MMWR™
Morbidity and Mortality Weekly Report
Weekly December 23, 2005 / Vol. 54 / No. 50

Outbreaks of *Escherichia coli* O157:H7 Associated with Petting Zoos — North Carolina, Florida, and Arizona, 2004 and 2005

During 2004–2005, three outbreaks of *Escherichia coli* O157:H7 infections occurred among agricultural fair, festival, and petting zoo visitors in North Carolina, Florida, and Arizona. One hundred eight cases, including 15 cases of hemolytic uremic syndrome* (HUS), were reported in the North Carolina outbreak; 63 cases, including seven HUS cases, were reported in the Florida outbreak; and two cases were reported in Arizona. No fatalities occurred. Illnesses primarily affected children who visited petting zoos at these events. This report summarizes findings from these outbreak investigations, which indicated the need for adequate control measures to reduce zoonotic transmission of *E. coli* O157:H7.

North Carolina

On October 29, 2004, the North Carolina Division of Public Health (NCDPH) received a report of a cluster of three HUS cases among children who visited a petting zoo at the North Carolina State Fair (Figure). Approximately 800,000 visitors attended this fair during October 15–24, 2004. The fair had two petting zoos (petting zoos A and B).

NCDPH notified all local health departments to report cases of diarrheal illnesses. Intensified surveillance identified 108 persons who became ill, with onset after fair attendance and without other known cause. Eighty-two (78%) reported visiting a petting zoo at the state fair. Median age was 5 years (range: 1–61 years); 64 (59%) were female. Illness onsets were consistent with exposure during the fair dates. Fifty-two (48%) persons reported bloody diarrhea, and 48 (44%) reported fever. Forty-one cases were laboratory-confirmed Shiga toxin–producing *E. coli* (STEC) infections, of which 38 yielded *E. coli* O157:H7 isolates indistinguishable by pulsed-field gel electrophoresis (PFGE). Twenty patients (19%) were hospitalized, and 15 (14%) had HUS diagnosed.

Systematic environmental sampling of the fairgrounds identified extensive *E. coli* O157:H7 contamination at one of two

FIGURE. A child stands near goats and goat droppings in a petting zoo at the 2004 North Carolina State Fair

Photo/North Carolina Division of Public Health

*An acute condition characterized by microangiopathic hemolytic anemia, renal injury, and low platelet count.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

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

SUGGESTED CITATION
Centers for Disease Control and Prevention. [Article title]. MMWR 2005;54:[inclusive page numbers].

petting zoos (petting zoo B). Analysis of isolates from 30 systematically obtained environmental samples revealed a PFGE pattern indistinguishable from the predominant clinical isolate pattern. No other PFGE patterns from isolates at this site were noted after systematic sampling.

NCDPH, in collaboration with CDC, conducted a case-control study to identify risk factors for infection. Forty-five case-patients and 188 controls were enrolled; these were frequency-matched to cases in three age groups (0–5 years, 6–17 years, and ≥18 years). Confirmed cases in the study were those in persons who 1) had laboratory-confirmed *E. coli* O157:H7 infection or clinically diagnosed HUS with onset after October 15, 2004, 2) reported fair attendance, and 3) had illnesses that were not acquired from secondary transmission. Probable cases were those in persons who reported bloody diarrhea (three or more loose stools per 24-hour period) beginning after fair attendance without other known cause and were determined not to have acquired infections from secondary transmission. Controls attended the fair and reported no diarrheal illness through November 7, 2004. Potential controls were identified from a randomized list of 23,972 persons who purchased tickets to the fair online, at kiosks, or in malls. The study questionnaire included items about human/animal interactions, food and beverage consumption, and hygiene practices. Adjusted odds ratios (AORs) and 95% confidence intervals (CIs) were computed for various exposure variables.

No specific food, beverage, or recreational water exposure was associated with illness. Thirty-six (80%) of 45 case-patients visited petting zoo B, which was noted to have extensive environmental contamination, compared with 64 (34%) of 187 controls (AOR = 8.2; CI = 3.6–18.9). This petting zoo contained approximately 100 goats and sheep in an area where visitors could have extensive contact with animals and their bedding (Figure). Case-patients reported spending a median of 20 minutes in petting zoo B, compared with 15 minutes for controls (p = 0.04). Visits to petting zoo A were not associated with illness.

Among children aged <6 years who visited petting zoo B, illness was associated with touching or stepping in manure (OR = 6.9; CI = 2.2–21.9). Behaviors such as falling or sitting on the ground (OR = 3.2; CI = 1.1–9.1) and use of a pacifier or "sippy" cup or sucking on one's thumb while in petting zoo B (OR = 11.0; CI = 2.0–55) also were associated with illness. Reported alcohol-based hand sanitizer use was not protective (OR = 1.9; CI = 0.3–10.2). Reported awareness (among adults who accompanied children) of risk for disease from contact with livestock was protective (OR = 0.1; CI = 0.03–0.5).

Florida

In March 2005, Florida health officials identified a cluster of 22 *E. coli* O157:H7 infections, including seven HUS cases, related to attendance at Florida Fairs and Festivals during February 10–21, 2005, and March 3–13, 2005. Early patient interviews identified no common food or water exposure but did implicate a common animal exposure (i.e., petting zoo attendance). Three implicated fairs had one common animal vendor, an exhibitor of a farm animal petting zoo. The petting zoo owner was contacted on March 24, and the animals (sheep, goats, and cattle) were placed under voluntary quarantine.

Stool samples from suspected cases were sent to the Florida Department of Health (FDOH) Bureau of Laboratories for culture and PFGE typing of *E. coli* O157:H7 isolates. Stool samples also were collected from 36 animals exhibited at two of three implicated petting zoos. Environmental samples were taken from exhibit grounds of implicated petting zoos from the three fairs. Twenty-four human stool samples, six animal stool samples, and 20 environmental samples yielded *E. coli* O157:H7 isolates with an identical PFGE pattern. The implicated farm animals were put under state quarantine by the Florida Department of Agriculture and Consumer Services on April 8.

FDOH intensified surveillance by requesting rapid reporting of suspected *E. coli* O157:H7 infections and HUS cases. Sixty-three patients were identified who had symptoms of *E. coli* O157:H7 infection within 10 days or HUS within 21 days after visiting the implicated fairs and who had no alternate diagnosis to explain their symptoms; of these, 20 (32%) persons had culture-confirmed *E. coli* O157:H7 infection. Four persons had culture-confirmed infection; however, these cases did not meet the case definition.

Median patient age was 4 years (range: 1–63 years); 35 (56%) patients were female. Clinical features included diarrhea in 63 (100%) patients, vomiting in 28 (44%), abdominal cramps in 27 (43%), and fever in 23 (37%). Seventeen patients (27%) were hospitalized, and seven (11%) had diagnoses of HUS (three of the seven patients with HUS did not have *E. coli* O157:H7-positive stool cultures).

Thirty-four ill persons (54%) were reported to have touched at least one cow, sheep, or goat. Twenty (32%) reportedly fed at least one cow, sheep, or goat. Preliminary analysis of a case-control study that included 34 case-patients and 176 controls (identified from credit card receipts from the fairs and defined as persons who went to the petting zoo and remained well) found a positive association between illness and both direct animal contact (e.g., 71% of case-patients and 47% of controls touched a cow [OR = 4.2; CI = 1.7–10.5]) and indirect (e.g., 33% of case-patients and 12% of controls touched sawdust or shavings [OR = 3.3; CI = 1.4–7.8]) animal contact.

Arizona

In July 2005, two children hospitalized with *E. coli* O157:H7 infection were reported to the Arizona Department of Health Services. Isolates from the two children had indistinguishable PFGE patterns. Both children had visited a zoo in Arizona that contained a petting zoo. No common food or beverage was consumed by the two children at the zoo, and the children were not related. One child had direct contact with petting zoo animals; the second child only had possible contact with exterior railings at the petting zoo. Both children had played in an area immediately adjacent to and downhill from the petting zoo facility. Fifteen of 25 (60%) fecal specimens from petting zoo animals yielded *E. coli* O157:H7; 12 isolates had PFGE patterns indistinguishable from the clinical isolates. Upon notification of the results, zoo officials immediately closed the petting zoo and adjacent play area.

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Editorial Note: *E. coli* O157:H7 causes approximately 73,000 illnesses in the United States annually, leading to an estimated 2,168 hospitalizations and 61 deaths (*1*). HUS is a principal cause of acute renal failure among children in the United States and occurs in 3%–7% of *E. coli* O157:H7 infections (*2*). Among patients with HUS, approximately 3%–5% die as a result (*2*). Most cases of diarrhea-associated HUS are caused by STEC, of which *E. coli* O157:H7 has the strongest association with HUS worldwide (*3*). At least 80% of childhood HUS is attributable to infection with STEC, primarily *E. coli* O157:H7 (*4*).

The primary animal reservoir for *E. coli* O157:H7 is ruminant livestock, which are asymptomatically colonized. The primary route of transmission for *E. coli* O157:H7 is foodborne; however, among 350 *E. coli* O157:H7 outbreaks reported in the United States during 1982–2002, the transmission route for 11 (3%), accounting for 319 cases, was animal contact (*5*). The three *E. coli* O157:H7 outbreaks

described in this report, accounting for 173 cases and associated with direct and indirect animal contact at petting zoos, emphasize the need for adequate control measures to reduce zoonotic transmission.

In the North Carolina outbreak, extensive direct animal contact occurred in an area contaminated with manure. In the Florida outbreak, illness was associated with touching and feeding animals and indirect animal contact (e.g., touching sawdust or shavings or visibly soiled clothes or shoes). In the Arizona outbreak, at least one case likely resulted from exposure in the play area adjacent to the petting zoo, where contamination via drainage from the petting zoo was suspected. In certain instances, exposure to *E. coli* O157:H7 might have occurred before petting zoo patrons could practice hand hygiene. Also, exposure from contaminated clothes, shoes, strollers, or other fomites might have occurred before or after hand-hygiene practice.

Experience from these and previous outbreaks (*6,7*) underscores the necessity of using sensitive laboratory isolation methods, such as those used in these outbreaks, for detecting *E. coli* O157:H7 from livestock feces and agricultural environmental samples. Had direct plating methods used for human stool been the only method used to recover *E. coli* O157:H7 from environmental samples, many positive specimens would have been undetected. Because of the multiple, competing microorganisms in livestock fecal material and soil, selective culture conditions, including selective broth enrichment, immunomagnetic separation, and plating on selective media, should be used (*6*).

In 2001, CDC issued guidelines to reduce the risk for transmission of enteric pathogens at venues where the public has contact with animals (*8*). In March 2005, the National Association of State Public Health Veterinarians (NASPHV) published recommendations on hand washing, venue design, animal care and management, and risk communication regarding disease transmission for staff and visitors (*9*).

Petting zoos are minimally regulated. Guidelines based on the NASPHV compendium were adopted by the North Carolina Department of Agriculture and Consumer Services (NCDACS) after the outbreak. In addition, a law[†] was enacted in North Carolina in July 2005 that requires sanctioned agricultural fairs to obtain a permit from NCDACS for all animal exhibitions open to the public. The Arizona Department of Health Services adapted the NASPHV compendium recommendations into educational packets distributed to petting zoo operators statewide.

These recent petting zoo–associated *E. coli* O157:H7 outbreaks highlight the need to strengthen control measures for such exhibits to reduce disease transmission and prevent similar outbreaks. To reduce human exposure to manure, revised control measures should be considered, particularly those restricting young children from directly entering open-interaction areas of petting zoos.

[†] Available at http://www.ncleg.net/sessions/2005/bills/senate/pdf/s268v4.pdf.

Acknowledgments

This report is based, in part, on data contributed by the North Carolina Div of Public Health; North Carolina Dept of Agriculture and Consumer Services; Univ of North Carolina School of Public Health Center for Public Health Preparedness; North Carolina State Laboratory for Public Health; Florida Dept of Health; Florida Dept of Agriculture and Consumer Svcs; US Dept of Agriculture Agricultural Research Svc; and Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC.

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Mycobacterium tuberculosis Transmission in a Newborn Nursery and Maternity Ward — New York City, 2003

Evaluating young children recently exposed to airborne *Mycobacterium tuberculosis* is a public health priority. If infected, children aged <2 years are at high risk for severe tuberculosis (TB) disease (e.g., TB meningitis) (*1*). In December 2003, infectious pulmonary TB disease was diagnosed in a foreign-born nurse working in the newborn nursery and maternity ward of a New York City hospital (hospital A); the nurse had declined treatment for latent TB infection

(LTBI) after testing positive 11 years earlier. An investigation including medical evaluation of contacts in the nursery and maternity ward was conducted by the Bureau of TB Control (BTBC) at the New York City Department of Health and Mental Hygiene, hospital A, and CDC. This report summarizes the results of that investigation, which determined that approximately 1,500 patients had been exposed to the nurse but the majority could not be located for evaluation. Among those who were tested, four infants had positive tuberculin skin test (TST) results, likely attributable to recent transmission of *M. tuberculosis*. The findings emphasize the difficulty of conducting contact investigations in certain settings and the importance of effective LTBI testing and treatment programs for health-care workers (HCWs) to prevent TB disease and subsequent health-care–associated transmission.

In December 2003, a female nurse (nurse A) working in the newborn nursery and maternity ward at hospital A received a diagnosis of acid-fast bacilli (AFB) sputum smear–positive, noncavitary pulmonary TB disease. Eleven years earlier, nurse A had LTBI diagnosed with a TST result of 15 mm induration during screening for employment at hospital A, after emigrating from the Philippines. She had elected not to take the isoniazid prescribed for treatment. The reason nurse A gave for declining treatment was that most adults from the Philippines, where TB is endemic, have positive TST results and generally do not take treatment for LTBI. She also stated that the positive TST result might have been caused by her bacille Calmette-Guérin (BCG) vaccination for TB disease at birth or potential exposures while she was employed as a nurse in the Philippines. Nurse A had an annual TB symptom screen on eight other occasions and had one other chest radiograph (when she began work in a different area of the hospital) without evidence of TB disease.

Nurse A's symptoms began in September 2003 as a productive cough, wheezing, and shortness of breath. Her initial chest radiograph was interpreted as "normal heart and lungs" by a radiologist at hospital A. She was symptomatically treated for asthma with inhaled beta-agonists, inhaled steroids, oral steroids, antihistamines, and a cough suppressant. After her symptoms persisted for approximately 8 weeks, she underwent a chest computed tomography scan (CT) and, approximately 1 week later, bronchoscopy. The CT revealed bilateral upper-lobe disease with volume loss and calcified mediastinal lymph nodes. The leading diagnosis at the time was hypersensitivity pneumonitis. Specimens from a transbronchial biopsy, routinely sent for microscopic examination, revealed rare AFB; culture of bronchial alveolar lavage subsequently yielded *M. tuberculosis* that was susceptible to the four first-line anti-TB drugs. Genotyping of the *M. tuberculosis* isolate did not match any pattern in the New York City or national databases. Nurse A subsequently was screened for human immunodeficiency virus (HIV) and had a negative HIV test result.

On the basis of nurse A's AFB smear status at start of treatment, her infectious period was defined as September 1–November 29, 2003. Work schedules and hospital records for all coworkers and patients in the newborn nursery and maternity ward who were contacts of nurse A during this period were reviewed to identify and prioritize contacts and to assess risk factors for transmission. During her infectious period, nurse A worked 60 night shifts at hospital A and potentially exposed 32 coworkers, 613 infants in the newborn nursery, and 900 patients in the maternity ward. During a 7-month period, hospital A and BTBC took the following measures to notify contacts: 1) mailing certified letters, making telephone calls, and attempting home visits to hospital patients and to mothers and guardians of all infants; 2) faxing notifications to all pediatric providers in the area; and 3) cross-matching the list of exposed infants with names in the city's immunization registry. All contacts were offered a free medical evaluation, including a TST; if indicated, contacts also were offered chest radiography and sputum specimen collection to exclude a diagnosis of TB disease. Results were reviewed to estimate the extent of transmission.

Of the 32 potentially exposed coworkers, 25 (78%) had a previously documented positive TST baseline result, and none had taken treatment for LTBI. On screening, none of these 25 persons had symptoms for TB; they were offered LTBI treatment, but all 25 declined. TSTs were administered to the remaining seven coworkers, all with negative results.

The majority of patients in the maternity ward had received TSTs and HIV screening during the prenatal period. Extensive outreach by the hospital and city health department workers resulted in medical evaluation of 227 (37%) of the 613 infant contacts and 216 (24%) of the 900 female contacts. None of these contacts were determined to have TB disease. TST results were positive (≥5 mm) for five (2%) of 227 infants, including one who had received BCG vaccination during a family trip to the Dominican Republic. A positive TST result among infants was determined to be associated with cesarean delivery (relative risk [RR] = 11.8, 95% confidence interval [CI] = 1.3–103.1). TST results of 19 (9%) of 216 women with a prior negative test changed to positive (≥5 mm). Change in TST result was associated with foreign birth among women (RR = 5.9, CI = 1.4–24.5). No association was evident between a positive TST result or change in TST result and duration of contact (e.g., estimated time in the hospital while nurse A was working) or type of contact (e.g., receiving direct care) with nurse A.

Of the 900 patients admitted to the maternity ward during nurse A's infectious period, 807 were admitted for

postpartum care and 93 for gynecologic indications or complications during pregnancy. Documentation of HIV test results were available for 806 of the 807 postpartum patients; 16 (2%) tested positive for HIV infection. Of these HIV-infected females, 13 delivered infants admitted to the newborn nursery (12 single infants and one twin birth). These 16 women and 14 infants were assigned the highest priority for follow-up testing. Three of the women and seven of the infants were located and tested for TB; none had evidence of LTBI or TB disease.

BTBC recommended LTBI treatment with isoniazid daily for 9 months for all contacts with a positive TST result, after TB disease was excluded. BTBC also recommended LTBI treatment for all HIV-infected persons exposed to nurse A and infants whose mothers had known HIV infection, regardless of their TST results, after TB disease was excluded (*2*).

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Editorial Note: The findings in this report underscore the difficulty and substantial resources required to conduct contact investigations and provide appropriate follow-up for patients exposed to *M. tuberculosis* in health-care settings. Despite extensive outreach efforts, approximately 70% of nurse A's patient contacts could not be traced. Hospital A was located in an economically depressed community. Hospital records of telephone numbers and addresses for many of the patients were incorrect. Nonetheless, evidence indicated that limited transmission of *M. tuberculosis* had occurred in hospital A. The strongest evidence of transmission was that four infants had positive TST results (a fifth infant tested positive but had recently received BCG vaccination), which in children is a sentinel indicator for recent transmission of *M. tuberculosis*.

In this investigation, the only risk factor significantly associated with *M. tuberculosis* transmission to the infants was cesarean delivery. Post-cesarean infants might have required more nursing care, thus resulting in more exposure. A major limitation of this investigation was the incomplete follow-up of all exposed patients. In addition, the extent of *M. tuberculosis* transmission to the most heavily exposed group, nurse A's coworkers, was difficult to ascertain because 78% had positive TST baseline results.

Nurse A underwent bronchoscopy before TB disease was clinically suspected. Because bronchoscopy is a cough-inducing procedure that can result in increased transmission of *M. tuberculosis*, diagnosis of TB disease and microscopic examination of sputum for AFB should be considered before bronchoscopy (*3*). CDC recommends avoiding bronchoscopy if possible for patients with suspected or confirmed TB disease or postponing the procedure until the patient is determined to be noninfectious by confirmation of three negative AFB sputum smear results. If the patient cannot produce sputum, CDC recommends considering sputum induction before bronchoscopy (*3*).

Eleven years after her LTBI was detected, nurse A had infectious pulmonary TB disease diagnosed. An opportunity to prevent TB disease was missed when she did not complete treatment for LTBI. In light of the investigation described in this report, hospital A began exploring ways to promote LTBI treatment for employees with positive TST results during annual screenings for TB. Although the nurse did not have HIV infection, it is the greatest risk factor for progression from LTBI to TB disease (*2*). Therefore, voluntary HIV counseling, testing, and referral should be routinely offered to all persons at risk for LTBI. Health-care settings should be particularly aware of the need to prevent transmission of *M. tuberculosis* in settings where persons infected with HIV might be encountered or might work.

In 2002, the incidence of TB disease among foreign-born HCWs in the state of New York was 17.5 per 100,000, compared with 2.0 among U.S.-born HCWs (*4*). During 1998–2002, among 297 HCWs (employed in hospitals, home health care, nursing homes, and ambulatory care facilities) who were reported to have TB disease, 221 (74%) had had LTBI diagnosed previously. Of these, 111 (50%) had met criteria for treatment for LTBI, but only 26 (23%) of these received treatment (*4*). Those data and the circumstances described in this report support the need for effective LTBI testing and treatment programs among HCWs, particularly those born outside the United States.

Studies have demonstrated poor adherence to LTBI treatment among HCWs (*5*). HCWs might attribute a positive TST result to BCG vaccination (*6*). Compared with U.S.-born physicians, foreign-born physicians in one U.S. medical residency program were less likely to recommend LTBI treatment for themselves, their family members, or recent immigrants if they had received BCG vaccination (*7*). However, in the absence of *M. tuberculosis* infection, tuberculin reactivity caused by BCG vaccination wanes over time and is unlikely to persist >10 years after vaccination (*8*). Current guidelines recommend considering treatment for HCWs who have a TST result of ≥10 mm, especially if they emigrated from a country with high TB prevalence during the preceding 5 years (*3*). A history of vaccination with BCG should not influence the decision to treat LTBI.

The proportion of HCWs in the United States who were born outside the country is growing (*9,10*). Approximately 25% of all U.S. practicing physicians graduated from medical schools outside of the United States (*9*). Moreover, the shortage of registered nurses in the United States is anticipated to increase from 6% in 2000 to 29% by 2020, and foreign-born nurses likely will increasingly be sought to fill this gap (*10*). All HCWs in the United States, particularly those foreign-born or foreign-trained, should be encouraged to follow U.S. guidelines for LTBI treatment. Guidelines for preventing transmission of *M. tuberculosis* in health-care settings, including baseline and periodic TB screening and effective LTBI treatment programs for HCWs in high-risk settings, should be followed (*3*). In addition, infection-control programs in health-care settings should implement interventions to increase adherence to treatment for infected HCWs working in high-risk settings. On-site, directly observed preventive therapy is one such option.

Acknowledgments

The findings in this report are based, in part, on contributions by R Kairam, M Mikhail, G Weinberg, E Tulia, I Cheer, L White, M Cherian, Employee Health Svcs, hospital A, New York City.

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Pertussis — United States, 2001–2003

Pertussis is a highly contagious, vaccine-preventable bacterial illness characterized by paroxysmal cough, posttussive vomiting, and inspiratory whoop. Pertussis also can occur as a mild or moderate cough illness in persons who are partially immune (*1*). In the United States, most hospitalizations and nearly all deaths from pertussis are reported in infants aged <6 months, but substantial morbidity does occur in other age groups. Infant/childhood vaccination has contributed to a reduction of more than 90% in pertussis-related morbidity and mortality since the early 1940s in the United States (*1*). Estimates of childhood vaccination coverage with ≥3 doses of pertussis-containing vaccine have exceeded 90% since 1994; however, reported pertussis cases increased from a historic low of 1,010 in 1976 to 11,647 cases in 2003 (*2*). A substantial increase in reported cases has occurred among adolescents, who become susceptible to pertussis approximately 6–10 years after childhood vaccination (*3,4*). Recently, booster vaccines for adolescents and adults combining pertussis antigens with tetanus and diphtheria toxoids (Tdap) were approved by the Food and Drug Administration (FDA).* On June 30, 2005, the Advisory Committee on Immunization Practices (ACIP) recommended Tdap for all persons aged 11–18 years. This report summarizes national surveillance data on pertussis reported to CDC during 2001–2003 and focuses on pertussis reported among persons aged 10–19 years before implementation of national recommendations for adolescent pertussis vaccination.

Pertussis cases are reported weekly by state health departments to CDC through the National Notifiable Diseases Surveillance System (NNDSS); more detailed information about cases is provided through the linked Supplementary Pertussis Surveillance System (SPSS). Probable and confirmed cases are reported; however, six states do not report probable cases. A clinical case is defined as an acute cough illness lasting ≥14 days in a person with at least one symptom characteristic of pertussis (i.e., paroxysmal cough, posttussive vomiting, or inspiratory whoop) or ≥14 days of cough in an outbreak setting. A confirmed case is defined as 1) a cough illness of any duration with isolation by culture of *Bordetella pertussis* or 2) a case that is consistent with the clinical case definition and is confirmed by polymerase chain reaction (PCR) testing or epidemiologic linkage to a laboratory-confirmed case. In addition, Massachusetts uses an in-state, standardized serologic assay for persons aged ≥11 years as a confirmatory test. A probable

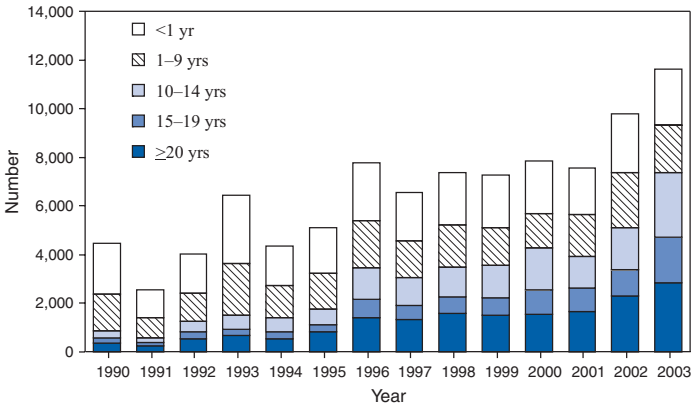
* BOOSTRIX® (GlaxoSmithKline Biologicals, Rixensart, Belgium) was licensed May 3, 2005, for use in persons aged 10–18 years, and ADACEL™ (Sanofi Pasteur, Toronto, Canada) was licensed June 10, 2005, for use in persons aged 11–64 years.

case is defined as a case that is consistent with the clinical case definition but does not have laboratory confirmation or an epidemiologic link. Direct fluorescent antibody (DFA) assays are no longer recommended for pertussis testing; however, cases continue to be reported as confirmed by DFA. For this report, age-specific and race-specific incidence rates were calculated using U.S. Census Bureau population estimates for 2001–2003.

During 2001–2003, a total of 28,998 cases of pertussis were reported to NNDSS from the 50 states and the District of Columbia (7,580 in 2001; 9,771 in 2002; and 11,647 in 2003); 69% of these cases were reported as confirmed. Among all pertussis cases, 15,620 (54%) were in females. Overall in the United States, the average annual incidence was 3.3 cases per 100,000 population (2.7 in 2001, 3.4 in 2002, and 4.0 in 2003). Among 28,923 (99.7%) persons with pertussis for whom age was reported, 6,608 (23%) were aged <1 year (including 5,872 aged <6 months), 3,353 (12%) were aged 1–4 years, 2,553 (9%) were aged 5–9 years, 9,609 (33%) were aged 10–19 years, and 6,800 (23%) were aged ≥20 years (Figure 1). By age group, average annual incidence was highest (55.2 per 100,000 population) among infants aged <1 year; within that group, incidence was 98.2 for infants aged <6 months and 12.3 for infants aged 6–11 months. Incidence was lower for older groups: 7.2 per 100,000 population for children aged 1–4 years, 4.3 for children aged 5–9 years, 7.7 for persons aged 10–19 years, and 1.1 for adults aged ≥20 years. During 2001–2003, the annual incidence of pertussis among persons aged 10–19 years increased from 5.5 per 100,000 in 2001, to 6.7 in 2002, and 10.9 in 2003.

Race and Hispanic ethnicity were considered independently. Data on race were available for 24,024 (83%) persons with pertussis. Of these, 21,597 (90%) were white, 1,621 (7%) were black, 288 (1%) were American Indian/Alaska Native, 337 (1%) were Asian/Pacific Islander, and 181 (1%) were identified as "other race." Among the 7,991 (83%) persons aged 10–19 years whose race was reported, 7,549 (95%) were white and 265 (3%) were black. Among all age groups, the incidence of reported cases was twice as high among whites as among blacks (3.0 versus 1.4 cases per 100,000 population). After stratifying by state, the white-to-black incidence rate ratio was 1.6. Data on Hispanic ethnicity were available for 23,669 (82%) persons with pertussis. Of these, 3,871 (16%) were Hispanic. Among infants aged <6 months, 1,701 (29%) of 5,872 with pertussis were Hispanic; by comparison, an estimated 18% of infants born each year in the United States are Hispanic.

FIGURE 1. Number of reported pertussis cases,* by year and age group — National Notifiable Diseases Surveillance System, United States, 1990–2003



* Confirmed and probable.

Of 9,609 persons aged 10–19 years with reported pertussis, 116 (1%) of 8,286 for whom information was provided were hospitalized, 148 (2%) of 7,560 had radiographically confirmed pneumonia, and 20 (0.2%) of 8,543 reported seizures as a complication of pertussis. Hospitalization and complications of pertussis were most common among infants aged <6 months. Of the total 5,872 infants aged <6 months, 3,255 (69%) of 4,748 for whom information was provided were hospitalized, 532 (13%) of 4,096 had radiographically confirmed pneumonia, and 79 (2%) of 4,802 had seizures. Among persons of all ages with pertussis, 33 cases of encephalopathy and 56 pertussis-related deaths were reported during 2001–2003. Fifty-one (91%) of the deaths were among infants aged <6 months, and 42 (75%) of the deaths were among infants aged <2 months.

Compared with other age groups, the greatest number of reported cases was among persons aged 10–19 years. Among the 6,090 (63%) of 9,609 persons in this age group reported as having confirmed pertussis, 1,570 cases (26%) were confirmed by an epidemiologic link to a confirmed case, 1,356 (22%) by culture, 1,562 (26%) by PCR, and 1,511 (25%) by the Massachusetts serologic test (Figure 2). Massachusetts alone reported 1,812 cases, accounting for 19% of the total U.S. cases in persons aged 10–19 years; by comparison, Massachusetts has 2% of the U.S. population aged 10–19 years. Massachusetts had the highest state average annual incidence in this age group (78.8 per 100,000 population); the median state average annual incidence for this age group was 3.7 per 100,000 population (range: 0–78.8) (Figure 3).

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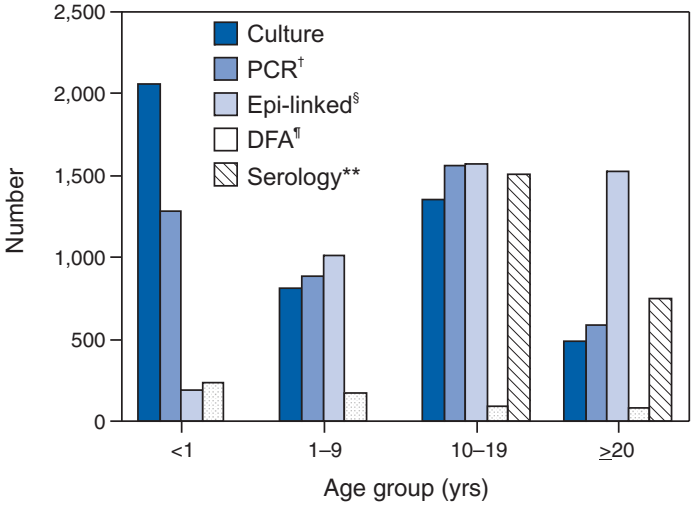
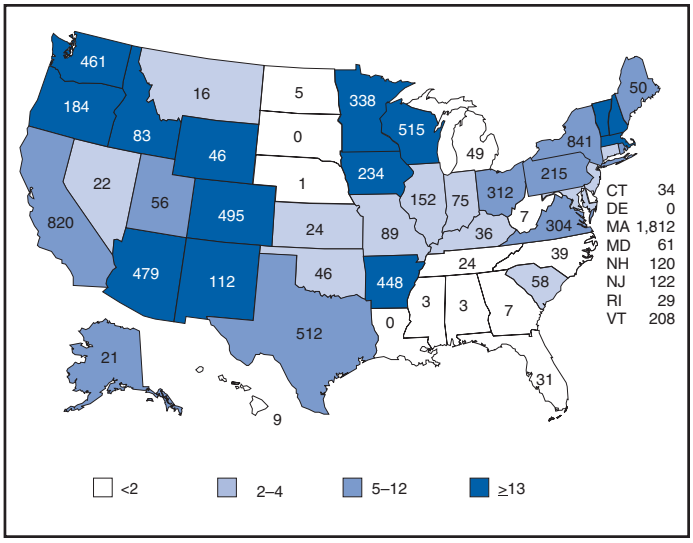
Editorial Note: Reported cases of pertussis in the United States have increased since 1976, with a substantial increase among persons aged 10–19 years (*5*). Compared with the increase observed in reported cases among adolescents, the increases

FIGURE 2. Number of pertussis cases reported as confirmed, by diagnostic method* and age group — National Notifiable Diseases Surveillance System, United States, 2001–2003



* Data from the Supplementary Pertussis Surveillance System.
† Polymerase chain reaction.
§ Epidemiologically linked to a confirmed case.
¶ Direct fluorescent antibody assay.
** Massachusetts serologic test.

FIGURE 3. Average annual incidence* of reported pertussis cases and total number of reported cases in persons aged 10–19 years,† by state — National Notifiable Diseases Surveillance System, United States, 2001–2003§



* Per 100,000 state population for this age group, by quartile. Indicated by shading.
† Confirmed and probable.
§ Overall U.S. incidence rates were 5.5, 6.7, and 10.9 per 100,000 U.S. population for this age group during 2001, 2002, and 2003, respectively.

in cases reported in age groups that contain recently vaccinated children have been small (*5,6*). Compared with older age groups, infants aged <6 months continued to have the highest reported incidence of pertussis, and Hispanic infants were overrepresented in this group, as also demonstrated in a previous study (*7*). Among all age groups, the reported pertussis incidence in whites was higher than the incidence in blacks. However, passive surveillance probably does not equally reflect the relative burden of pertussis in all racial and ethnic groups; even among reported cases, race and ethnicity data were complete in only 74% of cases.

How much the increase in reported cases of pertussis in adolescents reflects a true change in the burden of disease remains unclear. Better recognition, diagnosis, and reporting of pertussis in persons aged 10–19 years likely has contributed to the greater number of cases reported. Although the Council of State and Territorial Epidemiologists has made no changes to the case definition for pertussis since 1996 (when PCR was added as a confirmatory test for cases that also are consistent with the clinical case definition), an increasing number of states now use PCR for confirmatory testing. In addition, heightened recognition of pertussis transmitted in schools and other settings likely adds to the number of cases detected and reported among persons aged 10–19 years. Wide variability was observed in incidence of cases reported by individual states. Massachusetts, for example, has long reported higher incidence in adolescents compared with other states, and Massachusetts data are believed to more closely reflect the pertussis burden in U.S. adolescents (*8*). These results from Massachusetts have been obtained, in part, through the state's enhanced pertussis surveillance among students in middle and high school and through development and availability of a serologic test for pertussis in persons aged ≥11 years. Awareness of pertussis in adolescents, however, is still low in many places, as suggested in part by eight states reporting an average annual incidence of <1 case per 100,000 persons aged 10–19 years during the 3-year period. A population-based, active surveillance study during 1995–1996 estimated pertussis incidence at 507 per 100,000 population aged 10–49 years, demonstrating that passive pertussis surveillance is capturing only a fraction of cases among older persons (*9*).

Diagnostic testing for pertussis remains inadequate for surveillance and clinical management. Culture is specific but not sensitive. PCR is likely more sensitive, but no FDA-licensed test kit is available and no nationally accepted standardized protocol for test performance exists. Most laboratory validation studies have not sufficiently established the predictive value of a positive PCR test in cases of pertussis; the rate of false-positive tests varies from laboratory to laboratory (*10*). PCR-confirmed cases contribute a substantial proportion of the total reported cases among persons aged 10–19 years. Moreover, many cases confirmed by epidemiologic linkage to laboratory-confirmed cases are linked to PCR-confirmed cases, potentially multiplying the contribution of PCR testing to the overall number of cases reported. Cases that are PCR

positive should be reported only if they also meet the clinical case definition criteria. DFA is neither specific nor sensitive and is no longer recommended for pertussis testing; nonetheless, 2% of cases were reported as DFA-confirmed.

Implementing the ACIP recommendation to vaccinate persons aged 11–18 years with Tdap should substantially reduce morbidity associated with pertussis among adolescents. In addition, the cost of case investigations and outbreak-control measures by local and state health departments likely will be reduced by an effective vaccination program targeting persons aged 11–18 years. Ensuring high coverage with Tdap in adolescents is an important step to better control pertussis in the United States.

Acknowledgment

The findings in this report are based, in part, on data contributed by state and local health departments.

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Update: Public Health Notification Regarding *Ralstonia* Associated with Vapotherm® Respiratory Gas Administration Devices — United States, 2005

On December 20, this report was posted as an MMWR Early Release *on the* MMWR *website* (http://www.cdc.gov/mmwr).

This report updates information previously published regarding contamination of Vapotherm® respiratory gas administration devices (Vapotherm, Inc., Stevensville, Maryland) with *Ralstonia* spp. (*1,2*). The Food and Drug Administration (FDA) has issued an updated Preliminary Public Health Notification, advising health-care providers to use alternative devices until the source of the contamination has been identified.*

CDC continues to receive information regarding *Ralstonia* spp. associated with Vapotherm use. Twenty-nine institutions in 16 states have reported recovery of *Ralstonia* spp. from Vapotherm devices and from approximately 40 pediatric patients. The majority of these cases appear to represent colonization, although one infection has been reported to CDC and other cases remain under investigation. In addition, the recommended disinfecting protocol has reportedly failed to eradicate *Ralstonia* spp. in three separate tests. Based on pulsed field gel electrophoresis analysis, isolates from facilities in six states were determined closely related genetically, a finding that suggests intrinsic contamination of some part of the device. Cultures of unused Vapotherm cartridges performed by two hospitals have yielded *Ralstonia* spp. However, cultures of other unused cartridges from some of the same lots did not grow organisms in testing performed by CDC and the cartridge manufacturer.

The source of contamination and the extent to which biofilm growth might be a contributing factor remain unknown. Although the majority of organisms found in Vapotherm devices by CDC and reporting institutions have been *Ralstonia* spp., other bacteria (e.g., *Burkholderia cepacia, Alcaligenes xylosoxidans, Klebsiella pneumoniae, Proteus mirabilis, and Sphingomonas paucimobilis*) have been recovered from used cartridges or machines. CDC continues to work with the manufacturer and FDA to determine the source of contamination of Vapotherm devices.

Ralstonia spp. are gram-negative bacteria found in the environment, primarily in water, soil, and on plants; occasionally *Ralstonia* spp. are isolated from clinical samples (e.g., respiratory secretions of cystic fibrosis patients). These organisms formerly were included in the genus *Pseudomonas* or *Burkholderia*; however, DNA characterization has revealed *Ralstonia* to be a distinct genus. The organism grows readily on media routinely used by clinical microbiology laboratories (i.e., trypticase soy agar with 5% sheep blood or MacConkey agar) (*3*). When both biochemical tests and automated identification systems are used, *Ralstonia* spp. can be misidentified as *Burkholderia* spp. or, less often, as non-aeruginosa *Pseudomo-*

* Available at http://www.fda.gov/cdrh/safety/122005-vapotherm.html.

nas spp. Signs and symptoms of an infection with *Ralstonia* are similar to those observed in other bacterial infections. Infections caused by *Ralstonia* spp. should be treated on the basis of results of susceptibility testing of the patient's isolate.

The current labeling for the Vapotherm device was cleared for marketing on August 18, 2004, with the indication, "to add moisture to and to warm breathing gases for administration to patients." Other devices are marketed for this general indication. FDA and CDC currently recommend use of alternative devices until the source of contamination can be identified. A list of humidifiers can be found in the FDA 510(k) database, by entering "BTT" in the "Product Code" field.† Several heated humidifiers on the list have specifications similar to the Vapotherm device. Humidifiers will require a gas source, connectors, and a patient interface (mask or nasal cannula) to make a complete system for administration of breathing gas.

Clinicians who elect to use Vapotherm are encouraged to weigh the risk of potential bacterial contamination of the device against the benefits Vapotherm might provide patients who require humidified oxygen therapy. Patients who have been exposed to Vapotherm should be monitored for signs and symptoms of infection, and clinicians should consider *Ralstonia* spp. infection in the differential diagnosis of exposed, symptomatic patients.

Hospitals should report cases of colonization or infection with *Ralstonia* or related bacteria (gram-negative rods) in patients exposed to Vapotherm directly to the device manufacturer and local or state public health departments and CDC by telephone 800-893-0485. Adverse events associated with medical devices should be reported to MedWatch, FDA's voluntary reporting program at http://www.fda.gov/Medwatch/report.htm; by telephone, 800-FDA-1088; by fax, 800-FDA-0178; or by mail, MedWatch, Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20852-9787.

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† Food and Drug Administration. 510(k) database. Rockville, MD: Food and Drug Administration. Available at http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm.

Supplemental Testing for Confirmation of Reactive Oral Fluid Rapid HIV Antibody Tests

On December 16, this report was posted as an MMWR Dispatch *on the* MMWR *website* (http://www.cdc.gov/mmwr).

In March 2004, the Food and Drug Administration (FDA) approved the OraQuick® Rapid HIV-1 Antibody Test (OraSure Technologies, Bethlehem, Pennsylvania) for use with oral fluid by trained personnel as a point-of-care test to aid in the diagnosis of infection with human immunodeficiency virus (HIV). In June 2004, FDA approved an added claim for detection of HIV-2 antibodies in oral fluid and a change in the name of the device to OraQuick® Advance Rapid HIV-1/2 Antibody Test.

A reactive rapid HIV test result is considered preliminary and must be confirmed by supplemental testing (*1*). Some false positive rapid test results (i.e., reactive rapid test results followed by negative supplemental test results) are to be expected within the range of specificity for the device. However, in late 2005, HIV testing programs in multiple U.S. cities experienced apparent clusters of false-positive rapid HIV test results using oral fluid (but not whole blood) specimens. Counselors at these programs have expressed concern regarding the specificity and positive predictive value of the oral fluid rapid HIV test. The published sensitivity and specificity for the test using oral fluid are 99.3% (95% confidence interval [CI] = 98.4%–99.7%) and 99.8% (CI = 99.6%–99.9%), respectively. CDC has received multiple inquiries concerning whether its guidelines for confirmatory testing for reactive rapid HIV tests on oral fluid specimens have been modified.

CDC is actively working with FDA, state and local health officials, and the product manufacturer to investigate these reports, assess the test's current performance, and consider whether changes in testing protocols should be recommended or any other actions taken. In the meantime, current protocols for confirmation of reactive rapid HIV test results should continue to be followed (*2*). These protocols ensure that clients with reactive rapid test results receive accurate HIV test results after confirmation. HIV counselors returning reactive (preliminary positive) results from HIV rapid tests to clients should provide the same counseling message that is currently recommended (*3*), regardless of whether the reactive test result was obtained using oral fluid or whole blood. HIV testing program directors who have noted any problems or who have concerns over the performance of the OraQuick Advance Rapid HIV-1/2 Antibody Test in their particular settings should report these concerns to OraSure Technologies at telephone 800-672-7873.

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Notice to Readers

Publication of *Health, United States, 2005*

CDC's National Center for Health Statistics has published *Health, United States, 2005*, the 29th edition of the annual report on the nation's health. The report includes 156 detailed trend tables organized around four broad subject areas: health status and determinants, health-care use, health-care resources, and health-care expenditures. Many of the trend tables provide information on racial, ethnic, and socioeconomic disparities in health.

The report also includes the 2005 *Chartbook on Trends in the Health of Americans,* which assesses the current state of the nation's health and how it is changing over time, both positively and negatively, by presenting trends and information on selected determinants and measures of health status. The *Chartbook* includes a special focus on persons aged 55–64 years, a growing segment of the adult population.

Health, United States, 2005 is available online at http://www.cdc.gov/nchs/hus.htm. Information about the report is available from the National Center for Health Statistics Data Dissemination Branch by telephone, 1-866-441-NCHS, or e-mail, nchsquery@cdc.gov.

Erratum: Vol. 54, No. RR-15

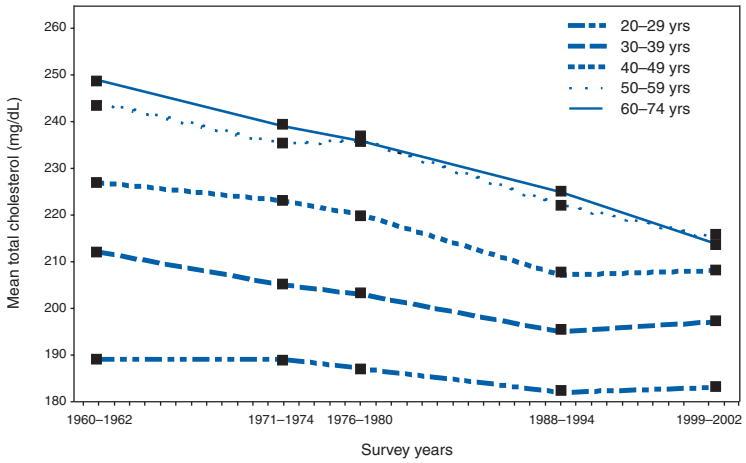
In the *MMWR Recommendations and Reports*, "Guidelines for Using the QuantiFERON®-TB Gold Test for Detecting *Mycobacterium tuberculosis* Infection, United States," reference number 18 on page 55 should read:

CDC. Guidelines for the investigation of contacts of persons with infectious tuberculosis: recommendations from the National Tuberculosis Controllers Association and CDC. MMWR 2005;54(No. **RR-15**):1–47.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Trends in Mean Total Cholesterol Among Adults Aged 20–74 Years, by Age Group — United States, 1960–1962 to 1999–2002*

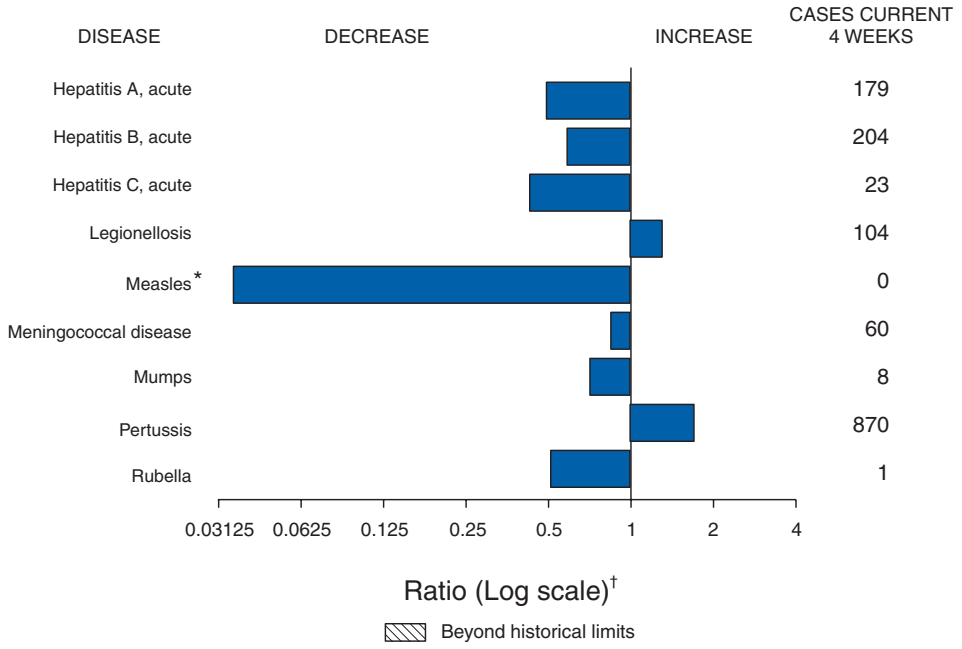


* Graph points represent serum total cholesterol levels at the midpoint of the survey years for the National Examination Survey conducted during 1960–1962 and the National Health and Nutrition Examination Surveys conducted during 1971–1974, 1976–1980, 1988–1994, and 1999–2002.

From 1960–1962 to 1988–1994, mean total cholesterol declined for all age groups. From 1988–1994 to 1999–2002, total cholesterol levels continued to decline for adults aged ≥50 years. For adults aged 20–49 years, total cholesterol levels changed minimally after 1988–1994.

SOURCE: Carroll MD, Lacher DA, Sorlie PD, et al. Trends in serum lipids and lipoproteins of adults, 1960–2002. JAMA 2005;294:1773–81.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals December 17, 2005, with historical data



* No measles cases were reported for the current 4-week period yielding a ratio for week 50 of zero (0).
† Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending December 17, 2005 (50th Week)*

Disease	Cum. 2005	Cum. 2004	Disease	Cum. 2005	Cum. 2004
Anthrax	—	—	Hemolytic uremic syndrome, postdiarrheal†	167	168
Botulism:			HIV infection, pediatric†¶	255	351
foodborne	13	16	Influenza-associated pediatric mortality†**	48	—
infant	78	84	Measles	62††	28§§
other (wound & unspecified)	27	21	Mumps	255	234
Brucellosis	101	101	Plague	3	3
Chancroid	25	30	Poliomyelitis, paralytic	1	—
Cholera	6	4	Psittacosis†	21	11
Cyclosporiasis†	726	205	Q fever†	137	63
Diphtheria	—	—	Rabies, human	2	7
Domestic arboviral diseases			Rubella	16	9
(neuroinvasive & non-neuroinvasive):	—	—	Rubella, congenital syndrome	1	—
California serogroup†§	65	116	SARS†**	—	—
eastern equine†§	21	6	Smallpox†	—	—
Powassan†§	—	1	*Staphylococcus aureus*:		
St. Louis†§	9	13	Vancomycin-intermediate (VISA)†	1	—
western equine†§	—	—	Vancomycin-resistant (VRSA)†	—	1
Ehrlichiosis:	—	—	Streptococcal toxic-shock syndrome†	101	125
human granulocytic (HGE)†	649	438	Tetanus	19	27
human monocytic (HME)†	456	300	Toxic-shock syndrome	92	89
human, other and unspecified †	85	66	Trichinellosis¶¶	17	3
Hansen disease†	80	100	Tularemia†	131	116
Hantavirus pulmonary syndrome†	22	22	Yellow fever	—	—

—: No reported cases.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).
† Not notifiable in all states.
§ Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).
¶ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention. Last update September 25, 2005.
** Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases. Of the 48 cases reported, four were reported since October 2, 2005 (40th Week). Of these four, only two occurrred during the current 2005–2006 season.
†† Of 62 cases reported, 51 were indigenous and 11 were imported from another country.
§§ Of 28 cases reported, 10 were indigenous and 18 were imported from another country.
¶¶ Formerly Trichinosis.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	AIDS		Chlamydia†		Coccidioidomycosis		Cryptosporidiosis	
	Cum. 2005§	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	30,568	40,144	877,240	887,380	4,809	5,769	7,212	3,473
NEW ENGLAND	1,141	1,257	30,129	28,992	—	—	328	164
Maine	19	48	2,165	2,028	N	N	26	20
N.H.	26	42	1,752	1,677	—	—	34	30
Vt.¶	7	15	916	1,098	—	—	39	24
Mass.	561	451	13,692	12,871	—	—	138	59
R.I.	105	131	3,050	3,305	—	—	13	4
Conn.	423	570	8,554	8,013	N	N	78	27
MID. ATLANTIC	6,597	10,042	111,606	109,144	—	—	3,313	564
Upstate N.Y.	891	1,985	22,581	22,290	N	N	2,855	178
N.Y. City	3,522	4,875	35,873	33,159	—	—	130	135
N.J.	956	1,766	17,273	16,980	N	N	64	44
Pa.	1,228	1,416	35,879	36,715	N	N	264	207
E.N. CENTRAL	2,929	3,174	148,390	156,972	11	14	1,459	1,017
Ohio	518	585	39,420	38,479	N	N	766	218
Ind.	348	348	18,976	17,922	N	N	83	74
Ill.	1,504	1,474	44,632	45,898	—	—	145	153
Mich.	439	612	27,637	36,069	11	14	107	155
Wis.	120	155	17,725	18,604	N	N	358	417
W.N. CENTRAL	690	800	53,722	54,966	5	6	576	409
Minn.	176	215	9,986	11,285	3	N	148	132
Iowa	72	63	6,913	6,741	N	N	107	88
Mo.	299	323	21,406	20,500	1	3	244	76
N. Dak.	9	17	1,140	1,700	N	N	1	12
S. Dak.	13	11	2,618	2,442	—	—	30	42
Nebr.¶	27	58	4,817	5,022	1	3	9	28
Kans.	94	113	6,842	7,276	N	N	37	31
S. ATLANTIC	9,183	12,113	163,715	166,280	2	—	711	511
Del.	134	157	3,257	2,863	N	N	6	—
Md.	1,370	1,363	17,632	18,987	2	—	40	24
D.C.	474	988	3,660	3,402	—	—	16	15
Va.¶	441	613	18,916	20,991	—	—	62	58
W. Va.	51	83	2,580	2,689	N	N	17	6
N.C.	636	1,063	29,254	28,473	N	N	91	76
S.C.¶	413	745	19,310	18,046	—	—	18	23
Ga.	1,701	1,507	28,184	30,130	—	—	122	173
Fla.	3,963	5,594	40,922	40,699	N	N	339	136
E.S. CENTRAL	1,546	1,816	65,688	59,007	—	5	209	146
Ky.	198	217	7,999	6,241	N	N	144	44
Tenn.¶	675	739	22,837	21,723	N	N	40	48
Ala.¶	385	433	15,520	12,931	—	—	21	24
Miss.	288	427	19,332	18,112	—	5	4	30
W.S. CENTRAL	3,543	4,528	99,172	106,256	1	3	182	135
Ark.	173	184	8,275	7,676	—	1	6	16
La.	650	849	14,534	21,098	1	2	81	7
Okla.	229	195	9,981	10,032	N	N	43	22
Tex.¶	2,491	3,300	66,382	67,450	N	N	52	90
MOUNTAIN	1,172	1,328	50,376	54,925	3,339	3,603	134	169
Mont.	15	5	2,089	2,414	N	N	23	34
Idaho¶	15	17	2,253	2,714	N	N	15	28
Wyo.	3	16	1,133	1,050	3	2	3	4
Colo.	260	294	12,535	13,813	N	N	49	59
N. Mex.	115	173	5,502	8,705	14	22	11	19
Ariz.	473	501	16,993	16,138	3,281	3,495	10	17
Utah	55	64	4,204	3,661	9	25	14	6
Nev.¶	236	258	5,667	6,430	32	59	9	2
PACIFIC	3,767	5,086	154,442	150,838	1,451	2,138	300	358
Wash.	352	367	17,804	16,917	N	N	48	42
Oreg.¶	193	277	8,549	8,270	—	—	67	31
Calif.	3,105	4,271	119,243	116,759	1,451	2,138	181	283
Alaska	25	48	3,714	3,730	—	—	3	—
Hawaii	92	123	5,132	5,162	—	—	1	2
Guam	2	1	—	803	—	—	—	—
P.R.	814	636	3,539	3,441	N	N	N	N
V.I.	10	19	196	333	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

† Chlamydia refers to genital infections caused by *C. trachomatis*.

§ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention. Last update September 25, 2005.

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

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	*Escherichia coli*, Enterohemorrhagic (EHEC)						Giardiasis		Gonorrhea	
	O157:H7		Shiga toxin positive, serogroup non-O157		Shiga toxin positive, not serogrouped					
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	2,368	2,452	347	293	315	240	17,256	19,029	304,393	314,995
NEW ENGLAND	159	165	56	43	25	16	1,585	1,697	5,452	6,581
Maine	15	15	12	1	—	—	195	147	137	210
N.H.	12	23	2	5	—	—	53	45	171	127
Vt.	15	13	5	—	—	—	181	166	58	84
Mass.	63	72	12	13	25	16	680	764	2,445	2,974
R.I.	7	13	—	1	—	—	107	120	423	800
Conn.	47	29	25	23	—	—	369	455	2,218	2,386
MID. ATLANTIC	298	289	42	64	35	38	3,231	3,894	32,270	35,120
Upstate N.Y.	135	121	22	43	13	20	1,172	1,351	6,721	7,106
N.Y. City	15	35	—	—	—	—	829	1,051	9,681	10,631
N.J.	50	59	5	6	12	6	399	491	5,248	6,541
Pa.	98	74	15	15	10	12	831	1,001	10,620	10,842
E.N. CENTRAL	463	464	34	47	20	32	2,716	3,196	60,840	66,747
Ohio	146	95	10	9	12	18	782	775	18,681	20,066
Ind.	71	52	—	—	—	—	N	N	7,635	6,655
Ill.	47	107	1	7	1	8	608	789	18,185	20,055
Mich.	78	84	2	11	6	6	736	708	11,235	15,071
Wis.	121	126	21	20	1	—	590	924	5,104	4,900
W.N. CENTRAL	407	476	36	40	67	23	2,147	2,091	17,386	16,859
Minn.	131	107	21	15	39	5	975	797	2,860	2,833
Iowa	95	119	—	—	—	—	265	288	1,524	1,204
Mo.	75	97	9	19	13	7	496	546	9,085	8,865
N. Dak.	7	14	—	—	1	7	17	23	92	105
S. Dak.	26	33	3	2	—	—	113	74	340	291
Nebr.	30	63	3	4	4	—	85	149	1,083	1,085
Kans.	43	43	—	—	10	4	196	214	2,402	2,476
S. ATLANTIC	199	176	87	35	116	103	2,460	2,893	72,467	75,587
Del.	7	3	N	N	N	N	54	46	855	865
Md.	32	23	32	6	11	4	191	147	6,735	7,909
D.C.	1	1	—	—	—	—	53	70	2,109	2,502
Va.	46	37	33	18	20	—	524	515	7,109	8,238
W. Va.	3	3	1	—	1	—	48	48	708	873
N.C.	—	—	—	—	64	92	N	N	14,065	15,033
S.C.	7	13	1	—	1	—	96	120	8,646	9,016
Ga.	30	23	17	7	—	—	561	877	13,194	13,471
Fla.	73	73	3	4	19	7	933	1,070	19,046	17,680
E.S. CENTRAL	130	117	10	5	33	15	407	410	26,499	25,743
Ky.	47	30	7	1	22	9	N	N	2,832	2,698
Tenn.	47	41	2	2	11	6	208	226	8,469	8,209
Ala.	29	31	—	—	—	—	199	184	8,711	7,922
Miss.	7	15	1	2	—	—	—	—	6,487	6,914
W.S. CENTRAL	52	88	14	3	9	13	301	325	40,381	41,905
Ark.	10	18	—	—	—	—	81	122	4,351	4,064
La.	4	4	11	1	3	3	55	54	8,176	10,119
Okla.	24	21	2	—	2	4	165	149	4,010	4,292
Tex.	14	45	1	2	4	6	N	N	23,844	23,430
MOUNTAIN	226	242	58	54	10	—	1,444	1,497	10,887	11,880
Mont.	16	16	—	—	—	—	77	81	126	81
Idaho	29	57	13	16	7	—	151	201	95	100
Wyo.	8	9	2	7	—	—	28	25	82	58
Colo.	66	51	3	1	1	—	516	504	2,810	2,953
N. Mex.	13	10	10	9	—	—	84	72	1,065	1,264
Ariz.	46	26	N	N	N	N	149	167	3,815	3,896
Utah	38	46	28	20	—	—	390	321	682	562
Nev.	10	27	2	1	2	—	49	126	2,212	2,966
PACIFIC	434	435	10	2	—	—	2,965	3,026	38,211	34,573
Wash.	115	142	—	—	—	—	352	386	3,591	2,667
Oreg.	151	68	10	2	—	—	378	429	1,508	1,258
Calif.	143	213	—	—	—	—	2,075	2,035	31,626	28,946
Alaska	12	2	—	—	—	—	99	98	514	539
Hawaii	13	10	—	—	—	—	61	78	972	1,163
Guam	N	N	—	—	—	—	—	5	—	125
P.R.	2	4	—	—	—	—	186	279	332	253
V.I.	—	—	—	—	—	—	—	—	45	87
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	*Haemophilus influenzae*, invasive							
	All ages		Age <5 years					
	All serotypes		Serotype b		Non-serotype b		Unknown serotype	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,955	1,910	5	14	107	114	183	164
NEW ENGLAND	149	177	—	1	10	10	5	2
Maine	7	13	—	—	—	—	1	—
N.H.	8	19	—	—	—	2	—	1
Vt.	9	8	—	—	—	—	2	1
Mass.	72	79	—	1	3	4	1	—
R.I.	7	6	—	—	2	1	—	—
Conn.	46	52	—	—	5	3	1	—
MID. ATLANTIC	409	401	—	2	1	5	41	37
Upstate N.Y.	120	125	—	2	—	5	8	5
N.Y. City	71	84	—	—	—	—	12	16
N.J.	84	78	—	—	—	—	11	3
Pa.	134	114	—	—	1	—	10	13
E.N. CENTRAL	286	365	1	2	6	8	19	48
Ohio	106	101	—	1	—	2	9	16
Ind.	66	54	—	—	6	4	—	1
Ill.	66	129	—	—	—	—	7	21
Mich.	22	22	1	1	—	2	2	4
Wis.	26	59	—	—	—	—	1	6
W.N. CENTRAL	106	105	—	2	3	4	10	11
Minn.	43	45	—	1	3	4	2	1
Iowa	1	1	—	1	—	—	—	—
Mo.	34	41	—	—	—	—	6	7
N. Dak.	4	4	—	—	—	—	1	—
S. Dak.	—	—	—	—	—	—	—	—
Nebr.	10	6	—	—	—	—	1	2
Kans.	14	8	—	—	—	—	—	1
S. ATLANTIC	471	422	1	1	33	27	30	27
Del.	—	—	—	—	—	—	—	—
Md.	70	67	—	—	5	7	—	—
D.C.	—	3	—	—	—	—	—	1
Va.	45	43	—	—	—	—	2	5
W. Va.	27	17	—	—	6	4	1	—
N.C.	74	58	1	1	8	6	—	1
S.C.	32	13	—	—	—	—	3	1
Ga.	94	113	—	—	—	—	16	18
Fla.	129	108	—	—	14	10	8	1
E.S. CENTRAL	104	80	—	1	1	2	19	12
Ky.	8	13	—	—	1	2	2	1
Tenn.	78	51	—	—	—	—	13	9
Ala.	18	14	—	1	—	—	4	2
Miss.	—	2	—	—	—	—	—	—
W.S. CENTRAL	101	80	1	1	8	9	8	1
Ark.	5	2	—	—	1	1	—	—
La.	32	17	1	—	2	—	8	1
Okla.	60	60	—	—	5	8	—	—
Tex.	4	1	—	1	—	—	—	—
MOUNTAIN	206	180	1	4	15	28	35	19
Mont.	—	—	—	—	—	—	—	—
Idaho	5	5	—	—	—	—	—	2
Wyo.	6	1	—	—	—	1	1	—
Colo.	41	44	—	—	1	—	9	5
N. Mex.	23	38	1	1	4	8	2	6
Ariz.	98	61	—	—	7	13	12	2
Utah	19	18	—	2	1	3	8	3
Nev.	14	13	—	1	2	3	3	1
PACIFIC	123	100	1	—	30	21	16	7
Wash.	4	1	—	—	—	—	3	1
Oreg.	29	45	—	—	—	—	5	3
Calif.	54	39	1	—	30	21	2	1
Alaska	26	6	—	—	—	—	6	1
Hawaii	10	9	—	—	—	—	—	1
Guam	—	—	—	—	—	—	—	—
P.R.	3	2	—	—	—	—	1	2
V.I.	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	Hepatitis (viral, acute), by type					
	A		B		C	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	3,895	5,640	5,318	6,037	664	793
NEW ENGLAND	498	989	277	371	19	18
Maine	4	13	12	7	—	—
N.H.	76	25	26	34	—	—
Vt.	6	8	5	6	15	8
Mass.	348	850	203	212	1	8
R.I.	15	23	3	6	—	—
Conn.	49	70	28	106	3	2
MID. ATLANTIC	670	788	1,047	743	102	141
Upstate N.Y.	103	110	94	80	20	13
N.Y. City	284	340	121	159	—	—
N.J.	187	183	620	207	—	—
Pa.	96	155	212	297	82	128
E.N. CENTRAL	353	508	522	531	135	117
Ohio	50	49	130	114	9	6
Ind.	54	57	56	43	24	10
Ill.	91	144	128	87	—	18
Mich.	123	142	174	247	102	83
Wis.	35	116	34	40	—	—
W.N. CENTRAL	118	155	253	313	16	22
Minn.	34	32	29	47	7	18
Iowa	20	49	26	15	—	—
Mo.	39	34	143	185	7	3
N. Dak.	—	1	—	4	1	—
S. Dak.	1	4	4	1	—	—
Nebr.	8	13	21	44	1	1
Kans.	16	22	30	17	—	—
S. ATLANTIC	680	979	1,300	1,821	137	203
Del.	5	6	46	51	7	47
Md.	74	102	153	155	22	14
D.C.	4	7	11	19	—	4
Va.	79	122	128	269	13	13
W. Va.	6	5	40	40	21	23
N.C.	84	100	162	182	21	11
S.C.	39	42	130	140	3	15
Ga.	107	315	150	463	8	17
Fla.	282	280	480	502	42	59
E.S. CENTRAL	228	152	335	481	77	92
Ky.	24	30	61	73	11	24
Tenn.	147	95	131	231	17	33
Ala.	36	9	85	76	14	5
Miss.	21	18	58	101	35	30
W.S. CENTRAL	248	646	534	666	90	108
Ark.	18	60	49	113	1	3
La.	64	49	68	67	16	3
Okla.	5	20	42	69	7	3
Tex.	161	517	375	417	66	99
MOUNTAIN	365	420	546	488	45	46
Mont.	10	8	3	1	1	2
Idaho	22	20	14	11	1	1
Wyo.	—	5	2	9	1	2
Colo.	47	52	56	57	24	16
N. Mex.	24	23	12	18	—	U
Ariz.	231	260	387	271	—	5
Utah	21	35	44	49	9	5
Nev.	10	17	28	72	9	15
PACIFIC	735	1,003	504	623	43	46
Wash.	49	60	64	52	U	U
Oreg.	42	66	98	110	17	15
Calif.	616	846	330	439	25	29
Alaska	4	4	7	11	—	—
Hawaii	24	27	5	11	1	2
Guam	—	1	—	12	—	9
P.R.	58	46	41	77	—	—
V.I.	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	Legionellosis		Listeriosis		Lyme disease		Malaria	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,952	1,967	769	710	20,444	18,063	1,201	1,347
NEW ENGLAND	125	94	55	52	2,806	3,222	67	87
Maine	6	1	3	8	223	29	4	7
N.H.	8	11	8	4	211	206	5	5
Vt.	11	6	2	2	49	50	3	4
Mass.	46	43	16	18	1,185	1,522	33	49
R.I.	19	18	6	2	32	238	2	7
Conn.	35	15	20	18	1,106	1,177	20	15
MID. ATLANTIC	708	544	195	168	12,785	10,935	324	366
Upstate N.Y.	213	115	61	48	3,896	3,983	51	51
N.Y. City	96	71	37	25	—	352	167	202
N.J.	107	92	35	36	3,542	2,661	72	68
Pa.	292	266	62	59	5,347	3,939	34	45
E.N. CENTRAL	361	474	83	117	1,426	1,320	99	121
Ohio	190	218	35	40	60	48	28	29
Ind.	27	46	6	18	34	29	5	16
Ill.	15	50	2	24	—	87	33	41
Mich.	111	136	29	26	60	26	21	21
Wis.	18	24	11	9	1,272	1,130	12	14
W.N. CENTRAL	95	65	41	22	940	733	44	65
Minn.	27	7	15	5	829	646	11	24
Iowa	6	8	8	3	85	49	8	4
Mo.	34	32	5	8	19	26	17	20
N. Dak.	2	2	4	2	—	—	—	3
S. Dak.	21	5	—	1	2	1	—	1
Nebr.	3	5	5	3	2	8	3	4
Kans.	2	6	4	—	3	3	5	9
S. ATLANTIC	392	398	168	122	2,210	1,633	301	333
Del.	16	13	N	N	612	335	3	6
Md.	107	79	19	18	1,174	880	100	76
D.C.	12	12	—	5	8	14	11	13
Va.	44	52	15	18	235	172	30	51
W. Va.	21	10	5	5	17	30	3	2
N.C.	36	39	34	26	44	119	38	21
S.C.	14	16	13	11	20	26	10	11
Ga.	30	43	26	15	6	12	41	63
Fla.	112	134	56	24	94	45	65	90
E.S. CENTRAL	80	101	29	25	36	48	28	32
Ky.	30	40	5	4	5	15	9	4
Tenn.	34	44	12	14	29	26	13	11
Ala.	13	13	8	5	2	7	6	12
Miss.	3	4	4	2	—	—	—	5
W.S. CENTRAL	25	139	35	42	60	69	80	125
Ark.	4	1	2	3	5	8	6	8
La.	1	9	12	3	7	2	3	6
Okla.	7	11	5	2	—	—	10	7
Tex.	13	118	16	34	48	59	61	104
MOUNTAIN	86	80	16	27	21	19	53	53
Mont.	6	3	—	1	—	—	—	1
Idaho	3	9	—	1	2	6	—	1
Wyo.	4	7	—	—	3	4	2	1
Colo.	22	20	7	13	3	—	24	18
N. Mex.	2	4	4	2	1	1	2	5
Ariz.	25	11	—	—	8	6	14	13
Utah	16	22	3	2	2	1	9	8
Nev.	8	4	2	8	2	1	2	6
PACIFIC	80	72	147	135	160	84	205	165
Wash.	—	12	10	11	9	12	16	19
Oreg.	N	N	11	7	19	26	12	18
Calif.	76	59	125	112	129	44	155	122
Alaska	1	1	—	—	3	2	5	2
Hawaii	3	—	1	5	N	N	17	4
Guam	—	—	—	—	—	—	—	—
P.R.	—	—	—	—	N	N	2	—
V.I.	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	Meningococcal disease									
	All serogroups		Serogroup A, C, Y, and W-135		Serogroup B		Other serogroup		Serogroup unknown	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,072	1,141	207	193	129	116	17	28	719	804
NEW ENGLAND	69	73	16	32	8	17	2	1	43	23
Maine	2	12	—	6	—	2	—	—	2	4
N.H.	12	7	—	—	—	—	—	—	12	7
Vt.	5	3	2	—	—	2	1	—	2	1
Mass.	32	39	5	21	4	7	1	—	22	11
R.I.	4	2	1	1	3	1	—	—	—	—
Conn.	14	10	8	4	1	5	—	1	5	—
MID. ATLANTIC	145	159	19	29	7	13	1	—	118	117
Upstate N.Y.	39	42	14	16	6	10	—	—	19	16
N.Y. City	23	27	—	—	—	—	—	—	23	27
N.J.	34	35	—	—	—	—	—	—	34	35
Pa.	49	55	5	13	1	3	1	—	42	39
E.N. CENTRAL	120	131	20	23	9	18	3	3	88	87
Ohio	43	66	4	6	2	5	—	2	37	53
Ind.	18	23	7	7	3	7	—	—	8	9
Ill.	15	1	—	—	—	—	—	—	15	1
Mich.	34	24	9	10	4	6	3	1	18	7
Wis.	10	17	—	—	—	—	—	—	10	17
W.N. CENTRAL	77	74	27	25	10	14	2	3	38	32
Minn.	16	23	5	11	4	5	1	1	6	6
Iowa	16	17	6	7	3	5	—	2	7	3
Mo.	26	19	10	6	3	4	1	—	12	9
N. Dak.	1	2	—	—	—	—	—	—	1	2
S. Dak.	4	2	4	—	—	—	—	—	—	2
Nebr.	5	4	2	1	—	—	—	—	3	3
Kans.	9	7	—	—	—	—	—	—	9	7
S. ATLANTIC	202	213	42	24	24	13	1	8	135	168
Del.	4	6	—	—	—	—	—	—	4	6
Md.	21	10	9	6	6	2	1	1	5	1
D.C.	—	5	—	—	—	—	—	1	—	4
Va.	31	20	12	9	7	5	—	1	12	5
W. Va.	6	6	4	—	—	—	—	—	2	6
N.C.	32	32	14	8	9	6	—	5	9	13
S.C.	15	17	3	1	2	—	—	—	10	16
Ga.	16	14	—	—	—	—	—	—	16	14
Fla.	77	103	—	—	—	—	—	—	77	103
E.S. CENTRAL	53	68	7	6	7	6	—	1	39	55
Ky.	16	11	1	2	2	3	—	—	13	6
Tenn.	24	23	5	—	4	3	—	—	15	20
Ala.	6	17	1	4	1	—	—	1	4	12
Miss.	7	17	—	—	—	—	—	—	7	17
W.S. CENTRAL	91	72	37	21	25	18	4	6	25	27
Ark.	15	16	8	4	5	4	—	—	2	8
La.	28	32	14	8	7	13	—	2	7	9
Okla.	13	10	5	5	2	—	4	4	2	1
Tex.	35	14	10	4	11	1	—	—	14	9
MOUNTAIN	84	63	23	18	5	3	2	5	54	37
Mont.	—	3	—	1	—	—	—	—	—	2
Idaho	6	7	1	—	—	—	—	—	5	7
Wyo.	—	4	—	—	—	—	—	—	—	4
Colo.	17	15	—	—	—	—	—	—	17	15
N. Mex.	3	9	—	5	—	1	—	1	3	2
Ariz.	39	12	11	6	2	—	1	3	25	3
Utah	11	6	5	3	2	—	1	—	3	3
Nev.	8	7	6	3	1	2	—	1	1	1
PACIFIC	231	288	16	15	34	14	2	1	179	258
Wash.	46	29	7	12	20	14	—	1	19	2
Oreg.	28	54	7	—	13	—	—	—	8	54
Calif.	140	192	—	—	—	—	—	—	140	192
Alaska	5	4	—	—	—	—	—	—	5	4
Hawaii	12	9	2	3	1	—	2	—	7	6
Guam	—	1	—	—	—	—	—	—	—	1
P.R.	6	17	—	—	—	—	—	—	6	17
V.I.	—	—	—	—	—	—	—	—	—	—
Amer. Samoa	1	1	—	—	—	—	—	—	1	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	Pertussis		Rabies, animal		Rocky Mountain spotted fever		Salmonellosis		Shigellosis	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	19,980	21,805	5,205	6,190	1,742	1,520	40,327	40,263	13,195	13,327
NEW ENGLAND	1,226	2,047	674	699	3	22	2,038	2,014	292	289
Maine	33	64	56	65	N	N	151	106	9	12
N.H.	90	96	13	31	1	—	161	139	13	9
Vt.	82	146	55	36	—	1	94	60	17	4
Mass.	943	1,638	325	303	1	15	1,088	1,138	184	176
R.I.	34	40	23	45	1	3	87	135	14	20
Conn.	44	63	202	219	—	3	457	436	55	68
MID. ATLANTIC	1,291	2,783	949	942	104	77	4,820	5,454	1,177	1,132
Upstate N.Y.	542	1,868	542	520	5	1	1,235	1,204	273	395
N.Y. City	85	192	27	13	8	23	1,156	1,233	386	400
N.J.	213	214	N	N	33	14	838	1,024	286	234
Pa.	451	509	380	409	58	39	1,591	1,993	232	103
E.N. CENTRAL	3,405	8,113	200	187	36	34	5,073	4,950	976	1,214
Ohio	1,128	634	70	76	23	10	1,307	1,179	141	167
Ind.	327	276	12	10	3	6	581	487	173	210
Ill.	631	1,486	50	51	1	14	1,502	1,573	298	396
Mich.	290	291	39	41	7	2	883	821	222	230
Wis.	1,029	5,426	29	9	2	2	800	890	142	211
W.N. CENTRAL	3,438	2,722	417	604	155	132	2,409	2,354	1,583	438
Minn.	1,086	466	68	89	2	4	560	608	92	65
Iowa	800	530	108	100	7	2	409	419	97	62
Mo.	557	522	78	59	132	105	778	599	971	178
N. Dak.	139	738	25	63	—	—	39	41	4	3
S. Dak.	161	167	64	94	5	4	143	136	70	13
Nebr.	177	85	—	100	4	17	121	169	82	37
Kans.	518	214	74	99	5	—	359	382	267	80
S. ATLANTIC	1,306	861	1,591	2,134	918	796	12,330	10,948	2,339	2,824
Del.	15	10	—	9	4	6	115	111	11	11
Md.	181	147	320	320	92	73	794	798	105	147
D.C.	8	11	—	—	2	—	54	63	15	41
Va.	335	233	504	460	104	37	1,078	1,120	124	158
W. Va.	45	30	68	67	8	5	181	228	1	10
N.C.	127	96	450	572	560	514	1,670	1,631	195	372
S.C.	353	178	5	167	62	63	1,289	996	98	520
Ga.	42	27	243	334	67	78	1,878	1,909	610	643
Fla.	200	129	1	205	19	20	5,271	4,092	1,180	922
E.S. CENTRAL	466	303	138	150	271	200	2,854	2,655	1,140	924
Ky.	136	81	17	23	3	2	468	344	308	74
Tenn.	196	159	46	51	198	116	744	689	510	491
Ala.	83	46	73	65	66	54	738	736	222	305
Miss.	51	17	2	11	4	28	904	886	100	54
W.S. CENTRAL	1,841	977	827	1,060	207	232	3,376	4,211	2,531	3,741
Ark.	287	81	33	51	130	147	711	554	61	77
La.	37	22	—	4	5	5	794	964	129	306
Okla.	—	38	73	110	52	71	390	390	614	498
Tex.	1,517	836	721	895	20	9	1,481	2,303	1,727	2,860
MOUNTAIN	3,930	1,911	235	216	39	23	2,259	2,279	931	822
Mont.	567	70	15	26	1	3	142	183	5	4
Idaho	231	53	12	8	3	4	147	149	17	17
Wyo.	48	35	17	6	2	5	81	53	5	6
Colo.	1,348	1,093	16	47	5	4	578	528	165	155
N. Mex.	153	154	10	5	3	2	223	277	127	136
Ariz.	945	242	137	113	21	4	682	679	538	395
Utah	606	219	15	8	4	1	320	229	46	46
Nev.	32	45	13	3	—	—	86	181	28	63
PACIFIC	3,077	2,088	174	198	9	4	5,168	5,398	2,226	1,943
Wash.	812	720	U	U	—	—	508	541	134	106
Oreg.	574	579	7	6	2	2	376	406	123	85
Calif.	1,415	747	166	181	7	2	3,944	4,022	1,929	1,699
Alaska	123	14	1	11	—	—	57	64	7	6
Hawaii	153	28	—	—	—	—	283	365	33	47
Guam	—	—	—	—	—	—	—	50	—	42
P.R.	6	5	68	58	N	N	422	481	5	32
V.I.	—	—	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	Streptococcal disease, invasive, group A		*Streptococcus pneumoniae*, invasive disease				Syphilis			
			Drug resistant, all ages		Age <5 years		Primary & secondary		Congenital	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	4,085	4,163	2,079	2,171	885	797	7,722	7,497	269	371
NEW ENGLAND	166	273	113	169	66	110	208	180	1	4
Maine	12	14	N	N	1	7	1	2	—	—
N.H.	15	21	—	—	5	N	14	5	—	3
Vt.	10	10	13	10	6	3	1	—	—	—
Mass.	120	119	84	54	53	62	127	111	—	—
R.I.	9	21	16	20	1	8	20	25	—	1
Conn.	U	88	U	85	U	30	45	37	1	—
MID. ATLANTIC	824	691	185	153	139	124	956	946	35	34
Upstate N.Y.	247	222	73	62	62	83	83	93	9	4
N.Y. City	152	118	U	U	20	U	583	591	5	15
N.J.	160	139	N	N	27	12	127	144	21	14
Pa.	265	212	112	91	30	29	163	118	—	1
E.N. CENTRAL	820	924	580	482	273	191	822	864	34	59
Ohio	183	213	346	330	79	80	205	232	1	2
Ind.	99	94	179	152	50	45	57	57	1	3
Ill.	169	244	17	—	64	15	440	371	13	23
Mich.	304	284	38	N	56	N	84	175	15	30
Wis.	65	89	N	N	24	51	36	29	4	1
W.N. CENTRAL	261	293	43	22	96	107	231	148	5	5
Minn.	105	137	—	—	60	71	61	26	1	1
Iowa	N	N	N	N	—	N	4	5	—	—
Mo.	65	61	35	17	10	14	140	88	4	2
N. Dak.	12	14	3	—	4	4	1	—	—	—
S. Dak.	22	21	3	5	—	—	1	—	—	—
Nebr.	21	20	2	—	7	9	5	6	—	—
Kans.	36	40	N	N	15	9	19	23	—	2
S. ATLANTIC	900	830	821	1,071	82	61	1,987	1,907	42	59
Del.	6	3	2	4	—	N	10	9	—	1
Md.	192	147	—	—	56	44	302	366	14	9
D.C.	11	10	17	11	3	4	92	65	—	1
Va.	91	68	N	N	—	N	130	94	4	3
W. Va.	24	26	112	109	23	13	4	3	—	—
N.C.	124	124	N	N	U	U	254	188	11	12
S.C.	30	52	—	83	—	N	81	114	4	12
Ga.	175	190	142	306	—	N	405	365	1	5
Fla.	247	210	548	558	—	N	709	703	8	16
E.S. CENTRAL	164	209	170	159	14	17	459	390	27	23
Ky.	32	60	31	31	N	N	52	47	—	1
Tenn.	132	149	139	126	—	N	210	128	20	8
Ala.	—	—	—	—	—	N	153	161	6	11
Miss.	—	—	—	2	14	17	44	54	1	3
W.S. CENTRAL	255	330	105	83	156	147	1,204	1,197	71	75
Ark.	22	17	15	10	18	8	50	47	1	4
La.	7	3	90	73	24	31	235	315	12	9
Okla.	109	67	N	N	35	45	40	25	1	2
Tex.	117	243	N	N	79	63	879	810	57	60
MOUNTAIN	580	483	62	31	50	37	370	376	28	48
Mont.	—	—	1	—	—	—	5	4	—	—
Idaho	3	9	N	N	—	N	20	23	1	2
Wyo.	5	10	23	11	—	—	—	3	—	—
Colo.	200	112	N	N	49	37	44	62	1	2
N. Mex.	43	90	—	N	—	—	47	79	2	2
Ariz.	246	217	N	N	—	N	167	155	23	41
Utah	82	40	36	18	1	—	6	11	—	1
Nev.	1	5	2	2	—	—	81	39	1	—
PACIFIC	115	130	—	1	9	3	1,485	1,489	26	64
Wash.	N	N	N	N	N	N	149	137	—	—
Oreg.	N	N	N	N	6	N	38	27	—	—
Calif.	—	—	N	N	N	N	1,280	1,312	26	64
Alaska	—	—	—	—	—	N	6	6	—	—
Hawaii	115	130	—	1	3	3	12	7	—	—
Guam	—	—	—	—	—	—	—	2	—	—
P.R.	N	N	N	N	—	N	207	159	9	5
V.I.	—	—	—	—	—	—	—	4	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 17, 2005, and December 18, 2004 (50th Week)*

Reporting area	Tuberculosis		Typhoid fever		Varicella (chickenpox)		West Nile virus disease†		
							Neuroinvasive		Non-neuroinvasive§
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005
UNITED STATES	11,149	13,205	261	304	25,464	28,319	1,168	1,142	1,474
NEW ENGLAND	348	440	24	22	2,285	3,451	9	—	4
Maine	17	20	1	—	213	330	—	—	—
N.H.	6	17	—	—	1,409	—	—	—	—
Vt.	7	6	—	—	120	413	—	—	—
Mass.	229	255	14	15	543	910	4	—	2
R.I.	37	51	1	1	—	—	1	—	—
Conn.	52	91	8	6	U	1,798	4	—	2
MID. ATLANTIC	1,950	2,017	52	73	4,678	93	27	17	18
Upstate N.Y.	242	283	6	10	—	—	—	5	—
N.Y. City	953	986	24	30	—	—	10	2	4
N.J.	453	448	14	18	—	—	3	1	3
Pa.	302	300	8	15	4,678	93	14	9	11
E.N. CENTRAL	1,186	1,140	25	35	6,551	12,577	235	66	116
Ohio	229	191	2	7	1,547	1,532	46	11	15
Ind.	127	124	1	—	597	N	10	8	2
Ill.	546	515	11	16	75	6,215	132	29	88
Mich.	209	222	6	9	3,898	4,136	36	13	5
Wis.	75	88	5	3	434	694	11	5	6
W.N. CENTRAL	421	445	6	10	657	183	150	86	426
Minn.	174	174	5	6	—	—	17	13	27
Iowa	47	47	—	—	N	N	13	13	21
Mo.	99	114	—	2	474	5	17	27	14
N. Dak.	2	4	—	—	55	82	12	2	74
S. Dak.	15	8	—	—	128	96	35	6	192
Nebr.	29	37	—	2	—	—	43	7	90
Kans.	55	61	1	—	—	—	13	18	8
S. ATLANTIC	2,373	2,676	52	44	2,578	2,340	30	65	22
Del.	19	17	1	—	28	5	1	—	—
Md.	244	268	12	12	—	—	4	10	1
D.C.	48	77	—	—	38	26	—	1	—
Va.	281	279	18	10	918	555	—	4	—
W. Va.	26	22	—	—	1,107	1,292	—	—	N
N.C.	269	362	6	8	—	N	2	3	2
S.C.	205	168	—	—	487	462	5	—	—
Ga.	352	535	4	4	—	—	9	14	7
Fla.	929	948	11	10	—	—	9	33	12
E.S. CENTRAL	525	649	7	8	—	53	64	60	38
Ky.	110	120	2	3	N	N	5	1	—
Tenn.	233	231	2	5	—	—	14	13	3
Ala.	182	188	1	—	—	53	6	15	4
Miss.	—	110	2	—	—	—	39	31	31
W.S. CENTRAL	1,500	1,858	16	26	6,243	7,101	234	237	118
Ark.	111	114	—	—	35	—	11	17	15
La.	—	—	1	—	111	56	100	85	38
Okla.	134	164	1	1	—	—	16	16	14
Tex.	1,255	1,580	14	25	6,097	7,045	107	119	51
MOUNTAIN	369	519	11	8	2,472	2,521	135	322	217
Mont.	8	14	—	—	—	—	8	2	17
Idaho	—	3	—	—	—	—	2	1	7
Wyo.	—	5	—	—	52	56	6	2	6
Colo.	62	120	7	3	1,772	2,008	20	41	81
N. Mex.	33	39	—	—	174	U	20	31	13
Ariz.	209	209	2	2	—	—	44	214	47
Utah	26	36	1	1	474	457	21	6	31
Nev.	31	93	1	2	—	—	14	25	15
PACIFIC	2,477	3,461	68	78	—	—	284	289	515
Wash.	240	225	5	6	N	N	—	—	—
Oreg.	54	102	4	1	—	—	1	—	6
Calif.	2,034	2,989	47	65	—	—	283	289	509
Alaska	38	36	—	—	—	—	—	—	—
Hawaii	111	109	12	6	—	—	—	—	—
Guam	—	50	—	—	—	263	—	—	—
P.R.	—	104	—	—	565	388	—	—	—
V.I.	—	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	—
C.N.M.I.	—	U	—	U	—	U	—	U	—

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

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

§ Not previously notifiable.

TABLE III. Deaths in 122 U.S. cities,* week ending December 17, 2005 (50th Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45–64	25–44	1–24	<1	
NEW ENGLAND	601	428	128	27	10	8	57
Boston, Mass.	159	110	37	8	4	—	10
Bridgeport, Conn.	35	26	8	1	—	—	6
Cambridge, Mass.	14	12	2	—	—	—	2
Fall River, Mass.	23	19	4	—	—	—	1
Hartford, Conn.	56	34	13	6	3	—	9
Lowell, Mass.	20	15	4	—	—	1	—
Lynn, Mass.	12	10	1	1	—	—	—
New Bedford, Mass.	26	20	2	3	—	1	3
New Haven, Conn.	40	25	8	4	1	2	3
Providence, R.I.	71	55	15	1	—	—	7
Somerville, Mass.	3	1	2	—	—	—	—
Springfield, Mass.	39	26	10	2	1	—	4
Waterbury, Conn.	41	34	6	1	—	—	5
Worcester, Mass.	62	41	16	—	1	4	7
MID. ATLANTIC	2,088	1,434	443	137	41	31	98
Albany, N.Y.	39	28	8	1	—	2	3
Allentown, Pa.	28	24	3	1	—	—	3
Buffalo, N.Y.	77	54	15	4	1	3	6
Camden, N.J.	27	14	9	2	1	1	2
Elizabeth, N.J.	20	16	4	—	—	—	1
Erie, Pa.	58	39	11	4	4	—	6
Jersey City, N.J.	42	26	13	2	1	—	—
New York City, N.Y.	1,081	727	240	76	22	14	37
Newark, N.J.	48	23	12	8	2	3	4
Paterson, N.J.	U	U	U	U	U	U	U
Philadelphia, Pa.	301	200	64	25	7	5	15
Pittsburgh, Pa.§	21	14	4	2	1	—	—
Reading, Pa.	22	20	1	1	—	—	1
Rochester, N.Y.	120	94	20	4	—	2	5
Schenectady, N.Y.	25	20	4	1	—	—	—
Scranton, Pa.	39	32	5	2	—	—	1
Syracuse, N.Y.	81	61	18	—	2	—	10
Trenton, N.J.	31	20	7	3	—	1	2
Utica, N.Y.	9	6	3	—	—	—	1
Yonkers, N.Y.	19	16	2	1	—	—	1
E.N. CENTRAL	1,955	1,278	477	110	30	60	122
Akron, Ohio	47	33	10	1	3	—	2
Canton, Ohio	39	27	10	—	1	1	2
Chicago, Ill.	259	167	69	18	1	4	23
Cincinnati, Ohio	90	58	25	3	—	4	10
Cleveland, Ohio	232	165	52	8	3	4	9
Columbus, Ohio	224	142	60	16	1	5	9
Dayton, Ohio	125	92	26	6	1	—	9
Detroit, Mich.	172	85	55	11	3	18	8
Evansville, Ind.	52	34	13	4	1	—	6
Fort Wayne, Ind.	64	38	12	6	2	6	7
Gary, Ind.	15	9	5	—	1	—	—
Grand Rapids, Mich.	59	42	11	2	—	4	8
Indianapolis, Ind.	162	101	33	13	4	11	3
Lansing, Mich.	41	27	11	2	—	1	3
Milwaukee, Wis.	104	62	30	7	4	1	14
Peoria, Ill.	42	32	5	3	2	—	1
Rockford, Ill.	49	34	12	2	1	—	1
South Bend, Ind.	35	26	8	1	—	—	1
Toledo, Ohio	94	61	24	6	2	1	4
Youngstown, Ohio	50	43	6	1	—	—	2
W.N. CENTRAL	683	432	161	47	23	20	46
Des Moines, Iowa	108	69	30	6	3	—	8
Duluth, Minn.	28	21	6	—	1	—	3
Kansas City, Kans.	32	17	11	4	—	—	—
Kansas City, Mo.	100	64	18	10	4	4	3
Lincoln, Nebr.	41	33	7	—	—	1	6
Minneapolis, Minn.	78	47	16	10	2	3	2
Omaha, Nebr.	82	59	16	1	3	3	8
St. Louis, Mo.	76	28	27	12	7	2	3
St. Paul, Minn.	57	40	11	1	3	2	5
Wichita, Kans.	81	54	19	3	—	5	8
S. ATLANTIC	1,340	825	332	104	48	31	70
Atlanta, Ga.	151	81	52	15	2	1	3
Baltimore, Md.	161	88	52	13	3	5	10
Charlotte, N.C.	116	74	21	13	6	2	14
Jacksonville, Fla.	180	117	45	7	6	5	7
Miami, Fla.	239	144	54	23	12	6	7
Norfolk, Va.	47	31	12	1	2	1	3
Richmond, Va.	57	38	12	4	3	—	3
Savannah, Ga.	39	29	6	2	—	2	4
St. Petersburg, Fla.	45	31	10	3	1	—	4
Tampa, Fla.	184	124	40	9	8	3	8
Washington, D.C.	101	52	26	12	5	6	4
Wilmington, Del.	20	16	2	2	—	—	3
E.S. CENTRAL	948	621	224	64	22	17	70
Birmingham, Ala.	232	151	48	16	7	10	18
Chattanooga, Tenn.	84	62	15	5	2	—	8
Knoxville, Tenn.	106	73	22	8	2	1	3
Lexington, Ky.	73	45	21	5	2	—	6
Memphis, Tenn.	166	106	43	11	4	2	19
Mobile, Ala.	103	66	26	8	3	—	3
Montgomery, Ala.	46	32	12	2	—	—	5
Nashville, Tenn.	138	86	37	9	2	4	8
W.S. CENTRAL	1,656	1,046	385	129	52	44	91
Austin, Tex.	124	76	21	19	4	4	10
Baton Rouge, La.	35	29	3	2	1	—	—
Corpus Christi, Tex.	62	41	12	3	1	5	1
Dallas, Tex.	224	114	66	22	12	10	14
El Paso, Tex.	96	66	20	7	1	2	4
Ft. Worth, Tex.	150	92	47	6	2	3	4
Houston, Tex.	457	278	108	39	18	14	31
Little Rock, Ark.	76	49	22	4	1	—	—
New Orleans, La.¶	U	U	U	U	U	U	U
San Antonio, Tex.	251	172	49	19	7	4	13
Shreveport, La.	48	37	7	1	3	—	7
Tulsa, Okla.	133	92	30	7	2	2	7
MOUNTAIN	1,192	814	247	74	25	30	85
Albuquerque, N.M.	137	94	29	10	3	1	13
Boise, Idaho	42	32	6	1	2	1	2
Colo. Springs, Colo.	92	66	18	8	—	—	7
Denver, Colo.	102	61	22	7	3	9	4
Las Vegas, Nev.	251	175	56	13	3	4	17
Ogden, Utah	31	24	6	—	1	—	1
Phoenix, Ariz.	175	100	44	17	7	6	19
Pueblo, Colo.	32	26	2	3	1	—	2
Salt Lake City, Utah	129	88	32	3	3	3	7
Tucson, Ariz.	201	148	32	12	2	6	13
PACIFIC	1,743	1,228	357	91	38	28	155
Berkeley, Calif.	21	15	3	3	—	—	2
Fresno, Calif.	120	90	24	5	—	1	7
Glendale, Calif.	11	9	1	—	1	—	2
Honolulu, Hawaii	73	53	14	3	—	3	14
Long Beach, Calif.	68	49	13	3	3	—	—
Los Angeles, Calif.	216	140	51	17	4	4	21
Pasadena, Calif.	36	29	3	—	2	2	7
Portland, Oreg.	142	101	30	8	2	1	7
Sacramento, Calif.	205	143	46	10	4	2	21
San Diego, Calif.	170	119	33	10	4	3	13
San Francisco, Calif.	182	112	47	12	4	7	18
San Jose, Calif.	149	114	26	5	3	1	23
Santa Cruz, Calif.	32	26	5	1	—	—	3
Seattle, Wash.	137	97	22	7	8	3	4
Spokane, Wash.	64	45	13	5	—	1	7
Tacoma, Wash.	117	86	26	2	3	—	6
TOTAL	12,206**	8,106	2,754	783	289	269	794

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.

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☆U.S. Government Printing Office: 2006-523-056/40013 Region IV ISSN: 0149-2195