1	1	—	1	5	39	73
Oklahoma	267	266	467	10,464	9,554	N	0	0	N	N	9	1	11	98	32
Texas§	1,076	1,490	1,952	62,577	60,966	N	0	0	N	N	—	2	29	97	204
Mountain	108	1,290	1,811	46,784	53,717	51	91	293	3,763	4,365	59	6	570	2,555	340
Arizona	41	474	897	16,142	17,207	44	89	293	3,639	4,248	—	0	6	38	23
Colorado	—	240	369	7,581	12,871	N	0	0	N	N	—	1	25	136	61
Idaho§	67	56	253	2,883	2,234	N	0	0	N	N	20	0	71	335	30
Montana§	—	47	82	1,488	2,002	N	0	0	N	N	2	1	18	56	125
Nevada§	—	178	293	7,279	6,652	2	1	5	50	51	1	0	3	17	9
New Mexico§	—	153	394	6,354	7,713	—	0	2	17	18	—	1	7	83	37
Utah	—	104	209	4,140	3,870	5	1	7	54	46	35	0	497	1,846	15
Wyoming§	—	23	38	917	1,168	—	0	1	3	2	1	0	8	44	40
Pacific	1,322	3,364	4,362	130,923	136,767	13	44	311	2,041	1,941	2	1	19	117	71
Alaska	82	88	157	3,445	3,457	N	0	0	N	N	—	0	2	3	4
California	957	2,666	3,627	105,454	107,284	13	44	311	2,041	1,941	—	0	0	—	—
Hawaii	3	103	133	4,128	4,533	N	0	0	N	N	—	0	4	6	4
Oregon§	260	159	394	6,835	7,494	N	0	0	N	N	2	1	15	108	63
Washington	20	314	621	11,061	13,999	N	0	0	N	N	—	0	0	—	—
American Samoa	U	0	32	U	U	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	U	U
Guam	1	4	207	389	708	—	0	0	—	—	—	0	0	—	—
Puerto Rico	90	120	544	6,009	3,928	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	U	3	7	U	U	U	0	0	U	U	U	0	0	U	U

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 year 2007 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† 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 October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes†				
	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006
		Med	Max				Med	Max				Med	Max		
United States	301	304	1,513	12,637	14,002	3,589	6,649	8,941	260,282	280,879	12	45	184	1,755	1,793
New England	9	26	52	1,111	1,161	125	109	259	4,338	4,375	—	3	19	142	141
Connecticut	—	6	18	284	240	62	45	204	1,642	1,751	—	0	7	40	41
Maine§	2	4	10	157	138	—	2	8	98	99	—	0	2	9	16
Massachusetts	—	10	26	463	511	53	51	96	2,105	1,915	—	2	6	69	62
New Hampshire	—	0	3	20	21	—	3	8	119	156	—	0	2	15	10
Rhode Island§	5	0	16	57	96	10	8	18	329	397	—	0	10	7	4
Vermont§	2	3	10	130	155	—	1	5	45	57	—	0	1	2	8
Mid. Atlantic	46	56	127	2,138	2,766	464	714	1,537	28,885	26,109	2	10	27	358	360
New Jersey	—	5	11	142	390	112	115	159	4,669	4,249	—	1	5	50	63
New York (Upstate)	42	24	108	898	942	137	116	1,035	5,401	4,939	2	3	15	104	113
New York City	4	15	24	608	775	155	204	346	8,180	8,051	—	2	6	78	67
Pennsylvania	—	13	29	490	659	60	240	586	10,635	8,870	—	3	10	126	117
E.N. Central	40	46	77	1,819	2,249	507	1,230	2,577	52,257	56,069	1	6	15	206	302
Illinois	—	12	23	474	565	174	351	498	13,931	15,953	—	1	6	48	92
Indiana	N	0	0	N	N	96	166	307	7,012	6,944	—	1	7	45	65
Michigan	2	12	20	441	568	159	286	747	11,314	11,780	—	0	5	21	23
Ohio	28	15	37	642	641	30	314	1,556	14,869	15,894	1	2	5	83	65
Wisconsin	10	7	19	262	475	48	129	181	5,131	5,498	—	0	2	9	57
W.N. Central	14	20	553	879	1,525	142	373	512	14,753	15,303	—	3	24	106	120
Iowa	1	5	21	230	241	23	39	60	1,496	1,474	—	0	1	1	1
Kansas	—	3	8	108	164	—	42	86	1,770	1,768	—	0	2	9	16
Minnesota	—	0	514	12	476	1	59	86	2,150	2,585	—	1	17	47	60
Missouri	6	7	22	342	453	101	198	266	7,916	7,988	—	1	5	34	31
Nebraska§	5	2	8	101	99	11	27	57	1,140	1,083	—	0	2	13	7
North Dakota	2	0	16	18	16	1	2	7	76	110	—	0	2	2	5
South Dakota	—	1	6	68	76	5	6	11	205	295	—	0	0	—	—
S. Atlantic	51	56	106	2,194	2,122	944	1,590	3,209	60,948	69,432	4	11	34	459	441
Delaware	—	1	6	34	35	6	26	43	1,015	1,160	—	0	3	6	1
District of Columbia	—	0	7	34	53	—	47	72	1,768	1,372	—	0	2	3	4
Florida	34	24	47	1,017	845	480	472	717	18,769	19,122	2	3	8	128	133
Georgia	7	10	33	461	509	1	293	2,068	7,933	13,890	1	2	7	94	91
Maryland§	5	4	17	193	186	98	118	227	4,836	5,672	—	1	6	65	64
North Carolina	—	0	0	—	—	—	282	675	10,411	13,820	—	1	9	46	46
South Carolina§	4	2	8	79	83	267	206	1,361	10,769	8,418	1	1	4	40	29
Virginia§	—	9	19	338	388	86	122	222	4,728	5,251	—	1	22	53	54
West Virginia	1	0	21	38	23	6	18	36	719	727	—	0	6	24	19
E.S. Central	5	10	23	406	350	343	560	752	21,695	24,465	—	2	9	98	95
Alabama§	—	4	16	175	167	—	153	242	5,483	8,626	—	0	3	20	20
Kentucky	N	0	0	N	N	27	54	268	2,495	2,305	—	0	1	2	5
Mississippi	N	0	0	N	N	148	141	310	5,873	5,864	—	0	1	7	12
Tennessee§	5	5	16	231	183	168	193	261	7,844	7,670	—	2	6	69	58
W.S. Central	13	7	55	287	270	710	979	1,177	39,513	40,188	—	2	34	81	73
Arkansas§	7	2	13	98	100	106	78	120	3,150	3,392	—	0	2	8	8
Louisiana	—	1	9	74	70	111	220	384	8,720	8,646	—	0	2	6	18
Oklahoma	6	3	42	115	100	121	101	235	4,044	3,596	—	1	29	61	40
Texas§	N	0	0	N	N	372	575	731	23,599	24,554	—	0	3	6	7
Mountain	41	30	63	1,258	1,353	20	250	374	9,441	12,107	5	4	12	202	174
Arizona	1	3	11	152	134	14	104	206	3,437	4,362	5	1	6	77	74
Colorado	—	8	24	368	452	—	53	93	1,945	2,945	—	1	4	45	43
Idaho§	7	3	12	139	151	6	4	20	215	132	—	0	1	5	5
Montana§	4	2	8	87	83	—	1	8	50	158	—	0	1	2	—
Nevada§	1	2	8	89	96	—	46	87	1,781	2,307	—	0	2	9	11
New Mexico§	—	2	6	79	66	—	30	58	1,333	1,425	—	1	4	32	24
Utah	28	6	32	313	341	—	17	34	618	674	—	0	3	29	14
Wyoming§	—	1	4	31	30	—	2	5	62	104	—	0	1	3	3
Pacific	82	60	558	2,545	2,206	334	721	875	28,452	32,831	—	3	16	103	87
Alaska	2	1	9	59	84	8	10	27	387	487	—	0	2	10	10
California	40	43	93	1,697	1,755	282	610	734	24,637	27,101	—	0	10	33	25
Hawaii	—	1	4	53	44	1	11	22	490	776	—	0	2	9	14
Oregon§	12	8	15	345	323	40	23	63	846	1,144	—	1	6	49	38
Washington	28	6	449	391	—	3	59	142	2,092	3,323	—	0	5	2	—
American Samoa	U	0	0	U	U	U	0	2	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	U	U
Guam	—	0	0	—	—	—	1	38	74	89	—	0	0	—	1
Puerto Rico	—	5	15	165	195	3	6	23	272	245	—	0	1	2	3
U.S. Virgin Islands	U	0	0	U	U	U	1	3	U	U	U	0	0	U	U

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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 year 2007 are provisional.
† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Hepatitis (viral, acute), by type† A: Current week	A: Previous 52 weeks Med	A: Previous 52 weeks Max	A: Cum 2007	A: Cum 2006	B: Current week	B: Previous 52 weeks Med	B: Previous 52 weeks Max	B: Cum 2007	B: Cum 2006	Legionellosis: Current week	Legionellosis: Previous 52 weeks Med	Legionellosis: Previous 52 weeks Max	Legionellosis: Cum 2007	Legionellosis: Cum 2006
United States	26	54	201	2,168	2,785	33	78	405	3,023	3,436	30	44	106	1,706	2,106
New England	1	2	6	97	156	—	2	5	55	96	3	2	12	96	150
Connecticut	1	0	3	17	34	—	0	5	23	39	1	0	5	31	40
Maine§	—	0	1	3	8	—	0	2	9	20	—	0	1	4	8
Massachusetts	—	1	4	46	74	—	0	1	4	18	—	0	3	15	61
New Hampshire	—	0	3	12	21	—	0	1	5	8	—	0	2	7	13
Rhode Island§	—	0	2	11	11	—	0	3	13	9	2	0	6	31	21
Vermont§	—	0	1	8	8	—	0	1	1	2	—	0	2	8	7
Mid. Atlantic	3	8	17	320	315	1	8	21	343	423	4	12	52	525	764
New Jersey	—	2	5	72	92	—	1	8	64	136	—	1	10	66	100
New York (Upstate)	3	1	11	61	68	1	2	13	76	49	4	4	30	168	260
New York City	—	3	7	122	103	—	1	6	74	101	—	2	8	78	149
Pennsylvania	—	1	5	65	52	—	3	8	129	137	—	4	21	213	255
E.N. Central	5	6	13	224	287	9	9	23	345	404	6	9	27	391	470
Illinois	—	2	5	79	89	—	2	6	96	114	—	1	6	56	103
Indiana	4	0	7	26	21	5	0	21	46	44	—	1	6	43	36
Michigan	1	1	8	59	95	—	2	8	85	117	2	2	10	116	117
Ohio	—	1	4	53	45	4	2	7	106	100	4	3	17	168	178
Wisconsin	—	0	3	7	37	—	0	3	12	29	—	0	3	8	36
W.N. Central	2	2	18	132	108	—	2	15	101	112	5	1	9	77	61
Iowa	—	1	4	35	9	—	0	3	17	19	—	0	1	8	10
Kansas	—	0	1	3	25	—	0	2	7	10	—	0	1	2	7
Minnesota	—	0	17	56	9	—	0	13	17	14	4	0	6	21	12
Missouri	1	0	2	21	39	—	1	5	47	52	—	1	3	33	19
Nebraska§	1	0	2	12	17	—	0	3	9	12	1	0	1	9	8
North Dakota	—	0	3	—	—	—	0	1	—	—	—	0	1	—	—
South Dakota	—	0	1	5	9	—	0	1	4	5	—	0	1	4	5
S. Atlantic	9	10	21	410	435	7	18	56	764	954	6	7	25	288	350
Delaware	—	0	1	7	11	—	0	3	15	37	—	0	2	6	9
District of Columbia	—	0	5	14	6	—	0	2	1	5	—	0	4	1	19
Florida	6	3	11	128	174	6	7	14	270	331	3	2	10	122	129
Georgia	—	1	4	58	46	—	2	7	91	165	—	0	2	18	26
Maryland§	2	1	5	62	54	—	2	6	88	125	2	1	6	53	78
North Carolina	1	0	11	49	66	1	0	16	108	123	1	1	4	36	29
South Carolina§	—	0	4	15	21	—	1	5	51	72	—	0	2	14	4
Virginia§	—	1	5	69	52	—	3	8	102	50	—	1	4	30	46
West Virginia	—	0	2	8	5	—	0	23	38	46	—	0	4	8	10
E.S. Central	—	2	5	86	107	2	6	17	268	255	2	2	6	75	82
Alabama§	—	0	3	15	12	—	2	10	92	72	—	0	1	7	9
Kentucky	—	0	2	18	31	1	1	7	56	60	1	1	6	39	31
Mississippi	—	0	4	8	7	—	0	8	17	9	—	0	1	—	3
Tennessee§	—	1	5	45	57	1	3	8	103	114	1	1	4	29	39
W.S. Central	—	5	43	180	290	8	18	169	619	688	2	2	16	86	56
Arkansas§	—	0	2	10	43	—	1	7	49	60	—	0	3	7	4
Louisiana	—	1	3	24	25	—	1	4	62	49	—	0	1	3	10
Oklahoma	—	0	8	11	6	5	1	24	46	53	—	0	6	5	1
Texas§	—	3	39	135	216	3	13	135	462	526	2	1	13	71	41
Mountain	1	5	15	205	223	2	3	7	137	112	1	2	5	75	101
Arizona	—	3	11	146	132	—	1	4	48	—	—	0	3	25	32
Colorado	—	0	3	20	35	—	0	2	21	30	—	0	2	14	23
Idaho§	—	0	1	4	9	—	0	1	11	11	—	0	1	5	11
Montana§	—	0	2	9	9	—	0	3	—	—	—	0	1	3	5
Nevada§	—	0	2	9	11	—	1	3	29	30	—	0	2	7	7
New Mexico§	—	0	2	9	12	—	0	2	10	21	—	0	2	8	5
Utah	—	0	1	5	13	2	0	4	16	20	1	0	2	10	18
Wyoming§	1	0	1	3	2	—	0	1	2	—	—	0	1	3	—
Pacific	5	12	92	514	864	4	10	106	391	392	1	2	11	93	72
Alaska	1	0	1	4	1	1	0	3	5	5	—	0	1	—	—
California	4	10	40	445	819	2	7	31	288	318	1	1	11	67	72
Hawaii	—	0	2	4	10	—	0	2	5	7	—	0	1	1	—
Oregon§	—	1	2	23	34	1	1	5	52	62	—	0	1	8	—
Washington	—	0	52	38	—	—	0	74	41	—	—	0	3	17	—
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	1	10	45	50	—	1	9	44	50	—	0	2	3	1
U.S. Virgin Islands	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U

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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 year 2007 are provisional.
† Data for acute hepatitis C, viral are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All serogroups				
	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006
		Med	Max				Med	Max				Med	Max		
United States	120	261	1,143	15,201	16,126	9	21	105	828	1,137	7	20	87	806	900
New England	29	38	287	2,826	3,795	—	1	5	37	45	1	1	3	34	38
Connecticut	15	11	214	1,512	1,561	—	0	3	1	10	—	0	1	6	9
Maine§	13	3	53	317	196	—	0	2	6	4	1	0	3	6	4
Massachusetts	—	2	20	64	1,370	—	0	3	21	22	—	0	2	18	19
New Hampshire	—	6	78	670	577	—	0	4	7	8	—	0	1	—	4
Rhode Island§	—	0	93	151	1	—	0	1	—	—	—	0	1	1	—
Vermont§	1	1	13	112	90	—	0	2	2	1	—	0	1	3	2
Mid. Atlantic	66	121	589	7,878	8,303	1	5	12	198	298	1	3	8	111	136
New Jersey	—	26	134	1,725	2,202	—	0	3	—	78	—	0	2	13	18
New York (Upstate)	66	52	426	2,724	3,006	1	1	5	55	36	—	1	3	29	31
New York City	—	1	19	122	271	—	3	7	112	143	1	0	4	26	51
Pennsylvania	—	39	281	3,307	2,824	—	1	3	31	41	—	1	5	43	36
E.N. Central	—	8	104	964	1,625	—	2	8	86	136	2	3	9	106	140
Illinois	—	1	12	111	106	—	1	6	36	67	—	0	3	26	37
Indiana	—	0	7	40	20	—	0	2	9	11	1	0	4	22	21
Michigan	—	1	5	49	47	—	0	2	14	17	1	0	3	21	24
Ohio	—	0	3	15	40	—	0	2	18	27	—	1	3	28	39
Wisconsin	—	5	91	749	1,412	—	0	2	9	14	—	0	3	9	19
W.N. Central	1	5	195	343	507	—	0	12	28	33	1	1	5	50	54
Iowa	—	1	11	93	92	—	0	1	3	1	—	0	3	11	15
Kansas	—	0	2	9	4	—	0	1	2	7	—	0	1	1	4
Minnesota	1	1	188	209	396	—	0	12	11	14	1	0	3	16	12
Missouri	—	0	6	25	5	—	0	1	5	6	—	0	3	13	13
Nebraska§	—	0	1	5	9	—	0	1	6	3	—	0	2	4	6
North Dakota	—	0	7	2	—	—	0	1	—	1	—	0	3	2	1
South Dakota	—	0	0	—	1	—	0	1	1	1	—	0	1	3	3
S. Atlantic	20	52	169	2,945	1,748	1	4	13	197	284	1	3	11	140	156
Delaware	5	11	34	601	421	—	0	1	4	5	—	0	1	1	4
District of Columbia	—	0	7	13	41	—	0	2	3	3	—	0	1	—	1
Florida	3	1	11	76	19	1	1	7	48	49	—	1	7	53	60
Georgia	—	0	1	1	7	—	0	5	29	79	—	0	5	21	14
Maryland§	12	25	109	1,519	988	—	1	5	48	66	—	0	2	20	13
North Carolina	—	0	8	40	25	—	0	4	18	25	1	0	6	16	24
South Carolina§	—	0	2	22	18	—	0	1	6	9	—	0	2	14	18
Virginia§	—	11	60	616	217	—	1	4	39	46	—	0	2	13	16
West Virginia	—	0	14	57	12	—	0	1	2	2	—	0	2	2	6
E.S. Central	—	1	5	43	30	2	0	3	30	23	—	1	4	40	33
Alabama§	—	0	3	10	7	—	0	1	5	9	—	0	2	7	5
Kentucky	—	0	2	4	7	—	0	1	7	3	—	0	2	9	7
Mississippi	—	0	0	—	3	—	0	1	2	6	—	0	4	9	4
Tennessee§	—	0	4	29	13	2	0	2	16	5	—	0	2	15	17
W.S. Central	1	1	6	53	18	—	1	29	70	86	1	1	15	81	83
Arkansas§	—	0	1	1	—	—	0	0	—	4	—	0	2	9	10
Louisiana	—	0	1	2	—	—	0	2	14	6	—	0	4	25	33
Oklahoma	—	0	0	—	—	—	0	3	5	7	—	0	4	15	8
Texas§	1	1	6	50	18	—	1	25	51	69	1	0	11	32	32
Mountain	—	0	4	34	25	—	1	6	48	61	—	1	4	52	60
Arizona	—	0	1	2	9	—	0	3	11	20	—	0	2	12	14
Colorado	—	0	1	2	—	—	0	2	16	13	—	0	2	17	20
Idaho§	—	0	2	7	5	—	0	2	2	1	—	0	1	3	3
Montana§	—	0	2	4	—	—	0	1	3	2	—	0	1	2	4
Nevada§	—	0	2	7	3	—	0	1	2	3	—	0	1	4	5
New Mexico§	—	0	1	4	3	—	0	1	3	5	—	0	1	2	4
Utah	—	0	2	5	4	—	0	3	11	17	—	0	2	10	6
Wyoming§	—	0	1	3	1	—	0	0	—	—	—	0	1	2	4
Pacific	3	2	16	115	75	5	3	45	134	171	—	4	48	192	200
Alaska	—	0	1	5	3	—	0	1	2	23	—	0	1	1	3
California	3	2	9	106	66	5	2	7	95	130	—	3	10	138	153
Hawaii	N	0	0	N	N	—	0	1	2	8	—	0	2	8	8
Oregon§	—	0	1	3	6	—	0	3	13	10	—	0	3	27	36
Washington	—	0	8	1	—	—	0	43	22	—	—	0	43	18	—
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	0	—	—
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	3	1	—	0	1	6	6
U.S. Virgin Islands	U	0	0	U	U	U	0	0	U	U	U	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 year 2007 are provisional.
† Data for meningococcal disease, invasive caused by serogroups A, C, Y, & W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006
		Med	Max				Med	Max				Med	Max		
United States	60	172	1,479	6,690	11,136	66	94	148	3,927	4,538	20	31	211	1,632	1,786
New England	3	29	77	1,050	1,367	16	12	22	481	373	—	0	10	2	11
Connecticut	—	2	5	49	91	5	4	10	189	165	—	0	0	—	—
Maine†	1	2	14	63	108	5	2	7	72	94	—	0	0	—	—
Massachusetts	—	24	46	845	856	—	0	0	—	—	—	0	1	2	10
New Hampshire	—	1	9	48	175	—	1	4	41	35	—	0	0	—	1
Rhode Island†	—	0	31	16	45	2	0	4	35	25	—	0	9	—	—
Vermont†	2	0	9	29	92	4	3	13	144	54	—	0	0	—	—
Mid. Atlantic	10	24	155	909	1,457	—	13	44	605	441	—	1	6	49	79
New Jersey	—	3	11	116	249	—	0	0	—	—	—	0	2	6	36
New York (Upstate)	10	13	146	478	648	—	—	—	—	—	—	0	1	3	—
New York City	—	2	6	90	77	—	1	5	33	29	—	0	3	19	22
Pennsylvania	—	7	15	225	483	—	12	44	572	412	—	0	3	21	21
E.N. Central	6	31	79	1,172	1,730	6	4	48	354	143	—	1	4	40	57
Illinois	—	3	23	109	432	1	1	15	108	46	—	0	3	23	24
Indiana	—	0	45	47	181	1	0	1	11	11	—	0	2	5	6
Michigan	—	7	29	236	467	2	1	27	166	41	—	0	1	3	3
Ohio	6	16	54	581	475	2	0	11	69	45	—	0	2	9	23
Wisconsin	—	3	24	199	175	—	0	0	—	—	—	0	0	—	1
W.N. Central	3	13	151	496	1,039	—	5	13	226	271	2	4	31	335	184
Iowa	—	3	16	113	250	—	0	3	31	54	—	0	4	13	5
Kansas	—	3	13	104	239	—	2	8	95	67	—	0	1	1	1
Minnesota	—	0	119	111	161	—	0	5	27	36	—	0	1	1	3
Missouri	—	2	9	63	264	—	0	3	39	63	2	3	25	305	152
Nebraska†	3	1	12	51	80	—	0	0	—	—	—	0	2	11	23
North Dakota	—	0	18	4	25	—	0	6	16	16	—	0	0	—	—
South Dakota	—	1	6	50	20	—	0	2	18	35	—	0	1	4	—
S. Atlantic	9	18	163	754	880	36	40	76	1,699	1,903	14	13	111	801	972
Delaware	—	0	2	10	3	—	0	0	—	—	—	0	2	12	21
District of Columbia	—	0	1	2	6	—	0	0	—	—	—	0	1	1	1
Florida	—	4	18	186	176	—	0	29	101	176	2	0	4	19	10
Georgia	—	1	5	25	79	—	4	34	200	220	—	0	5	30	48
Maryland†	2	2	8	87	117	—	7	18	285	349	2	1	7	51	70
North Carolina	5	2	112	255	155	16	9	19	412	426	10	5	96	519	702
South Carolina†	2	2	9	65	148	—	1	11	46	145	—	1	7	60	34
Virginia†	—	2	17	97	157	11	13	31	592	499	—	2	10	104	83
West Virginia	—	0	19	27	39	9	0	8	63	88	—	0	3	5	3
E.S. Central	1	5	28	301	293	—	3	11	133	208	2	4	16	210	331
Alabama†	—	1	18	63	73	—	0	5	—	69	—	1	8	61	81
Kentucky	—	0	1	5	56	—	0	3	18	25	—	0	2	5	3
Mississippi	—	1	26	162	32	—	0	1	1	4	—	0	2	9	5
Tennessee†	1	2	7	71	132	—	3	9	114	110	2	2	10	135	242
W.S. Central	7	20	226	732	667	1	2	32	71	797	2	1	168	158	105
Arkansas†	—	2	17	119	73	1	0	5	26	26	2	0	53	82	46
Louisiana	—	0	1	14	24	—	0	1	—	5	—	0	1	2	4
Oklahoma	—	0	36	6	18	—	0	22	45	52	—	0	108	45	28
Texas†	7	16	174	593	552	—	0	26	—	714	—	0	7	29	27
Mountain	21	22	61	844	2,143	1	3	14	183	190	—	0	4	29	45
Arizona	—	4	13	171	444	—	2	12	127	125	—	0	1	7	11
Colorado	—	6	17	218	643	—	0	0	—	—	—	0	2	3	4
Idaho†	—	1	5	34	80	—	0	0	—	24	—	0	1	4	14
Montana†	—	0	7	33	103	—	0	3	15	14	—	0	1	1	2
Nevada†	—	0	5	11	65	—	0	1	2	5	—	0	0	—	—
New Mexico†	—	2	8	55	99	—	0	2	8	8	—	0	1	4	7
Utah	21	7	47	303	640	1	0	2	14	9	—	0	0	—	—
Wyoming†	—	0	5	19	69	—	0	4	17	5	—	0	2	10	7
Pacific	—	12	547	432	1,560	6	4	10	175	212	—	0	3	8	2
Alaska	—	0	8	41	81	1	0	6	37	15	N	0	0	N	N
California	—	3	167	113	1,304	4	2	8	127	174	—	0	3	6	—
Hawaii	—	0	2	18	84	N	0	0	N	N	N	0	0	N	N
Oregon†	—	2	11	89	91	1	0	3	11	23	—	0	1	2	2
Washington	—	2	377	171	—	—	0	0	—	—	N	0	0	N	N
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	U	U
Guam	—	0	2	—	59	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	1	—	1	—	1	5	37	68	N	0	0	N	N
U.S. Virgin Islands	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U

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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 year 2007 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 October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Salmonellosis					Shiga toxin-producing *E. coli* (STEC)†					Shigellosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2007	Cum 2006	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2007	Cum 2006	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2007	Cum 2006
United States	637	861	2,338	32,760	34,538	81	80	336	3,365	3,250	266	331	1,287	12,144	10,522
New England	7	34	365	1,824	1,927	—	3	83	248	249	8	4	37	205	243
Connecticut	—	0	350	350	503	—	0	77	77	75	—	0	34	34	67
Maine§	3	2	14	103	104	—	1	4	33	36	—	0	5	14	4
Massachusetts	—	23	57	1,096	1,000	—	2	10	109	88	—	3	8	136	150
New Hampshire	—	3	10	130	184	—	0	3	14	24	—	0	2	5	4
Rhode Island§	4	1	20	80	77	—	0	2	6	8	8	0	3	13	12
Vermont§	—	2	5	65	59	—	0	1	9	18	—	0	1	3	6
Mid. Atlantic	31	98	176	3,975	4,384	5	7	63	320	385	4	11	47	553	763
New Jersey	—	11	25	321	933	—	1	20	27	98	—	2	9	91	270
New York (Upstate)	23	29	112	1,159	1,019	5	3	15	162	136	3	3	42	116	192
New York City	8	24	50	1,107	1,049	—	0	4	28	40	1	5	10	209	227
Pennsylvania	—	32	69	1,388	1,383	—	3	47	103	111	—	1	21	137	74
E.N. Central	49	104	219	4,440	4,595	22	9	28	459	573	25	33	128	1,707	1,103
Illinois	—	30	153	1,342	1,296	—	1	6	37	95	—	10	32	374	513
Indiana	20	14	54	579	724	13	1	9	78	73	5	2	11	88	118
Michigan	4	16	35	711	822	2	1	6	72	77	—	1	7	54	133
Ohio	23	26	65	1,081	1,011	6	3	11	138	150	17	9	104	1,000	132
Wisconsin	2	17	50	727	742	1	3	8	134	178	3	3	13	191	207
W.N. Central	47	49	101	2,159	2,140	21	11	45	605	559	24	37	156	1,516	1,384
Iowa	2	8	19	367	381	—	2	38	139	112	—	2	14	70	92
Kansas	—	6	20	274	301	—	0	4	37	21	—	0	3	20	121
Minnesota	20	13	44	557	547	13	4	17	208	170	10	5	24	200	142
Missouri	18	15	26	588	607	5	2	12	114	142	13	18	72	1,094	577
Nebraska§	6	4	12	205	160	2	1	6	68	69	1	0	7	20	113
North Dakota	1	0	23	35	22	1	0	12	2	5	—	0	127	5	63
South Dakota	—	3	11	133	122	—	0	5	37	40	—	1	30	107	276
S. Atlantic	327	222	421	8,853	8,906	7	15	37	544	498	81	88	174	3,625	2,400
Delaware	1	2	8	123	131	—	0	3	13	7	—	0	2	10	8
District of Columbia	—	0	4	16	51	—	0	1	1	2	—	0	5	4	14
Florida	169	85	176	3,511	3,613	1	2	8	113	73	32	45	76	1,877	1,110
Georgia	48	33	70	1,541	1,474	—	1	8	76	70	18	32	94	1,303	888
Maryland§	12	15	37	693	616	3	2	5	77	98	1	2	9	87	98
North Carolina	69	29	110	1,243	1,286	2	2	24	117	92	—	0	14	71	127
South Carolina§	24	17	51	816	834	—	0	3	15	11	20	2	8	126	76
Virginia§	—	19	39	757	798	—	3	8	115	133	—	3	11	123	75
West Virginia	4	3	31	153	103	1	0	5	17	12	10	0	7	24	4
E.S. Central	31	54	134	2,307	2,243	7	4	26	253	254	26	26	91	1,472	560
Alabama§	—	14	78	624	599	—	0	19	55	28	—	10	67	453	169
Kentucky	14	9	22	454	370	3	1	10	92	81	21	3	33	377	189
Mississippi	—	12	101	580	655	—	0	2	4	10	—	5	76	486	80
Tennessee§	17	17	34	649	619	4	2	10	102	135	5	3	14	156	122
W.S. Central	40	83	595	3,143	4,034	1	3	73	140	169	56	39	655	1,378	1,493
Arkansas§	6	14	46	590	742	—	1	5	27	38	2	2	10	72	81
Louisiana	—	16	41	573	861	—	0	2	3	13	—	8	22	349	200
Oklahoma	34	8	103	499	403	1	0	17	17	18	2	3	63	99	104
Texas§	—	43	470	1,481	2,028	—	2	68	93	100	52	24	580	858	1,108
Mountain	23	48	90	1,978	2,115	8	8	31	395	453	19	19	66	739	1,090
Arizona	4	17	44	728	693	1	2	8	87	85	7	11	37	434	552
Colorado	—	10	22	429	516	—	1	9	64	96	—	2	9	88	182
Idaho§	3	3	7	105	143	3	1	16	112	79	1	0	2	9	14
Montana§	—	1	6	74	111	—	0	0	—	—	—	1	13	19	24
Nevada§	3	4	10	145	180	—	0	5	18	30	9	0	9	47	103
New Mexico§	—	5	13	205	208	—	1	3	32	40	—	2	7	82	151
Utah	12	4	18	233	227	4	1	9	82	105	2	1	5	29	54
Wyoming§	1	1	4	59	37	—	0	1	—	18	—	0	19	31	10
Pacific	82	103	890	4,081	4,194	10	6	164	401	110	23	25	256	949	1,486
Alaska	1	1	5	65	65	N	0	0	N	N	—	0	2	7	7
California	68	81	260	3,044	3,597	6	3	34	206	N	18	21	84	772	1,327
Hawaii	—	5	16	208	190	1	0	4	19	13	—	0	2	21	41
Oregon§	—	7	15	249	340	—	1	11	70	97	—	1	6	61	111
Washington	13	10	625	515	2	3	1	162	106	—	5	1	170	88	—
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	U	U
Guam	—	0	0	—	—	N	0	0	N	N	—	0	0	—	—
Puerto Rico	—	13	66	446	450	—	0	0	—	—	—	0	4	18	33
U.S. Virgin Islands	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U

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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 year 2007 are provisional.
† Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; 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 October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Streptococcal disease, invasive, group A					*Streptococcus pneumoniae*, invasive disease, nondrug resistant† Age <5 years				
	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006
		Med	Max				Med	Max		
United States	22	97	261	4,028	4,326	15	30	108	1,208	1,031
New England	1	6	28	326	291	1	2	11	94	93
Connecticut	—	0	23	99	77	—	0	6	12	27
Maine§	—	0	3	22	16	—	0	1	2	—
Massachusetts	—	3	12	153	146	1	2	6	63	55
New Hampshire	—	0	4	31	34	—	0	2	7	7
Rhode Island§	1	0	12	5	6	—	0	2	8	4
Vermont§	—	0	2	16	12	—	0	1	2	—
Mid. Atlantic	2	17	41	743	781	4	4	27	194	141
New Jersey	—	3	10	107	126	—	1	4	25	52
New York (Upstate)	2	5	27	245	251	4	2	15	86	70
New York City	—	4	13	176	139	—	1	25	83	19
Pennsylvania	—	5	11	215	265	N	0	0	N	N
E.N. Central	5	17	33	683	827	2	5	14	182	271
Illinois	—	5	13	185	251	—	1	6	47	68
Indiana	1	2	17	110	99	—	0	10	16	47
Michigan	—	4	10	164	174	—	1	4	59	63
Ohio	4	4	14	196	206	2	1	7	51	53
Wisconsin	—	0	6	28	97	—	0	2	9	40
W.N. Central	1	5	32	275	291	4	2	8	90	87
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	3	28	47	—	0	1	1	11
Minnesota	—	0	29	137	136	3	1	6	61	54
Missouri	—	2	6	67	62	1	0	2	17	11
Nebraska§	—	0	3	23	26	—	0	2	10	8
North Dakota	1	0	2	13	10	—	0	2	1	3
South Dakota	—	0	2	7	10	—	0	0	—	—
S. Atlantic	7	22	52	1,014	969	1	4	14	222	63
Delaware	—	0	1	9	10	—	0	0	—	—
District of Columbia	—	0	3	8	13	—	0	1	—	1
Florida	5	6	16	253	238	—	1	5	52	—
Georgia	2	5	13	199	201	—	0	5	44	—
Maryland§	—	4	10	174	180	1	1	6	50	51
North Carolina	—	1	22	141	138	—	0	0	—	—
South Carolina§	—	1	7	83	55	—	0	4	38	—
Virginia§	—	2	11	124	109	—	0	4	31	—
West Virginia	—	0	3	23	25	—	0	4	7	11
E.S. Central	—	4	13	171	172	—	1	6	74	16
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	3	33	39	—	0	0	—	—
Mississippi	N	0	0	N	N	—	0	2	3	16
Tennessee§	—	3	13	138	133	—	1	6	71	—
W.S. Central	2	6	90	254	330	3	4	43	175	177
Arkansas§	—	0	2	17	23	—	0	2	10	18
Louisiana	—	0	4	16	16	—	0	4	27	20
Oklahoma	—	1	23	60	85	1	1	13	41	43
Texas§	2	3	64	161	206	2	1	27	97	96
Mountain	3	9	23	449	567	—	4	12	151	163
Arizona	1	4	11	176	295	—	2	7	89	91
Colorado	—	3	9	127	98	—	1	4	36	43
Idaho§	—	0	2	15	8	—	0	1	2	1
Montana§	N	0	0	N	N	N	0	0	N	N
Nevada§	—	0	1	2	—	—	0	1	1	2
New Mexico§	—	1	4	48	109	—	0	4	19	26
Utah	2	2	7	76	54	—	0	2	4	—
Wyoming§	—	0	1	5	3	—	0	0	—	—
Pacific	1	3	9	113	98	—	0	4	26	20
Alaska	—	0	3	30	N	—	0	2	24	—
California	N	0	0	N	N	N	0	0	N	N
Hawaii	1	2	9	83	98	—	0	2	2	20
Oregon§	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U
Guam	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	0	—	—	N	0	0	N	N
U.S. Virgin Islands	U	0	0	U	U	U	0	0	U	U

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 year 2007 are provisional.
† Includes cases of invasive pneumococcal disease, in children aged <5 years, caused by *S. pneumoniae*, which is susceptible or for which susceptibility testing is not available (NNDSS event code 11717).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	*Streptococcus pneumoniae*, invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages					Age <5 years									
	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006
		Med	Max				Med	Max				Med	Max		
United States	17	48	256	1,824	1,930	6	9	35	335	309	99	203	310	8,023	7,478
New England	—	2	12	86	101	—	0	3	10	3	2	5	13	202	162
Connecticut	—	2	5	50	76	—	0	2	4	—	—	0	10	25	34
Maine§	—	0	2	9	6	—	0	2	1	1	1	0	2	9	8
Massachusetts	—	0	0	—	—	—	0	0	—	—	1	3	8	123	99
New Hampshire	—	0	0	—	—	—	0	0	—	—	—	0	3	22	10
Rhode Island§	—	0	4	14	9	—	0	1	3	—	—	0	5	21	9
Vermont§	—	0	2	13	10	—	0	1	2	2	—	0	1	2	2
Mid. Atlantic	—	2	9	99	113	—	0	5	21	15	16	29	44	1,203	897
New Jersey	—	0	0	—	—	—	0	0	—	—	5	4	8	160	135
New York (Upstate)	—	1	5	35	36	—	0	4	7	7	3	3	14	111	121
New York City	—	0	0	—	—	—	0	0	—	—	5	17	34	737	426
Pennsylvania	—	2	6	64	77	—	0	2	14	8	3	5	10	195	215
E.N. Central	5	10	40	427	404	2	2	7	59	66	4	15	27	621	699
Illinois	—	0	4	15	21	—	0	1	2	6	—	7	13	282	339
Indiana	3	2	31	113	107	1	0	5	19	17	1	1	6	43	72
Michigan	—	0	1	2	15	—	0	1	1	2	—	2	9	93	88
Ohio	2	5	38	297	261	1	1	5	37	41	3	4	10	157	145
Wisconsin	N	0	0	N	N	—	0	0	—	—	—	1	4	46	55
W.N. Central	—	1	124	116	85	—	0	15	9	13	2	6	13	274	226
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	3	11	15
Kansas	—	0	11	63	—	—	0	2	5	—	—	0	3	16	18
Minnesota	—	0	123	—	51	—	0	15	—	10	—	1	5	53	41
Missouri	—	1	5	45	32	—	0	1	—	3	2	4	11	185	134
Nebraska§	—	0	1	2	1	—	0	0	—	—	—	0	2	2	5
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	1
South Dakota	—	0	3	6	1	—	0	1	4	—	—	0	3	7	12
S. Atlantic	8	21	59	809	921	3	4	15	172	142	37	48	180	1,883	1,677
Delaware	—	0	1	7	—	—	0	1	2	—	—	0	3	12	16
District of Columbia	—	0	2	5	21	—	0	0	—	2	—	2	12	133	96
Florida	8	11	29	467	494	2	2	8	100	91	16	16	38	698	579
Georgia	—	7	17	280	311	1	1	10	62	49	—	7	153	272	301
Maryland§	—	0	1	1	—	—	0	0	—	—	4	6	15	247	244
North Carolina	—	0	0	—	—	—	0	0	—	—	16	5	23	263	240
South Carolina§	—	0	0	—	—	—	0	0	—	—	1	2	11	82	55
Virginia§	N	0	0	N	N	—	0	0	—	—	—	4	17	171	137
West Virginia	—	1	17	49	95	—	0	1	8	—	—	0	1	5	9
E.S. Central	4	3	9	128	158	1	0	3	28	28	7	17	30	679	559
Alabama§	N	0	0	N	N	—	0	0	—	—	—	6	16	267	255
Kentucky	—	0	2	19	30	—	0	1	2	6	—	1	7	46	56
Mississippi	—	0	2	—	22	—	0	0	—	—	1	2	9	85	52
Tennessee§	4	2	8	109	106	1	0	3	26	22	6	6	15	281	196
W.S. Central	—	2	11	114	68	—	0	3	17	7	26	35	55	1,424	1,218
Arkansas§	—	0	1	1	10	—	0	0	—	2	2	1	10	96	60
Louisiana	—	1	4	52	58	—	0	2	7	5	6	8	29	360	236
Oklahoma	—	0	9	61	—	—	0	2	10	—	2	1	4	44	57
Texas§	—	0	0	—	—	—	0	0	—	—	16	21	39	924	865
Mountain	—	1	5	45	80	—	0	3	16	35	—	7	19	270	399
Arizona	—	0	0	—	—	—	0	0	—	—	—	3	12	104	150
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	5	31	58
Idaho§	N	0	0	N	N	—	0	0	—	—	—	0	1	1	3
Montana§	—	0	0	—	—	—	0	0	—	—	—	0	1	1	1
Nevada§	—	0	3	18	16	—	0	2	5	2	—	2	6	87	112
New Mexico§	—	0	0	—	—	—	0	0	—	—	—	1	7	37	61
Utah	—	0	5	15	33	—	0	3	9	23	—	0	2	6	14
Wyoming§	—	0	2	12	31	—	0	1	2	10	—	0	1	3	—
Pacific	—	0	0	—	—	—	0	1	3	—	5	38	57	1,467	1,641
Alaska	—	0	0	—	—	—	0	0	—	—	1	0	1	6	9
California	N	0	0	N	N	—	0	0	—	—	3	36	54	1,338	1,460
Hawaii	—	0	0	—	—	—	0	1	3	—	—	0	2	7	15
Oregon§	N	0	0	N	N	—	0	0	—	—	1	0	6	14	15
Washington	N	0	0	N	N	—	0	0	—	—	—	2	12	102	142
American Samoa	U	0	0	U	U	U	0	1	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	U	U
Guam	N	0	0	N	N	—	0	0	—	—	—	0	1	3	—
Puerto Rico	N	0	0	N	N	—	0	0	—	—	4	3	10	123	114
U.S. Virgin Islands	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U

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 year 2007 are provisional.
† Includes cases of invasive pneumococcal disease caused by drug-resistant *S. pneumoniae* (DRSP) (NNDSS event code 11720).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending October 13, 2007, and October 14, 2006 (41st Week)*

Reporting area	Varicella (chickenpox)					West Nile virus disease†									
						Neuroinvasive					Nonneuroinvasive§				
	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006	Current week	Previous 52 weeks		Cum 2007	Cum 2006
		Med	Max				Med	Max				Med	Max		
United States	374	796	2,813	27,405	35,203	—	1	122	951	1,465	3	2	283	2,071	2,730
New England	3	16	124	544	3,436	—	0	2	6	9	—	0	2	5	3
Connecticut	—	0	76	2	1,272	—	0	2	3	7	—	0	1	1	2
Maine¶	—	0	7	—	188	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	1	—	1,141	—	0	2	3	2	—	0	2	3	1
New Hampshire	—	7	17	246	301	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	0	—	—	—	0	0	—	—	—	0	1	1	—
Vermont¶	3	9	66	296	534	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	—	108	195	3,278	3,858	—	0	3	14	26	—	0	1	4	12
New Jersey	N	0	0	N	N	—	0	1	1	2	—	0	0	—	3
New York (Upstate)	N	0	0	N	N	—	0	0	—	8	—	0	0	—	4
New York City	—	0	0	—	—	—	0	3	10	8	—	0	1	1	4
Pennsylvania	—	108	195	3,278	3,858	—	0	1	3	8	—	0	1	3	1
E.N. Central	103	229	568	7,708	11,285	—	0	14	73	244	—	0	7	38	174
Illinois	—	2	11	111	115	—	0	12	42	127	—	0	6	26	88
Indiana	—	0	0	—	—	—	0	2	6	27	—	0	1	4	53
Michigan	36	97	258	3,123	3,445	—	0	5	12	43	—	0	0	—	12
Ohio	67	106	449	3,677	6,912	—	0	4	10	36	—	0	2	5	11
Wisconsin	—	19	80	797	813	—	0	1	3	11	—	0	1	3	10
W.N. Central	17	32	136	1,304	1,393	—	0	40	230	222	—	0	110	680	479
Iowa	N	0	0	N	N	—	0	4	10	22	—	0	3	13	15
Kansas	—	9	52	439	263	—	0	3	11	17	—	0	7	26	13
Minnesota	—	0	0	—	—	—	0	11	42	31	—	0	11	54	34
Missouri	17	15	78	719	1,025	—	0	9	52	50	—	0	1	9	10
Nebraska¶	N	0	0	N	N	—	0	5	18	44	—	0	15	117	215
North Dakota	—	0	60	84	44	—	0	11	49	20	—	0	45	303	117
South Dakota	—	1	15	62	61	—	0	9	48	38	—	0	32	158	75
S. Atlantic	86	100	239	4,003	3,549	—	0	11	34	17	—	0	6	30	13
Delaware	—	1	4	37	61	—	0	1	1	—	—	0	0	—	—
District of Columbia	—	0	8	14	34	—	0	0	—	—	—	0	1	—	1
Florida	28	21	76	990	N	—	0	1	3	3	—	0	0	—	—
Georgia	N	0	0	N	N	—	0	8	22	2	—	0	4	22	6
Maryland¶	N	0	0	N	N	—	0	2	4	10	—	0	2	5	1
North Carolina	—	0	0	—	—	—	0	1	—	1	—	0	0	—	—
South Carolina¶	40	21	72	851	915	—	0	2	2	—	—	0	1	2	—
Virginia¶	—	28	190	1,201	1,342	—	0	1	2	—	—	0	1	1	5
West Virginia	18	23	50	910	1,197	—	0	0	—	1	—	0	0	—	—
E.S. Central	—	5	571	383	28	—	0	11	59	116	—	0	13	76	95
Alabama¶	—	5	571	380	26	—	0	2	13	8	—	0	1	4	—
Kentucky	N	0	0	N	N	—	0	1	3	5	—	0	0	—	1
Mississippi	—	0	2	3	2	—	0	7	39	87	—	0	11	69	88
Tennessee¶	N	0	0	N	N	—	0	1	4	16	—	0	1	3	6
W.S. Central	119	155	1,640	8,116	9,489	—	0	23	148	366	—	0	12	64	229
Arkansas¶	9	13	105	564	703	—	0	4	10	24	—	0	2	5	5
Louisiana	—	1	11	99	191	—	0	1	1	89	—	0	1	1	85
Oklahoma	—	0	0	—	—	—	0	10	48	26	—	0	7	38	20
Texas¶	110	144	1,534	7,453	8,595	—	0	16	89	227	—	0	4	20	119
Mountain	46	55	131	2,039	2,165	—	0	35	240	379	—	1	139	956	1,465
Arizona	—	0	0	—	—	—	0	7	28	54	—	0	11	34	67
Colorado	—	22	62	813	1,175	—	0	17	95	66	—	0	65	449	278
Idaho¶	N	0	0	N	N	—	0	2	7	139	—	0	16	97	851
Montana¶	1	5	40	305	N	—	0	10	36	12	—	0	30	157	22
Nevada¶	—	0	1	1	9	—	0	1	2	34	—	0	3	9	90
New Mexico¶	—	5	37	302	317	—	0	8	36	3	—	0	6	21	5
Utah	45	14	73	600	628	—	0	8	21	56	—	0	7	26	102
Wyoming¶	—	0	11	18	36	—	0	4	15	15	—	0	34	163	50
Pacific	—	0	9	30	—	—	0	18	147	86	3	0	22	218	260
Alaska	—	0	9	30	N	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	N	—	0	18	143	79	3	0	19	200	195
Hawaii	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oregon¶	N	0	0	N	N	—	0	1	4	7	—	0	4	18	62
Washington	N	0	0	N	N	—	0	0	—	—	—	0	0	—	3
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	—	—	U	U	U	—	—	U	U	U	—	—	U	U
Guam	2	6	30	168	191	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	11	30	467	463	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U

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 year 2007 are provisional.
† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.
§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/epo/dphsi/phs/infdis.htm.
¶ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE III. Deaths in 122 U.S. cities,* week ending October 13, 2007 (41st Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
New England	512	347	117	25	12	11	43
Boston, MA	146	95	37	8	5	1	13
Bridgeport, CT	31	20	9	2	—	—	4
Cambridge, MA	12	10	2	—	—	—	1
Fall River, MA	18	14	3	—	1	—	—
Hartford, CT	46	28	11	1	2	4	3
Lowell, MA	22	17	5	—	—	—	4
Lynn, MA	6	4	1	1	—	—	1
New Bedford, MA	20	13	4	1	1	1	1
New Haven, CT	52	36	9	4	1	2	6
Providence, RI	50	33	12	3	2	—	1
Somerville, MA	3	3	—	—	—	—	—
Springfield, MA	40	23	12	3	—	2	3
Waterbury, CT	20	17	3	—	—	—	2
Worcester, MA	46	34	9	2	—	1	4
Mid. Atlantic	2,021	1,397	443	114	31	35	79
Albany, NY	34	22	9	2	—	1	1
Allentown, PA	39	25	11	3	—	—	1
Buffalo, NY	68	45	16	5	—	2	7
Camden, NJ	35	23	9	1	1	1	2
Elizabeth, NJ	22	19	2	—	—	1	1
Erie, PA	47	35	10	1	—	1	3
Jersey City, NJ	29	15	10	4	—	—	1
New York City, NY	995	727	197	50	11	9	30
Newark, NJ	38	16	12	8	—	2	2
Paterson, NJ	24	14	8	1	—	1	2
Philadelphia, PA	321	187	91	26	11	6	10
Pittsburgh, PA§	34	22	1	3	2	6	—
Reading, PA	25	21	3	1	—	—	1
Rochester, NY	115	80	25	3	4	3	12
Schenectady, NY	15	12	3	—	—	—	—
Scranton, PA	23	20	3	—	—	—	—
Syracuse, NY	79	57	19	1	—	2	3
Trenton, NJ	33	20	10	2	1	—	1
Utica, NY	18	15	1	1	1	—	—
Yonkers, NY	27	22	3	2	—	—	2
E.N. Central	1,784	1,168	396	143	50	27	107
Akron, OH	60	39	15	5	—	1	1
Canton, OH	33	22	7	2	1	1	3
Chicago, IL	230	137	64	21	6	2	19
Cincinnati, OH	72	45	16	9	1	1	11
Cleveland, OH	204	146	42	9	3	4	7
Columbus, OH	172	107	41	21	3	—	14
Dayton, OH	99	79	15	4	1	—	6
Detroit, MI	160	86	40	21	8	5	8
Evansville, IN	39	23	12	4	—	—	2
Fort Wayne, IN	57	46	9	1	1	—	4
Gary, IN	15	6	4	1	2	2	—
Grand Rapids, MI	47	33	7	5	1	1	5
Indianapolis, IN	192	111	43	20	13	5	12
Lansing, MI	35	26	5	3	—	1	1
Milwaukee, WI	90	60	24	4	1	1	5
Peoria, IL	50	35	9	3	2	1	4
Rockford, IL	54	36	10	2	5	1	—
South Bend, IN	39	30	8	1	—	—	—
Toledo, OH	85	61	17	6	1	—	4
Youngstown, OH	51	40	8	1	1	1	1
W.N. Central	548	372	111	38	13	14	40
Des Moines, IA	100	80	16	3	—	1	11
Duluth, MN	24	16	6	—	2	—	2
Kansas City, KS	23	13	7	3	—	—	3
Kansas City, MO	87	57	18	7	4	1	3
Lincoln, NE	47	35	8	3	1	—	6
Minneapolis, MN	70	37	19	10	—	4	8
Omaha, NE	66	41	15	3	3	4	3
St. Louis, MO	26	13	7	2	3	1	—
St. Paul, MN	36	32	2	2	—	—	1
Wichita, KS	69	48	13	5	—	3	3
S. Atlantic	1,111	703	280	74	33	21	68
Atlanta, GA	85	52	19	8	5	1	5
Baltimore, MD	135	77	39	15	3	1	14
Charlotte, NC	134	84	37	9	2	2	9
Jacksonville, FL	175	107	45	17	5	1	16
Miami, FL	103	71	26	3	1	2	5
Norfolk, VA	53	33	12	3	2	3	3
Richmond, VA	61	33	21	3	—	4	1
Savannah, GA	56	38	11	3	3	1	3
St. Petersburg, FL	96	67	22	3	4	—	5
Tampa, FL	140	94	29	9	4	4	6
Washington, D.C.	62	39	16	1	4	2	1
Wilmington, DE	11	8	3	—	—	—	—
E.S. Central	842	533	198	80	16	15	58
Birmingham, AL	169	103	35	17	8	6	10
Chattanooga, TN	86	59	17	9	1	—	12
Knoxville, TN	95	65	22	7	—	1	2
Lexington, KY	70	48	18	4	—	—	3
Memphis, TN	138	89	38	10	1	—	12
Mobile, AL	88	51	22	13	1	1	5
Montgomery, AL	48	27	15	5	—	1	5
Nashville, TN	148	91	31	15	5	6	9
W.S. Central	1,258	800	278	111	42	27	83
Austin, TX	95	59	20	9	4	3	7
Baton Rouge, LA	30	9	9	2	10	—	4
Corpus Christi, TX	54	35	14	5	—	—	4
Dallas, TX	183	111	49	11	4	8	10
El Paso, TX	94	69	15	7	1	2	6
Fort Worth, TX	88	58	21	4	3	2	4
Houston, TX	260	148	66	31	10	5	22
Little Rock, AR	77	49	15	8	2	3	3
New Orleans, LA¶	U	U	U	U	U	U	U
San Antonio, TX	204	140	34	23	6	1	10
Shreveport, LA	68	41	17	6	1	3	8
Tulsa, OK	105	81	18	5	1	—	5
Mountain	958	623	211	70	25	29	52
Albuquerque, NM	119	76	27	11	2	3	5
Boise, ID	33	23	7	2	1	—	4
Colorado Springs, CO	65	40	14	10	—	1	1
Denver, CO	78	52	13	4	5	4	5
Las Vegas, NV	190	120	51	13	3	3	16
Ogden, UT	31	26	5	—	—	—	1
Phoenix, AZ	167	99	44	11	2	11	9
Pueblo, CO	23	17	4	2	—	—	—
Salt Lake City, UT	124	72	31	10	7	4	6
Tucson, AZ	128	98	15	7	5	3	5
Pacific	1,273	858	275	80	35	24	84
Berkeley, CA	11	8	2	1	—	—	—
Fresno, CA	86	65	13	6	2	—	4
Glendale, CA	U	U	U	U	U	U	U
Honolulu, HI	53	39	8	4	2	—	3
Long Beach, CA	67	45	15	4	2	1	10
Los Angeles, CA	U	U	U	U	U	U	U
Pasadena, CA	21	16	4	—	1	—	1
Portland, OR	137	89	35	6	2	4	10
Sacramento, CA	176	116	37	8	8	7	12
San Diego, CA	145	90	32	11	7	5	12
San Francisco, CA	108	68	19	15	5	1	12
San Jose, CA	182	128	40	7	4	3	10
Santa Cruz, CA	18	15	2	1	—	—	1
Seattle, WA	110	68	29	9	2	2	4
Spokane, WA	54	44	9	1	—	—	2
Tacoma, WA	105	67	30	7	—	1	3
Total	10,307**	6,801	2,309	735	257	203	614

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.

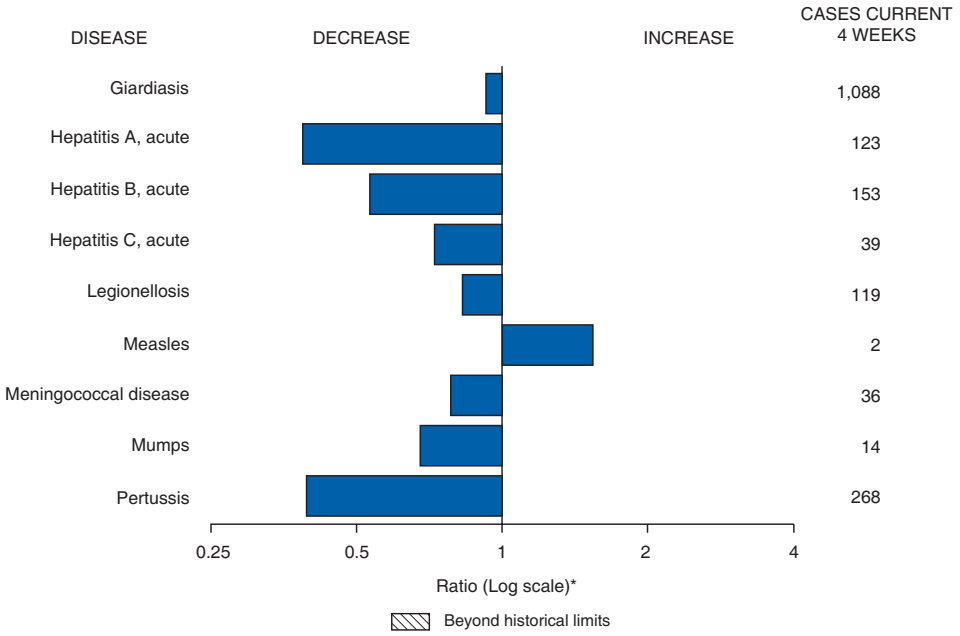
† Pneumonia and influenza.

§ 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 October 13, 2007, with historical data



* 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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