CDC

MMWR

Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Weekly July 18, 2008 / Vol. 57 / No. 28

State-Specific Prevalence of Obesity Among Adults — United States, 2007

Obesity is associated with reduced quality of life, development of serious chronic conditions such as heart disease and diabetes, increased medical care costs, and premature death (*1,2*). A *Healthy People 2010* objective is to reduce to 15% the proportion of adults who are obese (*3*). In 2005, no state met this target, and (based on self-reported height and weight) 23.9% of adults in the United States were obese (*4*). To update 2005 estimates of the prevalence of obesity in adults, CDC analyzed data from the 2007 Behavioral Risk Factor Surveillance System (BRFSS) survey. The results of that analysis indicated that 25.6% of respondents overall in 2007 were obese; the prevalence of obesity among adults remained above 15% in all states and was above 30% in Alabama, Mississippi, and Tennessee. Enhanced collaborative efforts among national, state, and community groups are needed to establish, evaluate, and sustain effective programs and policies to reduce the prevalence of obesity in the United States.

BRFSS is an ongoing, state-based, random-digit–dialed telephone survey of the noninstitutionalized U.S. civilian population aged ≥18 years. Survey data are used to monitor progress in achieving health objectives at the state level and in selected metropolitan statistical areas.* Data are weighted to the respondents' probabilities of being selected and to the age-, race-, and sex-specific populations from each state's annually adjusted census. In the 2007 BRFSS survey, Council of American Survey and Research Organizations (CASRO) response rates† among states ranged from 26.9% to 65.4% (median: 50.6%), and cooperation rates§ ranged from 49.6% to 84.6% (median: 72.1%).

Body mass index (BMI) (weight [kg] / height [m]^2) was calculated from self-reported weight and height at the time of the survey. Obesity was defined as a BMI ≥30.0. (*1*). To maintain consistency with previous analyses (*4,5*), respondents with self-reported weight ≥500 pounds or height ≥7 feet were excluded.

In the 2007 BRFSS survey, 25.6% of respondents overall were obese. Obesity prevalence was 26.4% for men and 24.8% for women (Table). By age group, obesity prevalence ranged from 19.1% for men and women aged 18–29 years to 31.7% and 30.2%, respectively, for men and women aged 50–59 years. By race/ethnicity and sex, obesity prevalence was highest for non-Hispanic black women (39.0%) followed by non-Hispanic black men (32.1%).

By education level, for men, obesity prevalence was lowest among college graduates (22.1%) and highest among those with some college (29.5%) and a high school diploma (29.1%). For women, obesity prevalence was lowest among college graduates (17.9%) and highest among those with less than a high school diploma (32.6%).

By region, the prevalence of obesity was higher in the South (27.3%) and Midwest (26.5%) and lower in the Northeast (24.4%) and West (23.1%) (Table). State-specific obesity prevalence ranged from 18.7% to 32.0% and was <20% in only one state: Colorado (18.7%) (Figure). Obesity prevalence was >30% in three states: Alabama (30.3%), Mississippi (32.0%), and Tennessee (30.1%). No state met

* Additional information is available at http://www.cdc.gov/brfss/smart.

† The percentage of persons who completed interviews among all eligible persons, including those who were not successfully contacted. Rates are available at http://www.cdc.gov/brfss/technical_infodata/surveydata/2006/dqrhandbook_06.rtf.

§ The percentage of persons who completed interviews among all eligible persons who were contacted.

INSIDE

DEPARTMENT OF HEALTH AND HUMAN SERVICES

CENTERS FOR DISEASE CONTROL AND PREVENTION

the *Healthy People 2010* target of 15%, and 30 states had obesity prevalence ≥25%.

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Editorial Note: The findings in this report indicate that, in 2007, none of the 50 states nor the District of Columbia had reached the *Healthy People 2010* target for obesity prevalence among adults aged ≥18 years. The 25.6% prevalence of obesity among respondents overall in the 2007 BRFSS survey represents an increase of 1.7 percentage points from the 23.9% prevalence in 2005. In 2000, the prevalence was 19.8%, and in 1995 the prevalence was 15.3% (*4*). State and national data indicating that obesity prevalence has continued to increase during much of the past two decades (*4–7*) underscore the public health challenge presented by obesity. Of further concern are the disparities in prevalence of obesity, particularly among racial/ethnic populations and by education level. These disparities might reflect differences in knowledge and behavior related to diet and physical activity. They also might reflect differences in environmental supports for these behaviors, such as access to places for physical activity (e.g., local parks or recreation facilities) or access to healthier food options (e.g., selection at local groceries).

To reach the *Healthy People 2010* target, increased national attention to actions that promote healthy eating and physical activity is essential. In the Surgeon General's 2001 *Call to Action to Prevent and Decrease Overweight and Obesity* (*2*), 15 activities were identified as national priorities for immediate action; many focus on increased access to healthy food choices and safe physical activity in settings such as worksites, communities, and schools. The report also called for collaboration across multiple sectors (i.e., education, government, and business) and levels (i.e., individual, family, community, state, and national) to address the problem of obesity.

CDC conducts obesity prevention programs and activities with a wide range of partners, including state and local health and education departments and communities across the country.¶ For example, as part of CDC's Nutrition and Physical Activity Program to Prevent Obesity and Other Chronic Diseases, the state of Washington implemented a community intervention that promotes environmental and policy changes to help encourage healthful nutrition and physical activity.

¶ Additional information regarding these programs is available at http://www.cdc.gov/nccdphp/dnpa/obesity/state_programs/funded_states/index.htm; http://www.cdc.gov/healthyyouth/partners/funded/cshp.htm; and http://www.cdc.gov/steps.

TABLE. Prevalence of obesity* among adults aged ≥18 years, by sex and selected characteristics — Behavioral Risk Factor Surveillance System, United States, 2007

Characteristic	Total (N = 404,300) %	Total (99% CI†)	Men (n = 155,525) %	Men (99% CI)	Women (n = 248,775) %	Women (99% CI)
Total	**25.6**	**(25.2–26.0)**	**26.4**	**(25.8–27.1)**	**24.8**	**(24.4–25.3)**
Age group (yrs)						
18–29	19.1	(18.0–20.3)	19.1	(17.4–21.0)	19.1	(17.9–20.5)
30–39	26.5	(25.5–27.5)	28.2	(26.6–29.8)	24.8	(23.7–26.0)
40–49	27.8	(27.0–28.6)	29.4	(28.1–30.7)	26.1	(25.1–27.2)
50–59	30.9	(30.1–31.8)	31.7	(30.4–33.0)	30.2	(29.1–31.2)
60–69	29.9	(29.1–30.8)	30.1	(28.7–31.5)	29.8	(28.8–30.9)
≥70	19.4	(18.7–20.1)	18.5	(17.4–19.7)	20.0	(19.2–20.9)
Race/Ethnicity						
White, non-Hispanic	24.5	(24.2–24.9)	26.3	(25.7–26.9)	22.9	(22.4–23.3)
Black, non-Hispanic	35.8	(34.4–37.2)	32.1	(29.7–34.6)	39.0	(37.4–40.6)
Hispanic§	28.5	(26.7–30.4)	28.3	(25.5–31.2)	28.8	(26.7–31.0)
Other	15.3	(13.8–16.9)	16.2	(13.9–18.8)	14.1	(12.5–15.9)
Educational level						
Less than high school diploma	29.4	(27.9–30.9)	26.4	(24.2–28.8)	32.6	(30.7–34.5)
High school diploma	28.8	(28.0–29.5)	29.1	(27.9–30.3)	28.5	(27.6–29.3)
Some college	27.8	(27.0–28.6)	29.5	(28.1–30.9)	26.3	(25.5–27.2)
College graduate	20.0	(19.5–20.6)	22.1	(21.2–23.0)	17.9	(17.2–18.5)
Census region						
Northeast	24.4	(23.6–25.3)	25.7	(24.3–27.1)	23.3	(22.3–24.3)
Midwest	26.5	(25.8–27.2)	27.6	(26.5–28.7)	25.3	(24.5–26.2)
South	27.3	(26.7–27.8)	27.5	(26.7–28.4)	27.0	(26.4–27.6)
West	23.1	(22.0–24.3)	24.1	(22.3–26.0)	22.1	(20.8–23.4)

* Persons with a body mass index (BMI) of ≥30.0; self-reported weight and height were used to calculate BMI (weight [kg] / height [m]^2).
† Confidence interval.
§ Might be of any race.

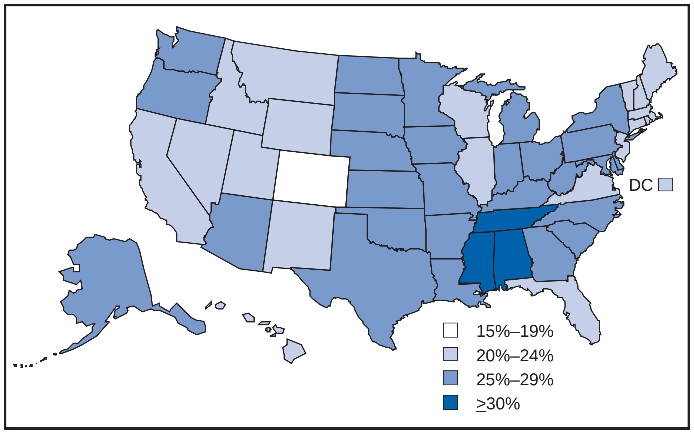
Changes included widening sidewalks, connecting systems of paths for pedestrians and bicyclists, and creating community gardens. Examples of other approaches were highlighted in a meeting of representatives from 25 community programs, held July 10–11, 2008, at CDC. Examples included increasing access to healthier foods through farmer's markets, community gardens, and local groceries; altering roads and sidewalks to make them safer and more accessible to pedestrians and bicyclists; creating or enhancing access to physical activity through parks, trails, or community fitness trails; and creating social support for physical activity through walking clubs.

CDC also works with employers and worksite health experts to translate evidence-based recommendations from the Task Force on Community Preventive Services (*8*) on worksite interventions for preventing obesity into business practices. This collaboration will produce a return-on-investment calculator to assist businesses in making the case for initiation and maintenance of wellness programs, especially those that promote weight management. In addition, an interactive website will provide guidance for the creation, expansion, or customization of worksite obesity programs.

Efforts to help address obesity in the health-care setting also are occuring. For example, the National Committee for Quality Assurance recently approved inclusion of BMI assessment for adults as a Health Plan Employer Data and Information Set (HEDIS) measure. This assessment should help prompt health-care providers to provide appropriate counseling regarding diet and physical activity to their patients.

The findings in this report are subject to at least two limitations. First, BRFSS data depend on self-reported height and weight, and obesity prevalence is likely underestimated because survey participants tend to overstate their height and

FIGURE. Prevalence of obesity* among adults aged ≥18 years — Behaviorial Risk Factor Surveillance System, United States, 2007



* Persons with a body mass index (BMI) of ≥30.0; self-reported weight and height were used to calculate BMI (weight [kg] / height [m]^2)

understate their weight, or both (*9*). Second, persons without landline telephones are excluded from BRFSS, which might affect obesity estimates. Persons without landline telephones, including those who use only cellular telephones, might be younger or of lower socioeconomic status (*10*).

Expansion of multidisciplinary, cross-sector collaborations and partnerships that seek to improve nutrition and physical activity in settings such as schools, workplaces, and communities will be an important strategy to reduce obesity prevalence in the United States. Priority should be given to interventions that move beyond increasing individual awareness and provide the environmental and policy changes that support behavior change, particularly among those with the greatest need.

Acknowledgment

The findings in this report are based, in part, on data provided by BRFSS state coordinators.

References

1. National Heart, Lung, and Blood Institute. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults: the evidence report. Bethesda, MD: US Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 1998. Available at http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.htm.
2. US Department of Health and Human Services. The Surgeon General's call to action to prevent and decrease obesity. Rockville, MD: US Department of Health and Human Services, US Public Health Service, Office of the Surgeon General; 2001. Available at http://www.surgeongeneral.gov/topics/obesity.
3. US Department of Health and Human Services. 19-2: reduce the proportion of adults who are obese. In: Healthy people 2010: understanding and improving health. 2nd ed. Washington, DC: US Department of Health and Human Services; 2000. Available at http://www.healthypeople.gov/document/html/objectives/19-02.htm.
4. CDC. State-specific prevalence of obesity among adults—United States, 2005. MMWR 2006;55:985–8.
5. Mokdad AH, Serdula MK, Dietz WH, Bowman BA, Marks JS, Koplan JP. The spread of the obesity epidemic in the United States, 1991–1998. JAMA 1999;282:1519–22.
6. Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and trends in obesity among US adults, 1999–2000. JAMA 2002;288:1723–7.
7. Ogden CL, Carroll MD, McDowell MA, Flegal KM. Obesity among adults in the United States—no statistically significant change since 2003–2004. NCHS data brief: no 1. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2007. Available at http://www.cdc.gov/nchs/data/databriefs/db01.pdf.
8. CDC. Public health strategies for preventing and controlling overweight and obesity in school and worksite settings: a report on recommendations of the Task Force on Community Preventive Services. MMWR 2005;54(No. RR-10).
9. Ezzati M, Martin H, Skjold S, Vander Hoorn S, Murray CJ. Trends in national and state-level obesity in the USA after correction for self-report bias: analysis of health surveys. J R Soc Med 2006;99:250–7.
10. Blumberg SJ, Luke JV. Wireless substitution: early release of estimates based on data from the National Health Interview Survey, July–December 2007. Rockville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2008. Available at http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless200805.htm.

Balamuthia Amebic Encephalitis — California, 1999–2007

Balamuthia mandrillaris is a free-living ameba that causes encephalitis in humans (both immunocompetent and immunocompromised), horses, dogs, sheep, and nonhuman primates. The ameba is present in soil and likely is transmitted by inhalation of airborne cysts or by direct contamination of a skin lesion. Approximately 150 cases of balamuthiasis have been reported worldwide since recognition of the disease in 1990 (*1*). Balamuthiasis is difficult to diagnose because 1) the clinical symptoms mimic those of several other types of encephalitis, 2) few laboratories perform appropriate diagnostic testing, and 3) many physicians are unaware of the disease. The lack of recognition and subsequent delay in diagnosis might be a factor in its high mortality. Since 1998, the California Encephalitis Project (CEP) has been testing encephalitis cases for both common and uncommon agents known to cause encephalitis, including *Balamuthia*. This report describes the 10 balamuthiasis cases identified by CEP during 1999–2007. The preliminary diagnoses in these cases included neurotuberculosis, viral meningoencephalitis, neurocysticercosis, and acute disseminated encephalomyelitis. All but one patient died. These findings underscore the importance of increasing awareness among clinicians, epidemiologists, and public health officials for timely recognition and potential treatment of *Balamuthia* encephalitis.

CEP Surveillance

CEP was initiated to better understand the etiologies, risk factors, and clinical features of human encephalitis. The project was started in 1998 in collaboration with the California Department of Public Health Viral and Rickettsial Disease Laboratory and CDC's Emerging Infections Program. Specimen referrals to CEP are received statewide from clinicians seeking diagnostic testing for immunocompetent patients aged ≥6 months who meet the CEP case definition for encephalitis. CEP defines encephalitis as illness in a patient hospitalized with encephalopathy and one or more of the following: fever, seizures, focal neurologic findings, cerebrospinal fluid (CSF) pleocytosis, and electroencephalogram or neuroimaging results consistent with encephalitis.

Specimens from approximately 3,000 encephalitis patients were referred to CEP during 1999–2007. The majority of submissions included acute serum (2,652), CSF (4,016), and respiratory samples (1,759). Five hundred cases were selected for *Balamuthia* serology based on at least one of the following: 1) clinical symptoms (e.g., cranial nerve palsies, seizures, and coma); 2) elevated CSF levels of protein and leukocytes, with normal or low glucose; 3) abnormal neuroimaging findings (e.g., hydrocephalus, ring-enhancing lesions, or space-occupying lesions); or 4) occupational or recreational contact with soil (e.g., work in agriculture or construction or dirt biking). A titer ≥1:128 was considered a presumptive positive and selected for further testing of brain tissue, if available.

From the 500 patient specimens tested, 10 cases of *Balamuthia* encephalitis were identified, first by serology and then definitively by additional methods (Table). For two additional cases with elevated titers for *Balamuthia* antibodies by indirect immunofluorescence antibody (IFA) staining, brain tissue was not available, so the significance of positive titers is unknown. The median age of the 10 patients was 15.5 years (range: 1.5–72.0 years); nine of the patients were male. Seven of the 10 CEP cases occurred in southern California, and three occurred in central and northern California. Neurologic symptoms indicative of central nervous system (CNS) involvement were the initial manifestations in nine of the 10 cases. In one case, the patient developed a cutaneous lesion on his upper arm several months before development of CNS symptoms. Development of the lesion was temporally associated with cleaning a backyard pond. Postmortem, the skin lesion was found to be positive for *Balamuthia* amebae by indirect immunofluorescence staining and polymerase chain reaction (PCR), and might have been the portal of entry preceding development of CNS disease.

CSF analysis in nine of the 10 cases showed elevated protein with a median value of 188 mg/dL (range: 64–674 mg/dL), elevated white blood cell count with a median value of 170.5 cells/mm^3 (range: 11–540 cells/mm^3) and a lymphocytic predominance, and normal or low glucose with a median value of 40 mg/dL (range: 15–74 mg/dL). Abnormal neuroimaging results were observed in all 10 cases, headache was reported in six cases, altered mental status was reported in four cases, and manifestations of cranial nerve palsies were reported in four cases.

The median interval from onset of symptoms to hospital admission was 8.5 days (range: 1–30 days) with a median hospital stay of 16.5 days (range: 3–120 days). Nine of the 10 balamuthiasis patients died; one was living at the time of last follow-up.

Potential Risk Factors

Five patients had preexisting medical conditions: diabetes, gout and heart disease, status post splenectomy, nephrotic syndrome with a prolonged course on steroid therapy, and a possible lymphoma (Table). Patients in five of the 10 cases had a known exposure to soil: motorcycling in desert terrain, handling flowerpot soil, working in construction, or gardening as a hobby. No pertinent soil exposures were identified from the other five patients.

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Editorial Note: *Balamuthia mandrillaris* was first recognized and isolated from the brain of a pregnant mandrill baboon that had died in the San Diego Wild Animal Park in 1989 (*2*). The first human infections were reported in 1990, and in 1993, *B. mandrillaris* was described as a new genus and species of ameba (*2,3*). Since 1993, cases have been reported in western and central Europe, Canada, Argentina, Brazil, Peru, Venezuela, Mexico, Australia, Thailand, Japan, and India. Early reports of the disease in humans suggested that the infection occurred primarily in immunocompromised persons (e.g., human immunodeficiency virus/acquired immunodeficiency syndrome [HIV/AIDS] patients, injection-drug users, the elderly, and persons with concurrent health problems). However, many recent cases have occurred in immunocompetent children and adolescents (*4*). CEP detected its first case of *Balamuthia* encephalitis in 2001, 3 years after the inception of the project (*5*). Since 1990, a total of 15 known human cases with 12 deaths have been diagnosed in California (10 cases diagnosed by CEP and five cases where specimens were sent to CDC for diagnosis before the inception of CEP in 1998). Median age of the five patients whose specimens were sent to CDC was 16 years (range: 2–84 years); three of the patients were male. All but two of the 15 cases occurred in persons of Hispanic ethnicity, possibly because of environmental, genetic, or socioeconomic factors (*6*). Nearly 50% of cases in the United States have occurred in Hispanics (*6*).

Because of the rarity of balamuthiasis, risk factors for the disease are not well defined. Two of five cases diagnosed by CDC occurred in patients who had exposure to soil. In addition to soil, stagnant water also might be a source of infection for balamuthiasis (*7*). Based on published case reports and positive laboratory detections at CDC and CEP, the disease appears to be more common in the southern tier of the United States (e.g., California, Texas, Georgia, and Florida), with fewer cases identified from states farther north (*7*). Similarly, most cases in California occurred in the southern part of the state.

Currently, indirect immunofluorescence staining of formalin-fixed tissue specimens (e.g., brain tissue) is the definitive diagnostic test for balamuthiasis. Other tests include

TABLE. Demographic, clinical, and laboratory features of 10 balamuthiasis cases — California Encephalitis Project (CEP), 1999–2007

Case	Age (yrs) and sex	Race/ Ethnicity	Presenting clinical symptoms	Risk factors	Lumbar puncture (LP) results (2nd LP results, if available) CSF WBC* (cells/mm³)	CSF protein (mg/dL)	CSF glucose (mg/dL)	Neuroimaging[†] results	Mode of diagnosis	Preliminary diagnoses	Interval from hospital admission to death (days)
1	1.5 Male	Hispanic[§]	Ataxia, cranial nerve palsy (XIth), vestibular cerebellar nystagmus, loss of appetite	—[¶]	153 (160)	122 (127)	23 (24)	Multiple ring-enhancing lesions	Serology, IIF,** PCR[††]	MTB[§§] meningitis, multifocal tumor, toxoplasmosis, cysticercosis, or coccidioidomycosis	35
2[¶¶]	3 Female	White, Hispanic	Seizures, emesis, febrile	Contact with flowerpot soil	540 (354)	122 (1,247)	47 (6)	Ventriculomegaly, hydrocephalus	Serology, IIF, PCR	MTB meningitis	25
3[¶¶]	7 Male	Hispanic[§]	Headache, neck stiffness, seizures, lethargy, cranial nerve palsy (XIth)	—[¶]	LP not performed (elevated intracranial pressure)			Ring-enhancing lesions	Serology	Neurocysticercosis	45
4	7 Male	Hispanic[§]	Headache, focal seizures, cranial nerve palsy (VIth), febrile	Proteinuria, steroid therapy	230	305	<20	White matter lesions, minimal enhancement	Serology, IIF, PCR	Nephrotic syndrome, demyelinating process, or tumor	3***
5	12 Male	Hispanic[§]	Headache, emesis, altered mental status	Motorcycling over desert terrain	78 (287)	Normal (69)	74 (40)	Multiple ring-enhancing lesions	Serology, IIF, PCR	ADEM,[†††] vasculitis	120
6	19 Male	Hispanic[§]	Altered mental status, lethargy, weight loss, febrile, difficulty breathing, loss of bladder control	Former drug use	291	140	15	Hypodense focus	IIF, PCR	MTB meningitis	8
7	35 Male	Hispanic[§]	Seizures	—[¶]	11	64	—[¶]	Focal enhancing lesions	Serology, PCR	B-cell lymphoma	Living as of last report
8	43 Male	White, non-Hispanic	Fever, headache, altered mental status, hallucinations, cranial nerve palsy (left eye droop)	Occupational soil exposure	300	674	42	Hydrocephalus	IIF, PCR	Viral meningoencephalitis	106
9	64 Male	Hispanic[§]	Headache, nausea, emesis, altered mental status, confusion	Occupational soil exposure	128 (106)	643 (808)	39 (43)	Multiple ring-enhancing lesions	Serology, IIF, PCR	Pyogenic brain abcess	8
10	72 Male	Pacific Islander[§§§]	Headache, febrile, behavioral changes	Gardening as a hobby, yard work	188	114	41	Multiple enhancing lesions	IIF, PCR	Stroke	7

* Cerebrospinal fluid white blood count.
† Magnetic resonance imaging, computerized tomography, or both.
§ Race data not available.
¶ Data not available.
** Indirect immunofluorescence of brain tissue.
†† Polymerase chain reaction.
§§ *Mycobacterium tuberculosis*.
¶¶ Cases published previously: Bakardjiev A, Azimi PH, Ashouri N, et al. Amebic encephalitis caused by *Balamuthia mandrillaris*: report of four cases. Pediatr Infect Dis J 2003;22:447–53. Of the four cases described in that report, two were CEP cases, one case was from Texas, and one case was a California case diagnosed before the inception of CEP in 1998.
*** At time of final hospitalization.
††† Acute disseminated encephalomyelitis.
§§§ Ethnicity data not available.

serologic testing (e.g., IFA), and recently, PCR, for identification of *Balamuthia* DNA in brain tissue or CSF (*8*). However, these tests are of an investigational nature and have not been cleared by the Food and Drug Administration.

Four balamuthiasis survivors have been reported in the United States, including one described in this report. Long-term outcomes for these survivors varied. One patient, a California man aged 64 years, was described as performing all activities of daily living with good communication skills 5 years after his initial hospitalization (*9*). Another patient, a girl aged 5 years, had returned to school with moderate performance problems but with no gross neurologic sequelae 2 years after hospitalization (*9*). A third patient, a New York woman aged 72 years, was reported to have had no neurologic sequelae 6 months after hospitalization (*10*). These three surviving patients were treated with pentamidine isethionate, fluconazole, flucytosine (5-fluorocytosine), sulfadiazine, and a macrolide antibiotic (azithromycin or clarithromycin) (*9,10*). A fourth patient, a man aged 35 years, whose case was detected by CEP (Table), was still alive and in good condition 3 months after his diagnosis. However, specific information on his treatment regimen is unavailable; also, because he was lost to follow-up, his current status is unknown. Three additional balamuthiasis survivors have been reported in Peru (*1*); of these, one received no treatment, but the other two received prolonged therapy with albendazole and itraconazole (*1*).

The findings in this report are subject to at least two limitations. First, brain tissue, either from biopsy or autopsy, is needed for unambiguous diagnosis of CNS balamuthiasis. Second, because the sensitivity and specificity of serology and PCR are unknown and brain tissue is likely to be available only from patients with advanced CNS disease, cases might have been missed. In particular, persons in an early stage of disease or those who had a less severe form of balamuthiasis would not have been included for further diagnostic testing, thus underestimating the burden of disease. In those cases, the opportunity for initiating therapy might have been missed.

In the United States, two reference laboratories currently perform diagnostic testing for balamuthiasis, one at CDC and the other at the California Department of Public Health. Interested clinicians and laboratorians may seek testing for clinically consistent cases upon special request and prior approval (CDC contact: Govinda S. Visvesvara at e-mail gsv1@cdc.gov; CEP contact: Shilpa Gavali at e-mail shilpa.gavali@cdph.ca.gov). The confirmatory specimens for evaluation are paraffin-embedded, hematoxylin-eosin stained and unstained slides of affected brain tissue (available through biopsy or autopsy). Secondary diagnostic materials are 1) serum for *Balamuthia* antibody titer and 2) CSF and fresh or fixed brain tissue for PCR. The patient's medical history, including laboratory and neuroimaging results, also should be submitted.

The full spectrum of clinical disease is unknown. Balamuthiasis should be considered in patients with unexplained encephalitis, especially those with lymphocytic pleocytosis, elevated CSF protein (especially >100 mg/dL), and focal lesions on neuroimaging.

Although only seven balamuthiasis survivors have been reported worldwide, early recognition of the infection might offer an opportunity to slow or stop progression of the disease (*9,10*). At present, the majority of cases are identified at autopsy. With improved diagnostic techniques, earlier therapeutic intervention might improve prognosis. Further studies are needed to estimate incidence, characterize risk factors, determine case-fatality rates, improve diagnostic methods, and evaluate the efficacy of therapeutic interventions. An important first step will be for public health personnel, clinicians, and pathologists to become knowledgeable about this disease.

References

1. Schuster FL, Visvesvara GS. *Balamuthia mandrillaris*. In: Emerging protozoan pathogens. Khan NA, ed. London, England: Taylor and Francis Group; 2008:71–118.
2. Visvesvara GS, Martinez, AJ, Schuster FL, et al. Leptomyxid ameba, a new agent of amebic meningoencephalitis in humans and animals. J Clin Microbiol 1990;28:2750–6.
3. Visvesvara GS, Schuster FL, Martinez AJ. *Balamuthia mandrillaris*, N. G. N. Sp., agent of amebic meningoencephalitis in humans and other animals. J Euk Microbiol 1993;40:504–14.
4. Rowen JL, Doerr CA, Vogel H, Baker CJ. *Balamuthia mandrillaris*: a newly recognized agent for amebic encephalitis. Pediatr Infect Dis J 1995;14:705–10.
5. Glaser CA, Honarmand S, Anderson LJ, et al. Beyond viruses: clinical profiles and etiologies associated with encephalitis. Clin Infect Dis 2006;43:1565–77.
6. Schuster FL, Glaser C, Honarmand S, Maguire JH, Visvesvara GS. *Balamuthia* amebic encephalitis risk, Hispanic Americans. Emerg Infect Dis 2004;10:1510–2.
7. Visvesvara GS, Moura H, Schuster FL. Pathogenic and free-living amoebae: *Acanthamoeba* spp., *Balamuthia mandrillaris*, *Naegleria fowleri*, and *Sappinia diploidea*. FEMS Immunol Med Microbiol 2007;50:1–26.
8. Yagi S, Booton GC, Visvesvara GS, Schuster FL. Detection of Balamuthia 16S rRNA gene DNA in clinical specimens by PCR. J Clin Microbiol 2006;43:3192–7.
9. Deetz TR, Sawyer MH, Schuster FL, Visvesvara GS. Successful treatment of *Balamuthia* amoebic encephalitis: presentation of 2 cases. Clin Infect Dis 2003;37:1304–12.
10. Jung S, Schelper RL, Visvesvara GS, Chang HT. *Balamuthia mandrillaris* meningoencephalitis in an immunocompetent patient. Arch Pathol Lab Med 2004;128:466–8.

Silicosis-Related Years of Potential Life Lost Before Age 65 Years — United States, 1968–2005

Occupational exposure to respirable crystalline silica occurs in construction, mining, manufacturing, and other industries and can result in silicosis and other lung diseases. Classic (chronic) silicosis results from exposure to relatively low concentrations of respirable crystalline silica for ≥10 years. Exposure to higher concentrations of silica for 5–10 years can cause accelerated silicosis, and symptoms of acute silicosis can sometimes develop within weeks of initial exposure to extreme concentrations of silica (*1*). Deaths in young adults from acute or accelerated silicosis generally reflect more recent and intense exposures (*2*). Silicosis is incurable, but preventable through effective control and elimination of exposure to respirable crystalline silica (*1*). To characterize recent trends in premature mortality attributed to silicosis in the United States, CDC analyzed annual mortality data from 1968–2005, the most recent years for which complete data were available.* Years of potential life lost before age 65 years (YPLL) and mean YPLL were calculated using standard methodology (*3*). During 1968–2005, total annual YPLL attributed to silicosis (17,130) declined 90.2%, from 1,441 (mean per decedent: 7.7 YPLL) to 141 (mean per decedent: 11.8), with an annual average of 8.6 YPLL per decedent for the period. However, the proportion of YPLL attributable to young silicosis decedents increased; an estimated 3,600–7,300 new silicosis cases occur annually (*4*). Hazard surveillance, workplace-specific interventions, and further silicosis prevention and elimination efforts, especially among young adults, are needed.

For this analysis, decedents for whom the *International Classification of Diseases* (ICD) code for silicosis was listed as the underlying cause of death were identified from 1968–2005 mortality data.† Deaths with the ICD-10 underlying cause of death coded as J65 (pneumoconiosis associated with tuberculosis) were included if code J62 (silicosis) was listed on the entity axis.§ Because silicosis primarily results from occupational exposure, only deaths of persons aged ≥15 years were considered. Young silicosis deaths were defined as those occurring in persons aged 15–44 years. Information on the usual industry and occupation (defined as the industry and occupation in which a person worked most of his or her life) of decedents was obtained from death certificates for a subset of decedents reported from 26 states¶ for some years during 1985–1999. Reporting the usual industry and occupation of decedents began in 1985 and ended in 1999. The number of states reporting data in a particular year during 1985–1999 ranged from 16 to 22, and the number of years of data availability for any one state varied from 2 to 15 years. Industry and occupation were coded using the 1980 and 1990 U.S. Census Bureau coding systems.

During 1968–2005, silicosis was coded as the underlying cause of death on 7,793 certificates. Of these, 1,997 (25.6%) were for decedents aged 15–64 years, accounting for 17,130 YPLL (mean per decedent: 8.6 YPLL). The majority of silicosis decedents aged 15–64 years were males (1,941; 97.2%) and whites (1,571; 78.6%), accounting for 16,390 (95.7%) and 12,289 (71.7%) YPLL, respectively (Table 1).

From 1968 to 2005, annual YPLL attributed to silicosis declined 90.2%, from 1,441 (mean per decedent: 7.7 YPLL) to 141 in 2005 (mean per decedent: 11.8); YPLL varied annually from a high of 1,441 (mean per decedent: 7.7) in 1968 to a low of 103 (mean per decedent: 6.4) in 1995 (Figure).

Of all silicosis decedents aged 15–64 years, 177 (8.9%) were considered young (aged 15–44 years), which accounted for 4,693 YPLL (mean per decedent: 26.5 YPLL), representing 27.4% of the total YPLL for the period. The YPLL attributed to young silicosis deaths declined 65.0%, from an average of 183.4 per year during 1968–1972 to 64.2 per year during 2001–2005. YPLL attributed to silicosis decedents aged 45–64 years declined 88.0%, from an annual average of 898.4 during 1968–1972 to 108.2 during 2000–2005. The proportion of YPLL attributable to young silicosis decedents increased from 17.0% during 1968–1972 to 37.2% during 2000–2005 (Figure).

Overall, deaths reported from Pennsylvania (349; 2,343 YPLL), Ohio (197; 1,568), and Texas (94; 1,219) accounted for 32.0% of all deaths and 29.9% of the total YPLL during 1968–2005 (Table 1). Young silicosis deaths from eight states (Texas [19; 552 YPLL], Ohio [15; 362], California [11; 280], Pennsylvania [11; 228], Indiana [10; 242], Louisiana [10; 275], Michigan [9; 186], and Alabama [8; 229]) accounted for 52.5% of all young deaths and 51.4% of the YPLL contributed by young decedents.

Industry or occupation information was available for 148 (39.6%) of 374 decedents aged 15–64 years whose deaths were attributed to silicosis during 1985–1999 (Table 2). Of 46 industries reported, the greatest YPLL were in construction (263; mean per decedent: 10.1 YPLL); iron and steel foundries (131; mean per decedent: 10.9); and blast furnaces, steelworks, rolling and finishing mills (97; mean per decedent: 10.8). Among 53 occupations reported, the greatest YPLL were for miscellaneous metal and plastic processing machine operators (174; mean per decedent: 21.8 YPLL); laborers,

* Since 1968, CDC's National Center for Health Statistics (NCHS) has compiled multiple cause of death data annually from death certificates in the United States. The National Institute for Occupational Safety and Health extracts information on deaths from occupationally related respiratory diseases and conditions from the NCHS data and stores the information in the National Occupational Respiratory Mortality System (NORMS), available at http://webappa.cdc.gov/ords/norms.html.

† ICD-8 code 515.0 (silicosis) or code 010 (silicotuberculosis) for years 1968–1978, ICD-9 code 502 (pneumoconiosis due to other silica or silicates) for years 1979–1998, and ICD-10 code J62 (pneumoconiosis due to dust containing silica [silicosis]) for years 1999–2005.

§ Entity axis includes information on all of the diseases, injuries, or medical complications, as well as the location (part, line, and sequence) of the information recorded on each death certificate. "Detail Record Layout" available at http://www.cdc.gov/nchs/about/major/dvs/mcd/1998mcd.htm.

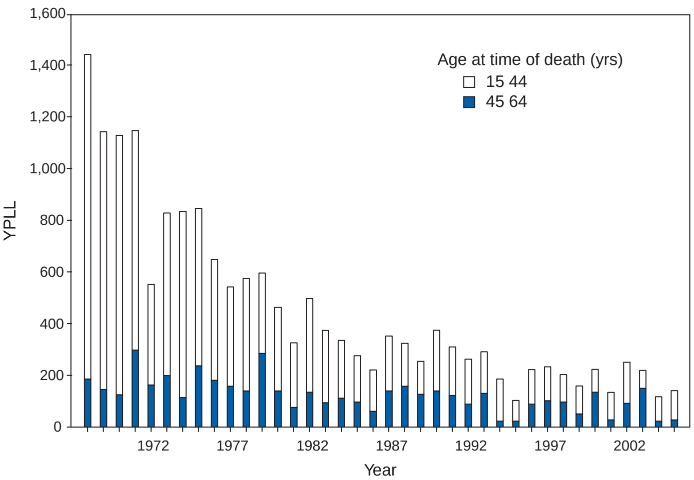
¶ Alaska, Colorado, Georgia, Hawaii, Idaho, Indiana, Kansas, Kentucky, Maine, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Washington, West Virginia, and Wisconsin.

TABLE 1. Years of potential life lost before age 65 years (YPLL) for decedents with silicosis as the underlying cause of death, by sex, race, and state of residence — United States, 1968–2005

	Age group (yrs)								
	15–44			45–64			Total		
Characteristics	Deaths	YPLL	Mean YPLL	Deaths	YPLL	Mean YPLL	Deaths	YPLL	Mean YPLL
Total	**177**	**4,693**	**26.5**	**1,820**	**12,437**	**6.8**	**1,997**	**17,130**	**8.6**
Sex									
Male	163	4,271	26.2	1,778	12,119	6.8	**1,941**	**16,390**	**8.4**
Female	14	422	30.1	42	318	7.6	**56**	**740**	**13.2**
Race									
White	101	2,762	27.3	1,470	9,527	6.5	**1,571**	**12,289**	**7.8**
Black	69	1,778	25.8	337	2,816	8.4	**406**	**4,594**	**11.3**
Other	7	153	21.9	13	94	7.2	**20**	**247**	**12.4**
State of residence									
Alabama	8	229	28.6	45	316	7.0	**53**	**545**	**10.3**
Alaska	0	0	0	0	0	0	**0**	**0**	**0**
Arizona	4	107	26.8	31	222	7.2	**35**	**329**	**9.4**
Arkansas	4	92	23	19	127	6.7	**23**	**219**	**9.5**
California	11	280	25.5	64	362	5.7	**75**	**642**	**8.6**
Colorado	4	97	24.3	60	366	6.1	**64**	**463**	**7.2**
Connecticut	0	0		17	111	6.5	**17**	**111**	**6.5**
Delaware	0	0	0	0	0	0	**0**	**0**	**0**
District of Columbia	1	23	23.0	6	43	7.2	**7**	**66**	**9.4**
Florida	7	158	22.6	32	226	7.1	**39**	**384**	**9.8**
Georgia	2	46	23.0	38	318	8.4	**40**	**364**	**9.1**
Hawaii	0	0	0	1	3	3.0	**1**	**3**	**3.0**
Idaho	0	0	0	13	74	5.7	**13**	**74**	**5.7**
Illinois	7	201	28.7	56	468	8.4	**63**	**669**	**10.6**
Indiana	10	242	24.2	33	201	6.1	**43**	**443**	**10.3**
Iowa	0	0	0	8	46	5.8	**8**	**46**	**5.8**
Kansas	1	28	26.3	16	115	7.2	**17**	**143**	**8.4**
Kentucky	6	158	27.5	48	359	7.5	**54**	**517**	**9.6**
Louisiana	10	275	24.7	36	285	7.9	**46**	**560**	**12.2**
Maine	0	0	0	2	6	3.0	**2**	**6**	**3.0**
Maryland	3	74	24.7	20	147	7.4	**23**	**221**	**9.6**
Massachusetts	2	76	38.0	18	94	5.2	**20**	**170**	**8.5**
Michigan	9	186	20.7	41	317	7.7	**50**	**503**	**10.1**
Minnesota	4	112	28.0	27	190	7.0	**31**	**302**	**9.7**
Mississippi	3	74	24.7	13	109	8.4	**16**	**183**	**11.4**
Missouri	4	107	26.8	31	220	7.1	**35**	**327**	**9.3**
Montana	1	23	23.0	14	64	4.6	**15**	**87**	**5.8**
Nebraska	0	0	0	0	0	0	**0**	**0**	**0**
Nevada	0	0	0	10	45	4.5	**10**	**45**	**4.5**
New Hampshire	0	0	0	4	22	5.5	**4**	**22**	**5.5**
New Jersey	1	28	28.0	42	250	6.0	**43**	**278**	**6.5**
New Mexico	3	79	26.3	12	48	4.0	**15**	**127**	**8.5**
New York	2	46	23.0	81	555	6.9	**83**	**601**	**7.2**
North Carolina	1	23	23.0	58	419	7.2	**59**	**442**	**7.5**
North Dakota	1	28	28.0	1	8	8.0	**2**	**36**	**18.0**
Ohio	15	362	24.1	182	1,206	6.6	**197**	**1,568**	**8.0**
Oklahoma	0	0	0	15	109	7.3	**15**	**109**	**7.3**
Oregon	0	0	0	11	58	5.3	**11**	**58**	**5.3**
Pennsylvania	11	228	26.2	338	2,055	6.1	**349**	**2,343**	**6.7**
Rhode Island	1	43	43.0	3	34	11.3	**4**	**77**	**19.3**
South Carolina	3	79	26.3	27	236	8.7	**30**	**315**	**10.5**
South Dakota	1	33	33.0	1	8	8.0	**2**	**41**	**20.5**
Tennessee	6	188	31.3	36	255	7.1	**42**	**443**	**10.5**
Texas	19	552	29.1	75	667	8.9	**94**	**1,219**	**13.0**
Utah	1	48	48.0	19	114	6.0	**20**	**162**	**8.1**
Vermont	0	0	0	10	60	6.0	**10**	**60**	**6.0**
Virginia	6	188	31.3	72	570	7.9	**78**	**758**	**9.7**
Washington	1	23	23.0	13	94	7.2	**14**	**117**	**8.4**
West Virginia	2	46	23.0	82	513	6.3	**84**	**559**	**6.7**
Wisconsin	2	51	25.5	39	322	8.3	**41**	**373**	**9.1**
Wyoming	0	0	0	0	0	0	**0**	**0**	**0**

SOURCE: National Center for Health Statistics, CDC, multiple cause-of-death data.

FIGURE. Years of potential life lost before age 65 years (YPLL) for decedents with silicosis as the underlying cause of death, by age at time of death and year — United States, 1968–2005



SOURCE: National Center for Health Statistics, CDC, multiple cause-of-death data.

except construction (120; mean per decedent: 12); and mining machine operators (113; mean per decedent: 5.4).**

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Editorial Note: In 2005, CDC reported a decline in annual U.S. silicosis deaths, from 1,157 (8.91 per million persons aged ≥15 years) in 1968 to 148 (0.66) in 2002 (*5*). The decline was attributed to several factors, including enactment of national compliance standards for silica dust exposure in the early 1970s, general adoption of disease prevention measures, and changes over time in industrial activity (*5*). The findings in this report indicate that silicosis-attributable YPLL decreased substantially during 1968–2005, but the decline became less pronounced during 1995–2005.

The decline in annual silicosis-attributable YPLL is mostly attributed to the decrease in deaths from silicosis among persons aged 45–64 years, indicating the effects of implementation of exposure standards and regulations, changes in industrial activity, and other factors. However, workers exposed to silica below permissible and recommended exposure limits are still at risk for developing radiographic evidence of silicosis (*1*). The decline among young adults aged 15–44 years is less marked, indicating that intense overexposures to respirable crystalline silica continue to occur despite the existence of legally enforceable limits. Overall, an average of 8.6 YPLL per decedent were attributed to silicosis during 1968–2005 (26.5 YPLL per decedent among young adults). Available data (for 148 decedents) indicated that the greatest YPLL values were associated with work in construction and manufacturing. Years of potential life lost before age 65 years is a measure of premature mortality (*3*) that emphasizes deaths occurring among younger persons, on the assumption that these are a person's most productive years. YPLL is considered the best single indicator of the differences in the health status of populations and is a useful aid in allocating federal funding for core public health functions (*6*).

The findings in this report are subject to at least five limitations. First, this report used a death certificate–based definition of silicosis as the underlying cause of death. Because some deaths from silicosis might have been attributed to other causes (e.g., tuberculosis) instead of silicosis or pneumoconiosis, the findings in this report likely underestimate the effect of silicosis on mortality and YPLL in the United States (*7*). Second, because individual work histories are not listed on death certificates, the relevance of the reported usual industry and occupation to actual hazardous exposures could not be verified. Although no studies have examined the accuracy of the usual industry and occupation information on death certificates specifically for silicosis decedents, research suggests generally good agreement of this information on death certificates compared with that from other sources (*8,9*). Moreover, codes for usual industry and occupation were available only for 39.6% of silicosis decedents for some states and years. Thus, these data likely are not nationally representative and should be interpreted cautiously. Third, reports indicate that the state of residence at death is not always the state in which the decedent's exposure occurred (*9*). Fourth, because no information on silica exposure intensity or duration is listed on death certificates, silica exposure-response associations could not be examined. Finally, YPLL does not account for the actual burden of silicosis and other chronic occupational illnesses. Persons with silicosis might live for years with severely limited lung function, few treatment options, and an inability to work.

Although the findings in this report indicate a decrease in annual silicosis-related YPLL for 1968–2005, the increased proportion of silicosis-related deaths among young adults underscores the need for targeted prevention programs, investigation of cases, and individual case follow-up of silicosis deaths occurring at younger ages, as recommended by the Council of State and Territorial Epidemiologists (*10*). Effective primary prevention is critical because chronic silicosis can develop or progress even after occupational exposure ends (*2*).

** Silicosis has been associated with sandblasting, exposure to cement dust, and other job activities that expose workers to respirable crystalline silica (*1*).

TABLE 2. Top 10 industries and occupations with greatest years of potential life lost before age 65 years (YPLL) for decedents with silicosis as the underlying cause of death — United States, selected states* and years, 1985–1999

		YPLL	
Industry and occupation	Deaths	No.	Per decedent
Industry (Census industry code)			
Construction (060)	26	263	10.1
Iron and steel foundries (271)	12	131	10.9
Blast furnaces, steelworks, rolling and finishing mills (270)	9	97	10.8
Industry not reported (990)	7	96	13.7
Miscellaneous nonmetallic mineral and stone products (262)	4	92	23.0
Not specified manufacturing industries (392)	8	89	11.1
Coal mining (041)	13	79	6.1
Nonpaid worker or nonworker or own home/at home (961)	4	72	18.0
Nonmetallic mining and quarrying, except fuel (050)	9	67	7.4
Miscellaneous repair services (760)	4	67	16.8
Occupation (Census occupation code)			
Miscellaneous metal and plastic processing machine operators (725)	8	174	21.8
Laborers, except construction (889)	10	120	12.0
Mining machine operators (616)	21	113	5.4
Occupation not reported (999)	6	88	14.7
Painters, construction, maintenance (579)	10	75	7.5
Construction trades, not elsewhere classified (599)	5	75	15.0
Construction laborers (869)	6	63	10.5
Janitors and cleaners (453)	5	55	11.0
Welders and cutters (783)	5	55	11.0
Crushing and grinding machine operators (768)	4	47	11.8

* Alaska, Colorado, Georgia, Hawaii, Idaho, Indiana, Kansas, Kentucky, Maine, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Washington, West Virginia, and Wisconsin.
SOURCE: National Center for Health Statistics, CDC, multiple cause-of-death data.

Acknowledgments

This report is based, in part, on contributions from F Rice, MPH, and J Myers, PhD, National Institute for Occupational Safety and Health, CDC.

References

1. National Institute for Occupational Safety and Health. NIOSH hazard review. Health effects of occupational exposure to respirable crystalline silica. Washington, DC: US Department of Health and Human Services, CDC, National Institute for Occupational Safety and Health; 2002. DHHS (NIOSH) publication no. 2002-129. Available at http://www.cdc.gov/niosh/02-129a.html.
2. CDC. Silicosis deaths among young adults—United States, 1968–1994. MMWR 1998;47:331–5.
3. Wise RP, Livengood JR, Berkelman RL, Goodman RA. Methodological alternatives for measuring premature mortality. Am J Prev Med 1988;4:268–73.
4. Rosenman KD, Reilly MJ, Henneberger PK. Estimating the total number of newly-recognized silicosis cases in the United States. Am J Ind Med 2003;44:14–7.
5. CDC. Silicosis mortality, prevention, and control—United States, 1968–2002. MMWR 2005;54:401–5.
6. US General Accounting Office. Public health: a health status indicator for targeting federal aid to states. Washington, DC: US General Accounting Office; 1996. GAO/HEHS-97-13. Available at http://www.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=gao&docid=f:he97013.txt.pdf.
7. Cottrell A, Schwartz E, Sokas R, Kofie V, Welch L. Surveillance of sentinel occupational mortality in the District of Columbia: 1980 to 1987. Am J Public Health 1992;82:117–9.
8. Gute DM, Fulton JP. Agreement of occupation and industry data on Rhode Island death certificates with two alternative sources of information. Public Health Rep 1985;100:65–72.
9. Steenland K, Beaumont J. The accuracy of occupation and industry data on death certificates. J Occup Med 1984;26:288–96.
10. Council of State and Territorial Epidemiologists. Silicosis surveillance and case definition: position statement: 1999 ENV 4. Atlanta, GA: Council of State and Territorial Epidemiologists; 1999. Available at http://www.cste.org/ps/pssearch/1999/1999-env-04.htm.

Salmonella Litchfield Outbreak Associated with a Hotel Restaurant — Atlantic City, New Jersey, 2007

On July 10, 2007, the Pennsylvania Department of Health notified the New Jersey Department of Health and Senior Services (NJDHSS) of three culture-confirmed cases of *Salmonella* Litchfield infection with matching pulsed-field gel electrophoresis (PFGE) patterns. Data from PulseNet, the national molecular subtyping network for foodborne disease surveillance, confirmed 11 cases (including the three from Pennsylvania) of this rarely identified *Salmonella* serotype in five states during a 5-week period; seven of the 11 patients had reported recent travel history to Atlantic City, New Jersey. This report describes the subsequent investigation led by NJDHSS and the Atlantic City Health Department (ACHD), which associated the outbreak with a hotel restaurant in Atlantic City. In all, 30 confirmed or probable cases of illness with *S.* Litchfield infection were identified among persons from eight states who had eaten at the hotel restaurant, including 10 restaurant food handlers. Investigators concluded that the outbreak most likely was associated with fruit salad, particularly the honeydew melon component, and that contamination likely resulted from an ill food handler. This investigation illustrates the potential for recurring food contamination by ill and asymptomatic food handlers and underscores the utility of PulseNet to link illnesses that might appear unrelated.

Epidemiologic and Environmental Investigation

Routine food histories collected from the initial three persons in Pennsylvania with confirmed *S.* Litchfield infection indicated a common exposure to the breakfast buffet at the same hotel restaurant in Atlantic City. During May 1–July 19, investigators later learned, the restaurant served approximately 7,300 breakfasts, 1,300 lunches, and 2,700 dinners. Forty-five persons worked in the restaurant, including some who spoke and understood only languages other than English. Signs in the restaurant were in English only.

On July 12, the investigative team, including representatives from NJDHSS, ACHD, the Atlantic County Division of Public Health, and CDC visited the restaurant during the breakfast service to advise hotel management of the outbreak, collect food samples, interview food handlers, request stool specimens, and assess sanitation practices. Based on initial findings, ACHD directed the complete disinfection of the restaurant's main kitchen on July 13. Three recent ACHD inspections had revealed improper bare hand contact with food items, inadequate food temperature control, and other food-handling and storage violations, yielding a rating of "conditionally satisfactory."

A total of 36 food and beverage items served during the preceding 24 hours were collected. Food samples collected during the inspection included a fruit salad consisting of red grapes, honeydew melon, and cantaloupe. The fruit salad was prepared from whole fruit purchased from a local wholesaler, cut onsite either the night before or the morning of service by any of six cooks, and refrigerated. The fruit salad later was handled by any of 20 servers and placed over an ice bath for 4 hours during the breakfast buffet. The New Jersey Public Health and Environmental Laboratories tested 12 items thought most likely to harbor *Salmonella* bacteria: red grapes, honeydew melon, cantaloupe, strawberries, parsley, ice, dispensed water, orange juice, iced tea, grapefruit juice, cranberry juice, and apple juice. However, no *Salmonella* species were cultured from any of these foods or beverages.

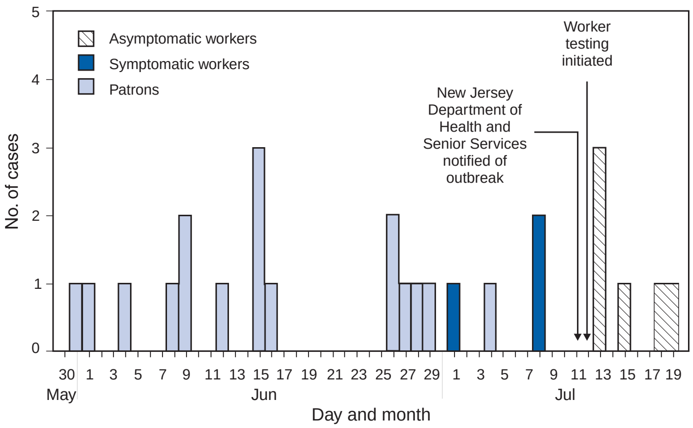
On July 19, *Salmonella* group C was isolated from seven of 12 food handler stool specimens collected during July 12–July 13. ACHD ordered the restaurant to close immediately. Investigators collected samples from the food remaining in the kitchen, which was then disinfected thoroughly a second time; all leftover food was destroyed. The following week, two additional food handlers tested positive for *S.* Litchfield, and another reported symptoms that met the probable case definition, bringing to 10 the total number of food handlers with illness meeting the case definition. The restaurant reopened on August 1 with limited operation, staffed only by food handlers with confirmed negative stool test results. The hotel and restaurant property had been sold before the outbreak, and operations ceased permanently in September 2007.

To determine the extent of the outbreak, on July 10, NJDHSS called for reports of additional cases via PulseNet and the CDC Epidemic Information Exchange (Epi-X). Cases were defined as illness in persons who traveled to Atlantic City during May 1–July 19, 2007 and who had either laboratory-confirmed *S.* Litchfield infection (for confirmed cases) or diarrheal illness without culture confirmation (for probable cases). Nationwide, a total of 20 probable or confirmed cases were reported in patrons who had dined at the Atlantic City restaurant under investigation. Investigators also interviewed 41 (91%) of the 45 food handlers who had worked at the restaurant since July 1. Five others who had stopped working at the restaurant before July 1 could not be contacted.

The 30 persons who met the case definition (20 restaurant patrons and 10 food handlers) included four (13%) with probable cases and 26 (87%) with confirmed cases (17 patrons and nine food handlers). Isolates from all 26 culture-confirmed cases had matching PFGE patterns (*Xba*I pattern JGXX01.0004). Illness onset dates among the 30 persons who met the case definition ranged from May 31 to July 19 (Figure). Median age was 51 years (range: 13–84 years); 50% were female. The 30 persons were from New Jersey (12), Pennsylvania (nine), New York (three), Maryland (two), and Colorado, Connecticut, Michigan, and Ohio (one each).

Twenty-three (77%) of the 30 persons reported diarrhea (defined as three or more loose stools during 24 hours), 21 (70%) reported abdominal cramps, 16 (53%) fever, eight (27%) vomiting, and five (17%) bloody diarrhea. Eighteen (60%) of the 30 sought medical care, and six were hospitalized. No deaths occurred. All 20 of the patrons who met the case definition reported at least one symptom consistent with salmonellosis; of the 10 ill restaurant workers, four (three with confirmed cases and one probable) reported symptoms, and none sought medical care.

FIGURE. Number of culture-confirmed cases (n = 26) of infection with outbreak strain of *Salmonella* Litchfield among patrons and staff of a hotel restaurant, by date of illness onset or stool culture* — Atlantic City, New Jersey, May 31–July 19, 2007



* For asymptomatic workers.

Case-Control Study

To determine common food exposures, investigators conducted a case-control study of restaurant patrons and workers. Controls were defined as well dining companions of patrons who consumed at least one restaurant meal or well restaurant workers who ate at least three restaurant meals during May 1–July 19. A detailed interview was conducted to collect exposure data for all food items available in the restaurant. Case-control data were analyzed using bivariate and multivariable logistic regression; 95% confidence intervals (CIs) were calculated, and associations were considered statistically significant at p<0.05.

A total of 30 case-patients and 39 controls were enrolled in the study. No statistically significant differences in age and sex distribution were observed between case-patients and controls. Bivariate analysis indicated increased likelihood of illness among consumers of salad croutons (unadjusted odds ratio [OR] = 4.4), fruit salad (OR = 3.8), and each of the three fruits in the salad: honeydew melon (OR = 6.6), cantaloupe (OR = 4.5), and red grapes (OR = 4.4) (Table).

Multivariable analysis indicated that eating fruit salad was independently associated with *S.* Litchfield infection after controlling for age, sex, and consumption of other foods (adjusted OR = 4.7) (Table). Because of multicollinearity, the three components of the fruit salad could not be analyzed as separate variables in the multivariable model. However, when modeling the effect of only one fruit at a time in three separate models, eating honeydew melon had a stronger

TABLE. Number and percentage of case-patients* and controls who reported consumption of foods served at hotel restaurant in study of outbreak of *Salmonella* Litchfield infections, by food item — Atlantic City, New Jersey, May 1–July 19, 2007

Food item	Case-patients No. (n = 30)	(%)	Controls No. (n = 39)	(%)	Unadjusted odds ratio	(95% CI†)	Adjusted odds ratio§	(95% CI)
Hot breakfast foods								
Creamed chipped beef	7	(23)	3	(8)	3.6	(0.9–15.6)	6.1	(0.8–44.7)
Scrambled eggs	18	(60)	15	(39)	2.4	(0.9–6.3)	1.2	(0.3–4.7)
Bacon	18	(60)	26	(67)	0.8	(0.3–2.0)		
Sausage links	14	(47)	17	(44)	1.1	(0.4–2.9)		
Ham	6	(20)	3	(8)	3.0	(0.7–13.2)		
Cold breakfast foods								
Fruit salad	19	(66)	13	(33)	3.8	(1.4–10.5)¶	4.7	(1.2–18.8)¶
Honeydew melon	*20*	*(67)*	*9*	*(23)*	*6.6*	*(2.3–19.3)¶*		
Cantaloupe	*20*	*(67)*	*12*	*(31)*	*4.5*	*(1.6–12.5)¶*		
Red grapes	*16*	*(53)*	*8*	*(21)*	*4.4*	*(1.5–12.8)¶*		
Orange	3	(10)	2	(5)	2.1	(0.3–13.7)		
Banana	9	(30)	10	(26)	1.2	(0.4–3.6)		
Strawberries	3	(10)	3	(8)	1.3	(0.2–7.1)		
Lunch and dinner foods								
Prime rib	5	(17)	12	(31)	0.5	(0.1–1.5)	0.1	(0.02–0.8)¶
Salad, lettuce	13	(43)	12	(31)	1.7	(0.6–4.6)	1.6	(0.2–13.7)
Salad, tomato	9	(30)	10	(26)	1.2	(0.4–3.6)		
Salad, carrots	2	(7)	6	(15)	0.4	(0.1–2.1)		
Salad, croutons	8	(27)	3	(8)	4.4	(1.0–18.2)¶	5.0	(0.5–52.1)
Salad dressing (any)	12	(40)	11	(28)	1.7	(0.6–4.7)	1.5	(0.2–11.7)

* Defined as persons with symptom onset who traveled to Atlantic City during May 1–July 19, 2007, and had either laboratory-confirmed *Salmonella* Litchfield infection (confirmed), or diarrheal illness without culture confirmation (probable). All 30 case-patients also ate at the same hotel restaurant.
† Confidence interval.
§ Multivariable model controlled for sex, age, consumption of creamed chipped beef, scrambled eggs, fruit salad, prime rib, lettuce, croutons, and salad dressing.
¶ p<0.05 by chi-square test for bivariate analysis (unadjusted odds ratio) and by multivariable regression (adjusted odds ratio).

association with illness (OR = 10.0; CI = 2.1–47.7) than eating cantaloupe (OR = 5.4; CI = 1.3–22.7) or grapes (OR = 6.1; CI 1.5–24.5).

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Editorial Note: This outbreak resulted in confirmed or probable cases of salmonellosis in at least 20 patrons and 10 food handlers, all of whom consumed food items from the same hotel restaurant in Atlantic City during a period of several weeks. Many other cases likely went unidentified because adults with salmonellosis often do not seek medical treatment that would enable their infections to be detected by PulseNet (*1*). A case-control study identified consumption of fruit salad, and particularly honeydew melon, as the food items most likely associated with illness.

The cause of the outbreak likely was an ill restaurant worker who handled the fruit salad, and possibly other foods. This food handler was not identified and might have been one of five employees who stopped working at the restaurant before the outbreak investigation and could not be contacted. Recurring food contamination through the outbreak period by infected workers is plausible as a source of infection because 60% of workers with culture-confirmed illness were asymptomatic, and all 10 ill workers worked throughout probable infectious periods. Illness likely was underreported by workers; one culture-confirmed worker initially reported having no symptoms but later admitted to experiencing multiple loose stools in a 24-hour period. Foods other than fruit salad also might have been contaminated with *Salmonella* bacteria, but were not associated with illness in the multivariable analysis. The fruit salad was the only uncooked item prepared onsite and stored for several hours on the buffet and was the only food item with a statistically significant association with illness in the multivariable analysis.

Since 1990, *S.* Litchfield has only been identified in four other foodborne outbreaks reported to CDC's Electronic Foodborne Outbreak Reporting System (eFORS) and represented only 0.4% of the 391,293 cases of *Salmonella* infection reported to the National *Salmonella* Surveillance System during 1995–2005 (*3*). Because of low salmonellosis reporting rates, this outbreak continued for approximately 6 weeks before cases were linked epidemiologically. The rare *S.* Litchfield serotype in this outbreak triggered the investigation that determined a common exposure source. Among *S.* Litchfield PFGE patterns reported to PulseNet, the one associated with this outbreak (*Xba*I pattern JGXX01.0004) is the one identified most frequently (16%).

Melon can be a frequent reservoir of bacteria in salmonellosis outbreaks (*2*). During 1995–2006, eFORS reported that honeydew melon was associated with 15 (42%) of 36 melon-associated outbreaks. Although bacterial contamination in melons can occur before consumer purchase (*4,5*), no illnesses outside of workers and patrons of the implicated restaurant were reported in this outbreak. Fresh-cut melons left at room temperature for 5 hours harbor significantly higher counts of *Salmonella* bacteria compared with refrigerated melons (*6*). In the outbreak described in this report, the honeydew melon and other fruits in the fruit salad were placed routinely over an ice bath for 4 hours during the breakfast buffet, and patrons and workers might have consumed fruit served at inadequate temperatures once the ice melted.

The findings in this report are subject to at least three limitations. First, results of the case-control study might have been limited by reporting bias and low statistical power. Second, workers with negative stool cultures might have underreported symptoms and, therefore, might have been misclassified. Finally, limited recall of patrons interviewed several weeks after visiting the restaurant might have resulted in underreporting or inaccurate reporting of exposure to food items.

Restaurant and hotel managers should reinforce safe food-handling practices, including worker avoidance of all food-handling responsibilities during illness, particularly diarrhea. In addition, because restaurant workers might be fluent only in languages other English, appropriate instruction and signage should be provided in a language each worker can understand.

Acknowledgments

This report is based, in part, on contributions from K Adams, MPH, Atlantic County Div of Public Health; J Fagliano, PhD, ML Falco, MPH, W Manly, MA, New Jersey Dept of Health and Senior Svcs; TS Troppy, MPH, Massachusetts Dept of Health; V Reddy, MPH, New York City Dept of Health and Mental Hygiene; P Smith, MD, New York State Dept of Health; Y Khachadourian, T Quinlan, New York State Wadsworth Center Bacteriology Laboratory; V Dato, MD, L Lind, NK Rea, PhD, Pennsylvania Dept of Health; BW Kissler, MPH, US Dept of Agriculture; and K Bisgard, DVM, CDC.

References

1. CDC. Surveillance for foodborne-disease outbreaks—United States, 1998–2002. MMWR 2006;55(No. SS-10).
2. CDC. *Salmonella* Oranienburg infections associated with fruit salad served in health-care facilities—northeastern United States and Canada, 2006. MMWR 2007;56:1025–8.

3. CDC. PHLIS surveillance data: *Salmonella* annual summary, 2005. Atlanta, GA: US Department of Health and Human Services, CDC; 2007. Available at http://www.cdc.gov/ncidod/dbmd/phlisdata/salmonella.htm.
4. Parnell TL, Harris LJ, Suslow TV. Reducing *Salmonella* on cantaloupes and honeydew melons using wash practices applicable to postharvest handling, foodservice, and consumer preparation. Int J Food Microbiol 2005;99:59–70.
5. Gagliardi JV, Millner PD, Lester G, Ingram D. On-farm and postharvest processing sources of bacterial contamination to melon rinds. J Food Prot 2003;66:82–7.
6. Ukuku DO, Sapers GM. Effect of time before storage and storage temperature on survival of *Salmonella* inoculated on fresh-cut melons. Food Microbiol 2007;24:288–95.

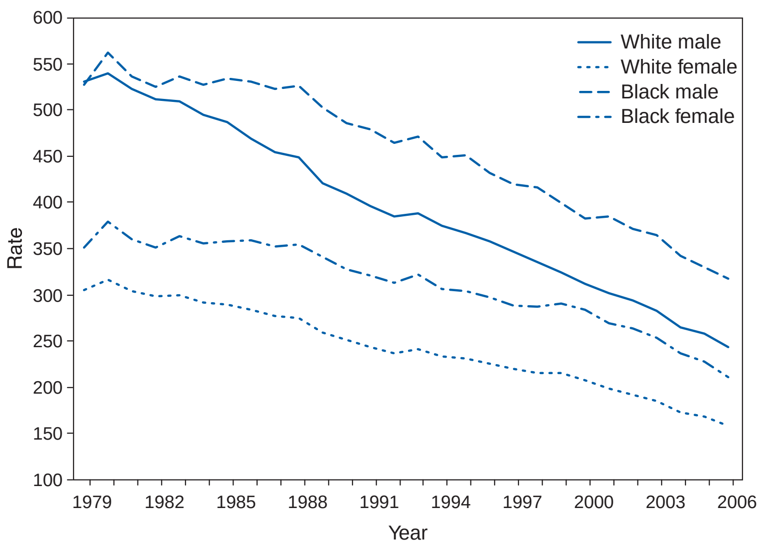
Errata: Vol. 57, No. RR-5

In the *MMWR Recommendations and Reports* (Vol. 57, No. RR-5), "Prevention of Herpes Zoster: Recommendations of the Advisory Committee on Immunization Practices (ACIP)," two errors occurred on page 18 in Table 5. In the first subheading under "Cost-Effectiveness" in column one, the wording should read, "Outcomes prevented per million persons over remaining lifetime." The second subheading should read, "Resources averted per million persons over remaining lifetime."

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Age-Adjusted Rates* of Death from Heart Disease, by Race and Sex — United States, 1979–2006†



* Per 100,000 standard population.
† Data for 2006 are preliminary.

Since 1979, age-adjusted rates of death from heart disease have declined significantly among blacks and whites for both men and women. Death rates remain highest for black males and lowest for white females, although differences by race and sex have narrowed in recent years. From 2005 to 2006, rates of death from heart disease declined 7.4% for black females, 5.8% for white females, 5.4% for white males, and 3.8% for black males.

SOURCE: Heron MP, Hoyert DL, Xu JQ, Scott C, Tejada-Vera B. Deaths: preliminary data for 2006. Natl Vital Stat Rep 2008;56(16). Available at http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_16.pdf and http://www.cdc.gov/nchs/data/statab/hist001r.pdf.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending July 12, 2008 (28th Week)*

Disease	Current week	Cum 2008	5-year weekly average[†]	Total cases reported for previous years 2007	2006	2005	2004	2003	States reporting cases during current week (No.)
Anthrax	—	—	—	1	1	—	—	—	
Botulism:									
foodborne	—	4	0	32	20	19	16	20	
infant	—	35	2	84	97	85	87	76	
other (wound & unspecified)	—	6	1	27	48	31	30	33	
Brucellosis	1	39	2	131	121	120	114	104	OR (1)
Chancroid	1	24	1	23	33	17	30	54	MA (1)
Cholera	—	—	0	7	9	8	6	2	
Cyclosporiasis[§]	7	65	9	92	137	543	160	75	NY (1), FL (6)
Diphtheria	—	—	—	—	—	—	—	1	
Domestic arboviral diseases[§,¶]:									
California serogroup	—	2	5	53	67	80	112	108	
eastern equine	—	1	1	4	8	21	6	14	
Powassan	—	—	0	7	1	1	1	—	
St. Louis	—	3	0	9	10	13	12	41	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis[§,**]:									
Ehrlichia chaffeensis	14	122	19	828	578	506	338	321	MN (9), DE (1), MD (1), VA (1), FL (1), TN (1)
Ehrlichia ewingii	—	—	—	—	—	—	—	—	
Anaplasma phagocytophilum	34	74	24	834	646	786	537	362	OH (1), MN (32), NE (1)
undetermined	1	4	9	337	231	112	59	44	MD (1)
Haemophilus influenzae,[††]									
invasive disease (age <5 yrs):									
serotype b	—	10	0	22	29	9	19	32	
nonserotype b	3	82	3	199	175	135	135	117	MN (3)
unknown serotype	3	115	3	180	179	217	177	227	MN (1), TN (1), ID (1)
Hansen disease[§]	—	36	2	101	66	87	105	95	
Hantavirus pulmonary syndrome[§]	—	6	1	32	40	26	24	26	
Hemolytic uremic syndrome, postdiarrheal[§]	2	69	6	282	288	221	200	178	CT (1), MD (1)
Hepatitis C viral, acute	10	383	16	849	766	652	720	1,102	PA (1), OH (1), MI (1), MN (2), VA (1), TN (1), CA (3)
HIV infection, pediatric (age <13 yrs)[§§]	—	—	5	—	—	380	436	504	
Influenza-associated pediatric mortality[§,¶¶]	—	86	1	77	43	45	—	N	
Listeriosis	7	265	20	800	884	896	753	696	NH (1), NY (1), PA (1), MD (1), CA (3)
Measles***	—	98	2	43	55	66	37	56	
Meningococcal disease, invasive[†††]:									
A, C, Y, & W-135	2	163	4	315	318	297	—	—	MN (1), TX (1)
serogroup B	2	94	3	163	193	156	—	—	GA (1), AL (1)
other serogroup	—	19	0	35	32	27	—	—	
unknown serogroup	9	370	10	548	651	765	—	—	NY (1), PA (1), MI (1), MN (1), FL (3), OR (1), CA (1)
Mumps	2	244	15	772	6,584	314	258	231	PA (1), HI (1)
Novel influenza A virus infections	—	—	—	1	N	N	N	N	
Plague	—	1	0	7	17	8	3	1	
Poliomyelitis, paralytic	—	—	—	—	—	1	—	—	
Poliovirus infection, nonparalytic[§]	—	—	—	—	N	N	N	N	
Psittacosis[§]	—	4	0	12	21	16	12	12	
Q fever[§,§§§] total:	3	52	3	171	169	136	70	71	
acute	2	47	—	—	—	—	—	—	OH (2)
chronic	1	5	—	—	—	—	—	—	OH (1)
Rabies, human	—	—	0	1	3	2	7	2	
Rubella[¶¶¶]	—	9	0	12	11	11	10	7	
Rubella, congenital syndrome	—	—	—	—	1	1	—	1	
SARS-CoV[§,****]	—	—	—	—	—	—	—	8	

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

* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 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 and 2008 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.

** The names of the reporting categories changed in 2008 as a result of revisions to the case definitions. Cases reported prior to 2008 were reported in the categories: Ehrlichiosis, human monocytic (analogous to *E. chaffeensis*); Ehrlichiosis, human granulocytic (analogous to *Anaplasma phagocytophilum*), and Ehrlichiosis, unspecified, or other agent (which included cases unable to be clearly placed in other categories, as well as possible cases of *E. ewingii*).

†† 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. Eighty-four cases occurring during the 2007–08 influenza season have been reported.

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

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

§§§ In 2008, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.

¶¶¶ 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 I. (*Continued*) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending July 12, 2008 (28th Week)*

Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years 2007	2006	2005	2004	2003	States reporting cases during current week (No.)
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	1	84	2	132	125	129	132	161	OH (1)
Syphilis, congenital (age <1 yr)	—	95	8	429	349	329	353	413	
Tetanus	—	3	1	27	41	27	34	20	
Toxic-shock syndrome (staphylococcal)§	1	34	1	92	101	90	95	133	CA (1)
Trichinellosis	—	4	0	5	15	16	5	6	
Tularemia	2	37	5	137	95	154	134	129	AR (2)
Typhoid fever	3	184	7	432	353	324	322	356	MD (1), NC (1), CA (1)
Vancomycin-intermediate *Staphylococcus aureus*§	—	5	0	28	6	2	—	N	
Vancomycin-resistant *Staphylococcus aureus*§	—	—	—	2	1	3	1	N	
Vibriosis (noncholera *Vibrio* species infections)§	7	104	6	447	N	N	N	N	MD (1), FL (4), AL (1), CA (1)
Yellow fever	—	—	—	—	—	—	—	—	

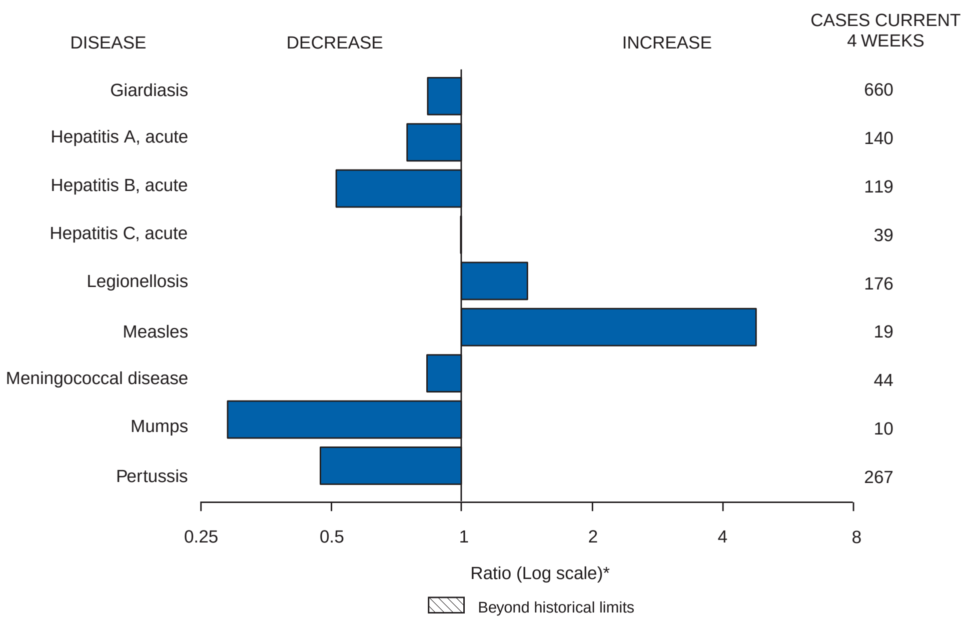
—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 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 and 2008 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.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals July12, 2008, 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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TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending July 12, 2008, and July 14, 2007 (28th Week)*

Reporting area	Chlamydia†					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007
United States	11,177	21,504	28,755	554,014	572,444	41	70	341	1,266	4,151	51	84	914	1,874	1,723
New England	1,044	682	1,516	18,922	18,476	—	0	1	1	2	3	5	17	133	140
Connecticut	270	210	1,093	5,291	5,445	N	0	0	N	N	—	0	15	15	42
Maine§	44	48	67	1,336	1,376	N	0	0	N	N	—	1	5	12	15
Massachusetts	659	313	660	9,520	8,398	N	0	0	N	N	3	2	11	48	45
New Hampshire	2	39	73	1,017	1,058	—	0	1	1	2	—	1	4	30	19
Rhode Island§	38	58	98	1,502	1,653	—	0	0	—	—	—	0	3	4	5
Vermont§	31	17	36	256	546	N	0	0	N	N	—	1	4	24	14
Mid. Atlantic	1,778	2,774	4,974	77,126	75,428	—	0	0	—	—	10	13	120	257	214
New Jersey	—	406	524	9,949	11,471	N	0	0	N	N	—	0	8	10	11
New York (Upstate)	533	561	2,177	14,475	13,640	N	0	0	N	N	3	4	20	79	60
New York City	819	1,016	3,147	30,878	27,193	N	0	0	N	N	—	2	8	38	37
Pennsylvania	426	800	1,031	21,824	23,124	N	0	0	N	N	7	6	103	130	106
E.N. Central	1,106	3,537	4,426	90,252	95,506	—	1	3	21	16	7	23	134	472	412
Illinois	10	1,005	1,711	24,714	27,541	N	0	0	N	N	—	2	13	43	48
Indiana	228	390	656	10,996	11,247	N	0	0	N	N	—	2	41	77	27
Michigan	536	762	1,223	23,749	20,577	—	0	2	14	12	—	5	11	92	76
Ohio	74	859	1,530	21,119	25,664	—	0	1	7	4	6	6	60	120	92
Wisconsin	258	378	615	9,674	10,477	N	0	0	N	N	1	8	60	140	169
W.N. Central	709	1,147	1,693	33,689	28,699	—	0	77	—	6	8	16	72	321	207
Iowa	117	146	231	4,509	—	N	0	0	N	N	2	2	37	71	—
Kansas	223	163	529	4,915	4,346	N	0	0	N	N	2	1	15	22	34
Minnesota	6	263	373	6,593	7,089	—	0	77	—	—	4	5	34	85	47
Missouri	320	468	577	12,873	12,222	—	0	1	—	6	—	3	14	73	47
Nebraska§	—	93	247	2,426	2,792	N	0	0	N	N	—	2	24	45	20
North Dakota	—	33	65	900	923	N	0	0	N	N	—	0	51	2	1
South Dakota	43	53	81	1,473	1,327	N	0	0	N	N	—	1	16	23	58
S. Atlantic	2,933	3,957	7,609	102,144	112,248	—	0	1	2	3	17	19	65	375	392
Delaware	49	65	150	1,962	1,866	—	0	0	—	—	—	0	4	7	3
District of Columbia	—	120	203	3,427	3,145	—	0	1	—	1	—	0	2	3	1
Florida	1,187	1,307	1,557	36,688	28,226	N	0	0	N	N	13	8	35	173	169
Georgia	1	646	1,338	5,303	22,398	N	0	0	N	N	4	4	14	109	90
Maryland§	403	469	683	12,014	10,876	—	0	1	2	2	—	0	3	11	14
North Carolina	—	206	4,783	10,305	15,782	N	0	0	N	N	—	0	18	15	43
South Carolina§	401	472	3,068	14,403	14,687	N	0	0	N	N	—	1	15	23	33
Virginia§	881	508	1,062	16,438	13,595	N	0	0	N	N	—	1	6	27	35
West Virginia	11	59	96	1,604	1,673	N	0	0	N	N	—	0	5	7	4
E.S. Central	1,051	1,538	2,394	41,997	44,045	—	0	0	—	—	2	4	64	58	83
Alabama§	—	479	605	11,495	13,499	N	0	0	N	N	1	1	14	21	26
Kentucky	257	225	361	5,995	4,097	N	0	0	N	N	—	1	40	12	24
Mississippi	349	370	1,048	10,126	11,631	N	0	0	N	N	—	1	11	6	17
Tennessee§	445	515	715	14,381	14,818	N	0	0	N	N	1	1	18	19	16
W.S. Central	461	2,715	4,426	71,897	63,837	—	0	1	1	1	—	5	37	71	98
Arkansas§	336	236	455	7,583	4,776	N	0	0	N	N	—	1	8	14	13
Louisiana	—	375	851	7,909	10,446	—	0	1	1	1	—	0	4	4	29
Oklahoma	125	234	416	6,093	6,696	N	0	0	N	N	—	1	11	20	16
Texas§	—	1,809	3,923	50,312	41,919	N	0	0	N	N	—	3	28	33	40
Mountain	506	1,386	1,836	30,785	39,266	—	11	170	89	2,576	3	9	567	150	134
Arizona	93	475	679	10,794	12,968	—	8	168	38	2,496	—	0	4	—	22
Colorado	99	299	488	5,243	9,372	N	0	0	N	N	—	2	26	38	36
Idaho§	66	56	233	1,752	1,934	N	0	0	N	N	1	2	71	30	7
Montana§	—	49	363	1,496	1,489	N	0	0	N	N	2	1	7	25	15
Nevada§	132	184	416	5,152	5,124	—	1	7	32	35	—	0	6	6	5
New Mexico§	—	138	561	3,252	4,923	—	0	3	14	16	—	2	9	27	37
Utah	116	118	209	3,085	2,794	—	0	7	4	29	—	2	484	16	4
Wyoming§	—	9	34	11	662	—	0	1	1	—	—	0	8	8	8
Pacific	1,589	3,365	4,676	87,202	94,939	41	30	217	1,152	1,547	1	2	20	37	43
Alaska	106	94	129	2,473	2,606	N	0	0	N	N	—	0	2	1	1
California	1,276	2,837	4,115	76,389	73,890	41	30	217	1,152	1,547	—	0	0	—	—
Hawaii	—	110	152	2,812	3,047	N	0	0	N	N	—	0	4	1	—
Oregon§	207	184	402	5,415	5,111	N	0	0	N	N	1	2	16	35	42
Washington	—	54	498	113	10,285	N	0	0	N	N	—	0	0	—	—
American Samoa	3	0	22	73	73	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	10	26	103	458	—	0	0	—	—	—	0	0	—	—
Puerto Rico	184	115	612	3,848	4,117	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	7	21	339	106	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes†				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2008	2007	week	Med	Max	2008	2007	week	Med	Max	2008	2007
United States	160	300	1,156	7,232	7,719	3,406	6,353	8,875	155,069	183,565	36	46	173	1,451	1,433
New England	9	24	58	608	586	144	97	227	2,676	2,966	2	3	12	98	106
Connecticut	—	6	18	144	160	64	48	199	1,165	1,112	2	0	9	21	27
Maine§	2	4	10	63	70	2	2	7	50	64	—	0	3	8	7
Massachusetts	5	10	27	254	250	68	45	127	1,201	1,439	—	2	5	49	55
New Hampshire	—	1	4	49	10	—	2	6	64	87	—	0	2	6	10
Rhode Island§	—	1	15	36	30	10	7	13	182	231	—	0	2	7	6
Vermont§	2	3	9	62	66	—	1	5	14	33	—	0	3	7	1
Mid. Atlantic	35	61	131	1,369	1,416	459	632	1,028	17,100	19,097	3	10	31	291	275
New Jersey	—	7	15	132	197	—	113	174	2,795	3,255	—	1	7	39	45
New York (Upstate)	21	23	111	526	476	124	129	545	3,247	3,124	1	3	22	90	72
New York City	—	16	29	360	440	189	176	525	5,227	5,753	—	1	6	47	55
Pennsylvania	14	15	29	351	303	146	227	394	5,831	6,965	2	4	9	115	103
E.N. Central	26	48	96	1,067	1,276	538	1,331	1,638	31,801	38,471	5	7	28	216	216
Illinois	—	13	34	263	399	4	381	589	8,032	9,994	—	2	7	61	71
Indiana	N	0	0	N	N	114	157	296	4,453	4,668	—	1	20	45	31
Michigan	2	11	21	216	319	310	301	657	8,845	8,495	—	0	3	9	17
Ohio	19	16	36	404	343	26	341	685	7,740	11,746	5	2	6	86	61
Wisconsin	5	9	26	184	215	84	120	214	2,731	3,568	—	1	4	15	36
W.N. Central	2	24	619	729	369	172	318	426	8,547	9,542	11	3	24	119	77
Iowa	1	4	12	135	—	9	27	53	731	—	—	0	1	2	—
Kansas	—	3	11	49	65	52	44	130	1,194	1,201	—	0	4	11	9
Minnesota	—	0	575	191	6	3	61	92	1,520	1,832	10	0	21	32	27
Missouri	—	9	23	206	198	99	169	235	4,241	5,543	—	1	6	49	29
Nebraska§	1	4	8	101	55	—	25	51	667	770	1	0	3	18	11
North Dakota	—	0	36	14	8	—	2	7	48	57	—	0	2	7	1
South Dakota	—	1	6	33	37	9	5	11	146	139	—	0	0	—	—
S. Atlantic	38	56	102	1,230	1,369	1,093	1,444	3,072	34,960	42,458	10	11	29	395	369
Delaware	1	1	6	22	20	20	22	44	615	736	—	0	1	4	5
District of Columbia	—	1	5	21	35	—	48	104	1,336	1,248	—	0	1	5	1
Florida	24	24	47	600	592	440	474	616	12,525	11,894	5	3	10	107	95
Georgia	5	11	28	246	295	2	251	561	1,944	9,092	—	2	8	88	72
Maryland§	5	5	18	108	123	154	122	237	3,245	3,291	3	2	5	67	57
North Carolina	N	0	0	N	N	—	136	1,949	4,378	7,181	2	1	9	43	41
South Carolina§	—	3	7	57	41	174	190	836	5,241	5,330	—	1	7	30	34
Virginia§	3	8	39	151	248	302	140	486	5,301	3,205	—	1	6	41	50
West Virginia	—	0	8	25	15	1	16	34	375	481	—	0	3	10	14
E.S. Central	3	10	23	204	230	404	564	945	15,191	16,934	1	3	8	81	82
Alabama§	1	5	11	111	122	—	195	287	4,585	5,841	—	0	2	14	20
Kentucky	N	0	0	N	N	117	82	161	2,340	1,541	—	0	1	2	4
Mississippi	N	0	0	N	N	130	132	401	3,739	4,335	—	0	2	11	6
Tennessee§	2	4	16	93	108	157	169	261	4,527	5,217	1	2	6	54	52
W.S. Central	11	7	41	122	167	167	1,009	1,355	24,345	26,439	2	2	29	67	63
Arkansas§	3	3	11	62	66	124	82	167	2,460	2,227	—	0	3	3	6
Louisiana	—	1	14	13	45	—	180	384	3,586	6,050	—	0	2	3	3
Oklahoma	8	3	35	47	56	43	93	171	2,283	2,561	2	1	21	56	49
Texas§	N	0	0	N	N	—	643	1,102	16,016	15,601	—	0	3	5	5
Mountain	3	28	68	549	724	126	237	330	5,513	7,234	1	4	13	105	158
Arizona	—	0	11	—	97	12	79	130	1,610	2,708	—	0	4	1	62
Colorado	—	11	26	228	232	65	59	91	1,571	1,782	—	1	4	35	37
Idaho§	2	3	19	70	59	5	4	19	78	129	1	0	4	9	4
Montana§	—	2	8	32	43	—	1	48	47	47	—	0	1	2	—
Nevada§	1	3	6	53	73	39	44	130	1,289	1,246	—	0	1	11	7
New Mexico§	—	2	5	45	65	—	28	104	640	850	—	0	4	20	26
Utah	—	6	32	107	135	5	12	36	278	432	—	1	6	27	19
Wyoming§	—	1	3	14	20	—	0	4	—	40	—	0	1	—	3
Pacific	33	58	185	1,354	1,582	303	632	809	14,936	20,424	1	2	7	79	87
Alaska	2	2	5	37	33	12	10	24	260	280	1	0	4	12	6
California	30	38	91	934	1,092	253	555	683	13,681	17,116	—	0	4	15	33
Hawaii	1	1	5	17	43	—	11	22	291	364	—	0	2	14	6
Oregon§	—	9	19	213	207	38	23	63	687	601	—	1	4	35	41
Washington	—	8	87	153	207	—	8	97	17	2,063	—	0	3	3	1
American Samoa	—	0	0	—	—	—	0	1	3	3	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	—	2	—	1	12	45	70	—	0	1	—	—
Puerto Rico	2	3	31	52	155	6	5	23	141	174	—	0	0	—	2
U.S. Virgin Islands	—	0	0	—	—	—	2	6	64	26	N	0	0	N	N

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

	Hepatitis (viral, acute), by type†										Legionellosis				
	A					B									
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2008	2007	week	Med	Max	2008	2007	week	Med	Max	2008	2007
United States	47	52	168	1,280	1,439	38	75	258	1,686	2,268	54	51	117	1,042	1,015
New England	2	3	7	63	57	—	1	6	33	63	3	3	14	52	53
Connecticut	—	0	3	14	8	—	0	6	10	24	3	1	4	15	11
Maine§	—	0	1	4	1	—	0	2	8	3	—	0	2	1	1
Massachusetts	1	1	5	27	29	—	0	3	8	26	—	1	3	11	21
New Hampshire	—	0	2	5	10	—	0	1	3	4	—	0	2	7	1
Rhode Island§	—	0	2	11	6	—	0	3	3	5	—	0	5	14	16
Vermont§	1	0	1	2	3	—	0	1	1	1	—	0	2	4	3
Mid. Atlantic	2	7	18	134	228	2	9	18	201	294	21	15	37	273	288
New Jersey	—	1	6	22	67	—	2	7	36	88	—	1	13	18	35
New York (Upstate)	1	1	6	33	39	1	2	7	38	42	16	4	15	94	80
New York City	—	2	7	42	78	—	2	5	40	68	—	2	11	22	63
Pennsylvania	1	1	6	37	44	1	3	7	87	96	5	6	21	139	110
E.N. Central	5	6	15	163	169	4	7	18	178	265	13	11	35	211	226
Illinois	—	2	10	56	68	—	1	6	37	87	—	1	16	19	48
Indiana	—	0	4	7	4	—	0	8	23	22	—	1	7	18	18
Michigan	—	2	7	58	41	—	2	6	51	68	1	3	11	56	76
Ohio	5	1	3	27	36	4	2	7	61	72	12	4	17	114	74
Wisconsin	—	0	2	15	20	—	0	1	6	16	—	0	5	4	10
W.N. Central	4	4	26	172	67	—	2	8	49	50	7	2	9	55	44
Iowa	—	1	7	74	—	—	0	2	7	—	—	0	2	7	—
Kansas	—	0	3	8	3	—	0	1	3	6	—	0	1	1	6
Minnesota	2	0	23	20	42	—	0	5	4	9	4	0	6	8	11
Missouri	—	1	3	29	11	—	1	4	31	24	—	1	4	26	21
Nebraska§	2	1	5	39	7	—	0	1	4	8	3	0	2	12	3
North Dakota	—	0	2	—	—	—	0	1	—	—	—	0	2	—	—
South Dakota	—	0	1	2	4	—	0	2	—	3	—	0	1	1	3
S. Atlantic	6	9	17	189	253	11	16	60	450	558	5	8	28	195	196
Delaware	—	0	1	4	3	—	0	3	6	9	—	0	2	5	6
District of Columbia	—	0	0	—	—	—	0	0	—	—	—	0	1	6	8
Florida	2	3	8	78	74	7	6	12	176	188	2	3	10	74	71
Georgia	1	1	3	25	43	1	3	8	64	77	1	1	3	13	21
Maryland§	1	1	3	21	44	—	2	6	38	62	1	2	6	47	36
North Carolina	2	0	9	35	29	2	0	17	50	75	—	0	7	11	22
South Carolina§	—	0	4	6	5	—	1	6	35	38	—	0	2	5	9
Virginia§	—	1	5	17	51	1	2	16	56	80	1	1	6	29	20
West Virginia	—	0	2	3	4	—	0	30	25	29	—	0	3	5	3
E.S. Central	—	2	9	42	52	4	7	13	179	191	2	2	10	67	49
Alabama§	—	0	4	5	9	—	2	5	48	68	—	0	1	8	5
Kentucky	—	0	2	14	9	1	2	5	52	33	2	1	3	33	23
Mississippi	—	0	2	4	6	—	0	3	18	21	—	0	1	1	—
Tennessee§	—	1	6	19	28	3	2	8	61	69	—	1	5	25	21
W.S. Central	1	5	55	112	113	9	17	131	347	457	—	2	23	32	49
Arkansas§	—	0	1	4	7	—	1	3	19	41	—	0	2	5	6
Louisiana	—	0	3	4	17	—	1	4	20	57	—	0	2	—	2
Oklahoma	1	0	7	5	3	5	2	37	50	24	—	0	3	3	1
Texas§	—	5	53	99	86	4	11	107	258	335	—	1	18	24	40
Mountain	1	3	9	62	133	4	3	7	74	120	—	2	6	28	48
Arizona	—	0	6	1	95	—	0	4	1	53	—	0	5	—	11
Colorado	—	0	3	24	17	—	0	3	12	18	—	0	2	3	11
Idaho§	—	0	3	15	2	2	0	2	6	6	—	0	1	2	4
Montana§	—	0	2	—	4	—	0	1	—	—	—	0	1	2	2
Nevada§	1	0	1	4	7	2	1	3	24	28	—	0	2	6	6
New Mexico§	—	0	3	14	4	—	0	2	7	9	—	0	1	3	6
Utah	—	0	2	2	2	—	0	5	21	4	—	0	3	12	5
Wyoming§	—	0	1	2	2	—	0	1	3	2	—	0	0	—	3
Pacific	26	12	51	343	367	4	9	30	175	270	3	4	18	129	62
Alaska	—	0	1	2	2	—	0	2	8	4	—	0	1	1	—
California	26	10	42	284	326	3	6	19	122	197	3	3	14	100	48
Hawaii	—	0	1	4	5	—	0	2	3	7	—	0	1	4	1
Oregon§	—	1	3	20	13	1	1	3	23	35	—	0	2	10	4
Washington	—	1	7	33	21	—	1	9	19	27	—	0	3	14	9
American Samoa	—	0	0	—	—	—	0	0	—	14	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	—	2	—	0	0	—	—
Puerto Rico	—	0	4	12	43	—	1	5	22	43	—	0	1	1	3
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All serogroups				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007
United States	447	347	1,550	6,532	11,916	27	22	136	445	592	13	18	52	646	650
New England	25	54	548	871	4,121	2	1	35	24	32	—	0	3	17	33
Connecticut	—	0	227	—	1,876	1	0	27	6	1	—	0	1	1	5
Maine§	—	6	61	70	61	—	0	2	—	3	—	0	1	3	5
Massachusetts	17	16	252	486	1,626	—	0	2	14	21	—	0	3	13	16
New Hampshire	4	10	58	265	494	—	0	1	1	7	—	0	0	—	3
Rhode Island§	—	0	77	—	2	—	0	8	—	—	—	0	1	—	1
Vermont§	4	2	11	50	62	1	0	2	3	—	—	0	1	—	3
Mid. Atlantic	302	170	662	3,820	4,414	1	6	18	89	163	2	2	6	73	79
New Jersey	—	31	161	524	1,774	—	0	7	—	32	—	0	1	3	10
New York (Upstate)	198	64	453	1,270	897	1	1	8	15	31	1	0	3	21	25
New York City	—	1	27	5	167	—	3	9	57	86	—	0	2	16	16
Pennsylvania	104	54	293	2,021	1,576	—	1	4	17	14	1	1	5	33	28
E.N. Central	—	6	154	59	1,220	1	2	7	66	75	1	3	9	96	98
Illinois	—	0	13	12	87	—	1	6	26	38	—	1	3	28	39
Indiana	—	0	7	3	17	—	0	1	2	5	—	0	4	16	15
Michigan	—	1	5	19	18	—	0	2	8	9	1	0	2	14	16
Ohio	—	0	4	11	5	1	0	3	20	13	—	1	4	29	23
Wisconsin	—	3	132	14	1,093	—	0	3	10	10	—	0	2	9	5
W.N. Central	61	2	740	267	91	9	0	8	31	20	2	1	8	63	32
Iowa	—	0	6	18	—	—	0	1	2	—	—	0	3	12	—
Kansas	—	0	1	1	8	—	0	1	3	1	—	0	1	1	2
Minnesota	61	0	731	229	75	8	0	8	14	11	2	0	7	18	10
Missouri	—	0	3	14	5	—	0	4	6	3	—	0	3	21	13
Nebraska§	—	0	1	3	3	1	0	2	6	4	—	0	2	9	2
North Dakota	—	0	9	1	—	—	0	2	—	—	—	0	1	1	2
South Dakota	—	0	1	1	—	—	0	0	—	1	—	0	1	1	3
S. Atlantic	54	59	221	1,324	1,953	6	5	15	130	125	4	3	7	101	100
Delaware	15	12	35	411	372	—	0	1	1	3	—	0	1	1	1
District of Columbia	2	2	8	65	71	1	0	1	1	2	—	0	0	—	—
Florida	4	1	4	24	4	2	1	7	28	22	3	1	3	37	36
Georgia	—	0	3	3	7	1	1	3	24	19	1	0	3	13	10
Maryland§	22	30	136	603	1,116	2	1	5	36	34	—	0	2	11	17
North Carolina	3	0	8	5	21	—	0	7	15	13	—	0	4	9	13
South Carolina§	1	0	4	8	13	—	0	1	4	5	—	0	3	14	10
Virginia§	7	12	68	197	339	—	1	7	21	27	—	0	2	13	13
West Virginia	—	0	9	8	10	—	0	1	—	—	—	0	1	3	—
E.S. Central	—	1	6	23	30	2	0	3	9	19	1	1	6	37	35
Alabama§	—	0	3	9	9	—	0	1	3	3	1	0	2	5	7
Kentucky	—	0	1	1	2	—	0	1	3	4	—	0	2	7	7
Mississippi	—	0	1	1	—	1	0	1	1	1	—	0	2	9	9
Tennessee§	—	0	4	12	19	1	0	2	2	11	—	0	3	16	12
W.S. Central	—	1	11	25	36	—	1	64	16	52	1	2	13	65	70
Arkansas§	—	0	1	—	—	—	0	1	—	—	—	0	1	6	7
Louisiana	—	0	0	—	2	—	0	1	—	13	—	0	3	12	23
Oklahoma	—	0	1	—	—	—	0	4	2	4	—	0	5	10	14
Texas§	—	1	10	25	34	—	1	60	14	35	1	1	7	37	26
Mountain	1	0	3	14	15	—	1	5	8	33	—	1	3	28	46
Arizona	—	0	1	1	—	—	0	1	—	6	—	0	1	—	11
Colorado	—	0	1	2	—	—	0	2	3	12	—	0	2	8	15
Idaho§	1	0	2	5	4	—	0	2	—	—	—	0	2	2	4
Montana§	—	0	2	2	1	—	0	1	—	3	—	0	1	4	1
Nevada§	—	0	2	1	6	—	0	3	4	2	—	0	2	6	3
New Mexico§	—	0	1	2	3	—	0	1	1	1	—	0	1	4	2
Utah	—	0	1	—	1	—	0	1	—	9	—	0	2	2	8
Wyoming§	—	0	1	1	—	—	0	0	—	—	—	0	1	2	2
Pacific	4	4	8	129	36	6	3	10	72	73	2	4	17	166	157
Alaska	2	0	2	3	2	—	0	2	3	2	—	0	2	3	1
California	2	3	7	108	31	6	2	8	59	48	1	3	17	121	116
Hawaii	N	0	0	N	N	—	0	1	2	2	—	0	2	1	4
Oregon§	—	0	4	18	3	—	0	2	4	12	1	0	3	23	22
Washington	—	0	7	—	—	—	0	3	4	9	—	0	5	18	14
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	1	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	1	2	—	0	1	2	6
U.S. Virgin Islands	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007
United States	57	144	848	3,411	4,861	54	92	175	2,208	3,084	51	29	195	564	871
New England	4	23	49	369	760	1	8	20	177	291	—	0	2	1	5
Connecticut	—	0	5	—	40	—	3	17	96	120	—	0	0	—	—
Maine†	—	1	5	16	40	—	1	5	28	44	N	0	0	N	N
Massachusetts	4	17	34	315	617	N	0	0	N	N	—	0	2	1	5
New Hampshire	—	1	5	14	38	1	1	4	20	25	—	0	1	—	—
Rhode Island†	—	1	25	19	4	N	0	0	N	N	—	0	0	—	—
Vermont†	—	0	6	5	21	—	2	6	33	102	—	0	0	—	—
Mid. Atlantic	21	20	43	396	669	15	20	32	546	525	—	1	5	29	41
New Jersey	—	1	9	3	112	—	0	0	—	—	—	0	2	2	15
New York (Upstate)	17	6	23	162	322	15	9	20	233	250	—	0	2	8	3
New York City	—	2	7	34	73	—	0	2	10	28	—	0	2	10	15
Pennsylvania	4	8	23	197	162	—	10	23	303	247	—	0	2	9	8
E.N. Central	8	20	190	649	933	—	3	43	45	62	—	1	3	12	30
Illinois	—	3	8	62	100	N	0	0	N	N	—	0	3	2	19
Indiana	—	0	12	22	31	—	0	1	2	6	—	0	1	1	4
Michigan	2	4	16	77	148	—	1	32	25	32	—	0	1	2	3
Ohio	5	6	176	458	417	—	1	11	18	24	—	0	3	7	4
Wisconsin	1	2	14	30	237	N	0	0	N	N	—	0	1	—	—
W.N. Central	9	9	141	331	244	8	3	12	77	130	—	4	29	123	162
Iowa	—	1	5	32	—	—	0	3	9	—	—	0	5	—	—
Kansas	—	1	5	25	58	—	0	7	—	78	—	0	2	—	7
Minnesota	5	0	131	104	59	7	0	6	26	10	—	0	4	—	1
Missouri	—	2	18	120	54	—	0	5	21	19	—	3	25	115	145
Nebraska†	4	1	12	42	23	—	0	0	—	—	—	0	3	7	6
North Dakota	—	0	5	1	3	1	0	8	14	11	—	0	0	—	—
South Dakota	—	0	2	7	47	—	0	2	7	12	—	0	1	1	3
S. Atlantic	11	13	50	350	519	14	40	73	1,116	1,235	19	8	109	200	405
Delaware	—	0	2	5	6	—	0	0	—	—	—	0	2	6	10
District of Columbia	—	0	1	2	7	—	0	0	—	—	2	0	2	6	2
Florida	9	3	9	106	123	—	0	31	74	128	4	0	3	7	4
Georgia	1	0	3	21	27	—	6	37	187	133	4	0	6	20	39
Maryland†	1	1	6	35	66	—	9	18	224	220	—	1	6	23	27
North Carolina	—	0	38	76	180	—	9	16	251	269	6	0	96	84	246
South Carolina†	—	2	22	49	47	—	0	0	—	46	1	0	4	16	29
Virginia†	—	2	11	52	53	14	12	27	321	400	2	1	8	37	46
West Virginia	—	0	12	4	10	—	1	11	59	39	—	0	3	1	2
E.S. Central	—	7	31	124	173	1	2	7	68	84	9	4	16	98	145
Alabama†	—	1	6	19	41	—	0	0	—	—	—	1	10	28	36
Kentucky	—	1	5	27	13	1	0	3	18	10	—	0	1	—	4
Mississippi	—	3	29	49	62	—	0	1	2	—	—	0	3	4	9
Tennessee†	—	1	4	29	57	—	2	6	48	74	9	1	9	66	96
W.S. Central	1	19	198	398	538	9	8	40	62	604	23	2	153	93	60
Arkansas†	—	1	17	37	116	—	1	6	36	15	5	0	15	13	14
Louisiana	—	0	2	3	13	—	0	2	—	3	—	0	2	2	1
Oklahoma	1	0	26	14	2	9	0	32	25	45	18	0	132	72	32
Texas†	—	17	179	344	407	—	1	34	1	541	—	0	8	6	13
Mountain	—	16	37	355	605	—	2	8	30	25	—	0	2	6	20
Arizona	—	1	8	9	150	N	0	0	N	N	—	0	1	—	3
Colorado	—	4	13	76	159	—	0	0	—	—	—	0	2	—	—
Idaho†	—	0	4	18	26	—	0	4	—	—	—	0	1	—	2
Montana†	—	0	11	59	30	—	0	3	1	6	—	0	1	2	1
Nevada†	—	0	7	17	25	—	0	2	3	3	—	0	0	—	—
New Mexico†	—	1	7	26	38	—	0	3	18	5	—	0	1	1	4
Utah	—	6	27	145	162	—	0	2	2	5	—	0	0	—	—
Wyoming†	—	0	2	5	15	—	0	4	6	6	—	0	2	3	10
Pacific	3	20	303	439	420	6	4	10	87	128	—	0	1	2	3
Alaska	3	1	29	51	29	—	0	4	12	36	N	0	0	N	N
California	—	8	129	174	245	6	3	8	73	88	—	0	1	1	1
Hawaii	—	0	2	4	13	—	0	0	—	—	N	0	0	N	N
Oregon†	—	2	14	74	53	—	0	1	2	4	—	0	1	1	2
Washington	—	5	169	136	80	—	0	0	—	—	N	0	0	N	N
American Samoa	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	0	—	—	3	1	4	33	27	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

Reporting area	Salmonellosis					Shiga toxin-producing *E. coli* (STEC)†					Shigellosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007
United States	730	800	2,100	17,038	19,820	77	73	244	1,797	1,735	382	394	1,226	8,706	7,994
New England	12	24	253	924	1,361	1	4	19	92	170	3	3	24	97	158
Connecticut	—	0	224	224	431	—	0	15	15	71	—	0	22	22	44
Maine§	1	2	14	66	58	1	0	4	5	17	1	0	1	4	13
Massachusetts	11	16	60	494	699	—	2	9	46	63	1	2	8	61	89
New Hampshire	—	3	10	57	82	—	0	5	14	10	—	0	1	1	4
Rhode Island§	—	1	13	42	48	—	0	3	7	3	—	0	9	7	6
Vermont§	—	1	7	41	43	—	0	3	5	6	1	0	1	2	2
Mid. Atlantic	71	86	212	2,062	2,776	10	8	192	365	207	23	25	78	1,000	320
New Jersey	—	15	48	293	608	—	1	7	6	57	—	6	16	188	67
New York (Upstate)	40	25	73	603	660	7	4	188	289	63	19	7	36	359	54
New York City	—	22	48	489	610	—	1	5	22	24	—	9	35	386	118
Pennsylvania	31	30	83	677	898	3	2	11	48	63	4	2	65	67	81
E.N. Central	48	89	197	2,082	2,991	10	10	36	215	229	55	72	145	1,586	1,134
Illinois	—	24	80	580	1,162	—	1	13	22	39	—	18	37	425	292
Indiana	—	9	52	237	281	—	1	12	18	22	—	10	83	406	33
Michigan	8	17	43	350	444	1	2	12	48	36	1	1	7	41	30
Ohio	40	25	65	648	602	9	2	17	78	60	51	19	104	492	424
Wisconsin	—	14	37	267	502	—	3	16	49	72	3	9	39	222	355
W.N. Central	73	45	86	1,212	1,081	25	11	30	292	218	16	21	55	450	1,099
Iowa	2	6	18	195	—	2	1	10	58	—	—	1	9	70	—
Kansas	9	6	18	137	203	—	0	3	11	28	—	0	2	8	16
Minnesota	55	13	39	341	305	20	3	15	84	86	16	4	11	128	129
Missouri	—	14	29	321	349	—	3	12	78	48	—	9	37	137	855
Nebraska§	6	5	13	133	117	3	2	6	39	32	—	0	3	—	12
North Dakota	1	0	35	23	17	—	0	20	2	5	—	0	15	32	3
South Dakota	—	2	11	62	90	—	1	5	20	19	—	1	17	75	84
S. Atlantic	275	247	442	4,508	4,701	12	12	40	311	285	45	73	149	1,742	2,537
Delaware	1	2	8	67	70	—	0	2	7	10	—	0	2	8	5
District of Columbia	—	1	4	26	30	—	0	1	6	—	—	0	3	7	11
Florida	130	97	181	2,082	1,853	5	2	18	90	72	22	22	75	499	1,411
Georgia	52	37	86	755	759	—	1	7	33	35	15	26	47	683	907
Maryland§	16	15	44	327	368	1	2	5	49	40	2	2	7	31	50
North Carolina	54	19	228	440	628	3	1	24	36	46	3	1	12	57	36
South Carolina§	10	21	52	383	391	1	0	3	20	6	3	8	32	365	48
Virginia§	12	18	49	353	532	2	2	9	56	73	—	4	14	85	68
West Virginia	—	4	25	75	70	—	0	3	14	3	—	0	61	7	1
E.S. Central	38	57	144	1,161	1,341	5	5	26	122	111	26	51	178	1,081	785
Alabama§	11	15	50	316	356	—	1	19	37	40	4	12	43	251	284
Kentucky	14	9	23	187	256	1	1	12	21	31	1	8	35	182	172
Mississippi	3	14	57	332	347	—	0	2	4	3	—	17	112	232	232
Tennessee§	10	16	34	326	382	4	2	12	60	37	21	13	32	416	97
W.S. Central	85	105	894	1,740	1,706	2	4	25	91	127	153	57	748	1,900	991
Arkansas§	35	13	50	274	257	1	1	4	23	23	20	3	27	253	51
Louisiana	—	7	44	80	361	—	0	1	—	7	—	4	17	78	296
Oklahoma	34	12	72	301	190	1	0	14	16	12	2	3	32	56	54
Texas§	16	58	794	1,085	898	—	3	11	52	85	131	40	702	1,513	590
Mountain	22	49	83	1,026	1,253	5	8	42	158	216	9	12	40	205	392
Arizona	—	3	40	7	420	—	0	8	1	58	—	2	30	5	197
Colorado	—	11	44	398	284	—	2	17	47	39	—	2	6	43	58
Idaho§	13	3	10	91	61	5	2	16	43	44	—	0	2	5	7
Montana§	2	1	10	42	46	—	0	3	15	—	1	0	1	3	13
Nevada§	7	5	12	113	132	—	0	3	13	14	8	2	13	112	17
New Mexico§	—	6	28	215	135	—	1	5	18	22	—	1	6	23	60
Utah	—	5	17	138	131	—	1	9	17	29	—	1	5	11	15
Wyoming§	—	1	5	22	44	—	0	2	4	10	—	0	2	3	25
Pacific	106	110	399	2,323	2,610	7	9	40	151	172	52	30	79	645	578
Alaska	2	1	5	26	48	—	0	1	3	—	—	0	1	—	7
California	99	77	286	1,715	1,962	5	5	34	91	98	51	26	61	564	463
Hawaii	4	5	14	116	134	1	0	5	6	16	—	1	43	22	16
Oregon§	1	6	15	191	171	1	1	11	18	20	1	1	5	25	35
Washington	—	12	103	275	295	—	1	13	33	38	—	2	20	34	57
American Samoa	—	0	1	1	—	—	0	0	—	—	—	0	1	1	3
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	8	11	—	0	0	—	—	—	0	3	14	10
Puerto Rico	5	12	55	213	403	—	0	1	2	—	—	0	2	6	19
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

	Streptococcal disease, invasive, group A					*Streptococcus pneumoniae*, invasive disease, nondrug resistant[†] Age <5 years				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2008	2007	week	Med	Max	2008	2007
United States	69	91	259	3,252	3,448	11	33	166	890	1,064
New England	7	6	33	259	277	—	2	14	48	86
Connecticut	7	0	28	78	83	—	0	11	—	11
Maine[§]	—	0	3	17	20	—	0	1	1	1
Massachusetts	—	3	8	125	136	—	1	5	37	57
New Hampshire	—	0	2	16	21	—	0	1	7	8
Rhode Island[§]	—	0	7	13	2	—	0	1	2	7
Vermont[§]	—	0	2	10	15	—	0	1	1	2
Mid. Atlantic	11	16	43	689	670	1	4	19	116	192
New Jersey	—	3	9	106	125	—	1	6	21	39
New York (Upstate)	4	6	18	235	204	1	2	14	62	64
New York City	—	3	10	120	165	—	1	12	33	89
Pennsylvania	7	5	16	228	176	N	0	0	N	N
E.N. Central	13	17	63	693	695	3	6	23	199	193
Illinois	—	5	16	182	210	—	1	6	46	45
Indiana	—	2	11	87	78	—	0	14	23	12
Michigan	2	2	10	90	146	1	1	5	42	56
Ohio	11	5	15	198	167	—	1	5	35	39
Wisconsin	—	2	42	136	94	2	1	9	53	41
W.N. Central	7	4	39	264	228	1	2	16	80	54
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	6	32	26	—	0	3	12	—
Minnesota	5	0	35	121	111	1	0	13	29	33
Missouri	—	2	10	62	59	—	1	2	24	15
Nebraska[§]	2	0	3	26	15	—	0	3	6	5
North Dakota	—	0	5	9	11	—	0	2	4	1
South Dakota	—	0	2	14	6	—	0	1	5	—
S. Atlantic	20	21	37	659	797	2	6	13	151	184
Delaware	—	0	2	6	6	—	0	0	—	—
District of Columbia	—	0	2	13	16	—	0	1	1	2
Florida	5	6	11	156	181	—	1	4	40	37
Georgia	5	4	10	137	155	—	1	5	10	41
Maryland[§]	5	4	9	121	139	1	1	5	40	46
North Carolina	3	2	10	89	104	N	0	0	N	N
South Carolina[§]	1	1	5	37	76	1	1	4	31	22
Virginia[§]	1	3	12	81	101	—	0	6	24	31
West Virginia	—	0	3	19	19	—	0	1	5	5
E.S. Central	3	4	9	108	138	—	2	11	62	54
Alabama[§]	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	3	22	31	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	3	15	5
Tennessee[§]	3	3	7	86	107	—	2	9	47	49
W.S. Central	7	8	85	272	195	4	5	66	148	145
Arkansas[§]	—	0	2	4	16	—	0	2	4	9
Louisiana	—	0	1	3	14	—	0	2	2	25
Oklahoma	2	1	19	72	47	—	1	7	47	32
Texas[§]	5	5	65	193	118	4	3	58	95	79
Mountain	—	9	16	228	366	—	3	12	76	145
Arizona	—	0	8	1	136	—	0	8	—	66
Colorado	—	3	8	100	94	—	1	4	42	31
Idaho[§]	—	0	2	11	8	—	0	1	3	2
Montana[§]	N	0	0	N	N	—	0	1	3	1
Nevada[§]	—	0	2	6	2	N	0	0	N	N
New Mexico[§]	—	2	7	66	63	—	0	3	13	27
Utah	—	1	5	39	58	—	0	4	14	18
Wyoming[§]	—	0	2	5	5	—	0	1	1	—
Pacific	1	3	10	80	82	—	0	2	10	11
Alaska	1	0	3	21	15	N	0	0	N	N
California	—	0	0	—	—	N	0	0	N	N
Hawaii	—	2	10	59	67	—	0	2	10	11
Oregon[§]	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	—	0	12	30	4	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	3	—	7	—	0	0	—	—
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N

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* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

Reporting area	*Streptococcus pneumoniae*, invasive disease, drug resistant† — All ages: Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Age <5 years: Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Syphilis, primary and secondary: Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007
United States	20	50	264	1,541	1,606	4	9	43	253	310	111	230	351	5,761	5,574
New England	—	1	41	30	83	—	0	8	5	12	5	6	14	155	127
Connecticut	—	0	37	—	51	—	0	7	—	4	—	0	6	11	16
Maine§	—	0	2	13	8	—	0	1	1	1	2	0	2	8	2
Massachusetts	—	0	0	—	—	—	0	0	—	2	2	4	11	124	76
New Hampshire	—	0	0	—	—	—	0	0	—	—	1	0	3	9	13
Rhode Island§	—	0	3	7	13	—	0	1	2	3	—	0	3	2	18
Vermont§	—	0	2	10	11	—	0	1	2	2	—	0	5	1	2
Mid. Atlantic	4	3	10	132	92	—	0	2	16	22	16	32	45	907	849
New Jersey	—	0	0	—	—	—	0	0	—	—	—	4	10	106	105
New York (Upstate)	2	1	4	34	29	—	0	2	5	8	4	3	13	79	72
New York City	—	0	5	39	—	—	0	0	—	—	10	17	30	570	526
Pennsylvania	2	1	8	59	63	—	0	2	11	14	2	5	12	152	146
E.N. Central	2	13	50	432	433	1	2	14	72	71	16	16	31	449	449
Illinois	—	2	15	57	78	—	0	6	14	25	1	5	19	78	235
Indiana	—	3	28	133	98	—	0	11	16	12	2	2	6	73	23
Michigan	—	0	2	8	1	—	0	1	2	1	5	2	17	118	60
Ohio	2	7	15	234	256	1	1	4	40	33	6	4	14	154	97
Wisconsin	—	0	0	—	—	—	0	0	—	—	2	1	4	26	34
W.N. Central	—	2	106	103	113	—	0	9	7	22	—	7	13	206	154
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	10	—
Kansas	—	1	5	42	61	—	0	1	2	4	—	0	5	17	9
Minnesota	—	0	105	—	1	—	0	9	—	14	—	1	5	50	36
Missouri	—	1	8	61	42	—	0	1	2	—	—	5	10	126	103
Nebraska§	—	0	0	—	2	—	0	0	—	—	—	0	1	3	3
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	2	—	7	—	0	1	3	4	—	0	3	—	3
S. Atlantic	13	20	42	638	674	2	4	10	108	145	31	50	215	1,245	1,221
Delaware	—	0	1	2	5	—	0	1	—	1	—	0	4	8	6
District of Columbia	—	0	3	12	12	—	0	0	—	1	—	2	11	57	105
Florida	11	11	26	355	374	2	2	6	71	74	9	18	34	486	408
Georgia	2	7	19	206	240	—	1	6	30	61	8	10	175	181	181
Maryland§	—	0	2	3	1	—	0	1	1	—	7	6	14	167	160
North Carolina	N	0	0	N	N	N	0	0	N	N	—	6	18	162	188
South Carolina§	—	0	0	—	—	—	0	0	—	—	2	1	5	46	53
Virginia§	N	0	0	N	N	N	0	0	N	N	5	5	17	138	114
West Virginia	—	1	7	60	42	—	0	2	6	8	—	0	0	—	6
E.S. Central	1	5	14	161	130	1	1	4	32	20	15	20	31	555	423
Alabama§	N	0	0	N	N	N	0	0	N	N	—	8	17	226	171
Kentucky	—	1	4	44	17	—	0	2	8	2	2	1	7	48	34
Mississippi	—	0	5	1	34	—	0	1	—	—	3	2	15	77	59
Tennessee§	1	3	12	116	79	1	1	3	24	18	10	8	14	204	159
W.S. Central	—	1	5	26	51	—	0	2	8	7	11	39	62	995	924
Arkansas§	—	0	2	9	1	—	0	1	3	2	9	2	19	81	62
Louisiana	—	0	5	17	50	—	0	2	5	5	—	10	22	189	247
Oklahoma	N	0	0	N	N	N	0	0	N	N	2	1	5	44	34
Texas§	—	0	0	—	—	—	0	0	—	—	—	25	49	681	581
Mountain	—	1	6	19	30	—	0	2	4	9	6	9	29	200	221
Arizona	—	0	0	—	—	—	0	0	—	—	—	5	21	78	114
Colorado	—	0	0	—	—	—	0	0	—	—	1	2	7	60	25
Idaho§	N	0	0	N	N	N	0	0	N	N	—	0	1	2	1
Montana§	—	0	0	—	—	—	0	0	—	—	—	0	3	—	1
Nevada§	N	0	0	N	N	N	0	0	N	N	5	2	6	43	49
New Mexico§	—	0	1	1	—	—	0	0	—	—	—	1	3	17	23
Utah	—	1	6	18	19	—	0	2	4	8	—	0	2	—	7
Wyoming§	—	0	1	—	11	—	0	1	—	1	—	0	1	—	1
Pacific	—	0	0	—	—	—	0	1	1	2	11	40	71	1,049	1,206
Alaska	N	0	0	N	N	N	0	0	N	N	—	0	1	—	5
California	N	0	0	N	N	N	0	0	N	N	2	37	59	929	1,117
Hawaii	—	0	0	—	—	—	0	1	1	2	—	0	2	11	5
Oregon§	N	0	0	N	N	N	0	0	N	N	1	0	2	9	8
Washington	N	0	0	N	N	N	0	0	N	N	8	3	13	100	71
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	4
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	—	3	10	90	77
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 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 July 12, 2008, and July 14, 2007 (28th Week)*

Reporting area	Varicella (chickenpox)					West Nile virus disease† Neuroinvasive					West Nile virus disease† Nonneuroinvasive§				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2008	Cum 2007
United States	120	645	1,660	17,159	25,977	—	1	143	10	109	—	2	307	20	230
New England	6	15	68	313	1,602	—	0	2	—	—	—	0	2	—	—
Connecticut	—	0	38	—	909	—	0	1	—	—	—	0	1	—	—
Maine¶	—	0	26	—	208	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	2	—	—	—	0	2	—	—
New Hampshire	—	5	18	137	220	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Vermont¶	6	6	17	176	265	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	29	58	117	1,435	3,154	—	0	3	—	1	—	0	3	—	1
New Jersey	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
New York (Upstate)	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
New York City	N	0	0	N	N	—	0	3	—	—	—	0	3	—	—
Pennsylvania	29	58	117	1,435	3,154	—	0	1	—	1	—	0	1	—	1
E.N. Central	17	157	378	3,943	7,494	—	0	19	—	10	—	0	12	—	4
Illinois	—	13	124	625	657	—	0	14	—	7	—	0	8	—	3
Indiana	—	0	222	—	—	—	0	4	—	—	—	0	2	—	—
Michigan	5	60	154	1,566	2,827	—	0	5	—	1	—	0	1	—	—
Ohio	12	55	128	1,506	3,226	—	0	4	—	1	—	0	3	—	1
Wisconsin	—	7	32	246	784	—	0	2	—	1	—	0	2	—	—
W.N. Central	1	21	145	717	1,101	—	0	41	—	24	—	0	118	5	90
Iowa	N	0	0	N	N	—	0	4	—	1	—	0	3	—	2
Kansas	1	6	36	236	409	—	0	3	—	2	—	0	7	—	1
Minnesota	—	0	0	—	—	—	0	9	—	4	—	0	12	—	3
Missouri	—	11	47	413	628	—	0	8	—	—	—	0	3	—	2
Nebraska¶	N	0	0	N	N	—	0	5	—	2	—	0	16	—	24
North Dakota	—	0	140	48	—	—	0	11	—	5	—	0	49	4	29
South Dakota	—	0	5	20	64	—	0	9	—	10	—	0	32	1	29
S. Atlantic	23	93	161	2,788	3,327	—	0	12	—	3	—	0	6	—	2
Delaware	—	1	5	30	25	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	3	17	21	—	0	0	—	—	—	0	0	—	—
Florida	18	30	87	1,122	768	—	0	1	—	1	—	0	0	—	—
Georgia	N	0	0	N	N	—	0	8	—	—	—	0	5	—	1
Maryland¶	N	0	0	N	N	—	0	2	—	—	—	0	2	—	—
North Carolina	N	0	0	N	N	—	0	1	—	1	—	0	2	—	—
South Carolina¶	2	16	66	542	692	—	0	2	—	—	—	0	1	—	1
Virginia¶	1	21	73	638	1,113	—	0	1	—	1	—	0	1	—	—
West Virginia	2	15	66	439	708	—	0	0	—	—	—	0	0	—	—
E.S. Central	1	18	101	815	328	—	0	11	4	13	—	0	14	6	11
Alabama¶	1	18	101	806	327	—	0	2	—	4	—	0	1	1	1
Kentucky	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	2	9	1	—	0	7	4	8	—	0	12	4	10
Tennessee¶	N	0	0	N	N	—	0	1	—	1	—	0	2	1	—
W.S. Central	43	181	886	5,850	7,139	—	0	36	3	11	—	0	19	6	8
Arkansas¶	1	11	42	357	464	—	0	5	2	2	—	0	2	—	—
Louisiana	—	1	7	27	89	—	0	5	—	—	—	0	3	—	—
Oklahoma	N	0	0	N	N	—	0	11	—	1	—	0	8	2	1
Texas¶	42	166	852	5,466	6,586	—	0	19	1	8	—	0	11	4	7
Mountain	—	39	105	1,258	1,790	—	0	36	2	23	—	0	148	1	63
Arizona	—	0	0	—	—	—	0	8	1	12	—	0	10	—	3
Colorado	—	16	43	553	690	—	0	17	1	5	—	0	67	1	28
Idaho¶	N	0	0	N	N	—	0	3	—	—	—	0	22	—	13
Montana¶	—	6	27	204	276	—	0	10	—	1	—	0	30	—	3
Nevada¶	N	0	0	N	N	—	0	1	—	—	—	0	3	—	1
New Mexico¶	—	4	22	131	287	—	0	8	—	1	—	0	6	—	1
Utah	—	9	55	365	519	—	0	8	—	1	—	0	9	—	3
Wyoming¶	—	0	9	5	18	—	0	8	—	3	—	0	34	—	11
Pacific	—	1	7	40	42	—	0	18	1	24	—	0	23	2	51
Alaska	—	1	4	33	25	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	18	1	24	—	0	20	2	48
Hawaii	—	0	6	7	17	—	0	0	—	—	—	0	0	—	—
Oregon¶	N	0	0	N	N	—	0	3	—	—	—	0	4	—	3
Washington	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	2	17	55	184	—	0	0	—	—	—	0	0	—	—
Puerto Rico	4	10	37	268	447	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 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 July 12, 2008 (28th Week)

Reporting Area	All causes, by age (years)						P&I†
	All Ages	≥65	45-64	25-44	1-24	<1	Total
New England	465	323	98	32	7	5	51
Boston, MA	119	72	30	11	3	3	16
Bridgeport, CT	18	14	3	—	1	—	1
Cambridge, MA	29	20	8	1	—	—	2
Fall River, MA	26	22	2	2	—	—	7
Hartford, CT	53	40	7	4	2	—	9
Lowell, MA	19	15	3	1	—	—	1
Lynn, MA	8	6	1	1	—	—	—
New Bedford, MA	23	14	8	1	—	—	3
New Haven, CT	U	U	U	U	U	U	U
Providence, RI	39	34	5	—	—	—	2
Somerville, MA	3	1	1	1	—	—	—
Springfield, MA	59	36	14	8	1	—	5
Waterbury, CT	25	21	4	—	—	—	4
Worcester, MA	44	28	12	2	—	2	1
Mid. Atlantic	2,108	1,457	442	114	44	50	111
Albany, NY	43	34	6	1	2	—	1
Allentown, PA	29	21	4	1	1	2	2
Buffalo, NY	66	47	12	3	3	1	4
Camden, NJ	21	13	6	1	—	1	2
Elizabeth, NJ	22	12	7	2	—	1	3
Erie, PA	30	28	1	1	—	—	1
Jersey City, NJ	15	8	3	1	—	3	—
New York City, NY	1,118	772	240	61	26	18	46
Newark, NJ	38	17	11	6	2	2	3
Paterson, NJ	18	9	4	1	—	4	1
Philadelphia, PA	297	179	81	20	6	11	13
Pittsburgh, PA§	30	23	5	—	—	2	5
Reading, PA	35	25	8	—	1	1	4
Rochester, NY	176	136	30	5	2	3	16
Schenectady, NY	21	14	3	4	—	—	2
Scranton, PA	23	19	4	—	—	—	1
Syracuse, NY	80	64	12	3	—	1	7
Trenton, NJ	20	19	—	1	—	—	—
Utica, NY	9	7	—	1	1	—	—
Yonkers, NY	17	10	5	2	—	—	—
E.N. Central	1,907	1,227	461	124	48	47	119
Akron, OH	42	27	10	3	1	1	—
Canton, OH	33	22	10	1	—	—	—
Chicago, IL	324	186	94	25	10	9	26
Cincinnati, OH	72	42	18	5	3	4	11
Cleveland, OH	234	157	57	12	5	3	—
Columbus, OH	199	126	57	13	1	2	13
Dayton, OH	148	105	25	10	3	5	9
Detroit, MI	149	82	39	14	10	4	6
Evansville, IN	47	35	8	3	1	—	2
Fort Wayne, IN	53	36	13	3	—	1	3
Gary, IN	10	4	3	—	1	2	—
Grand Rapids, MI	31	21	9	—	—	1	4
Indianapolis, IN	159	89	43	12	6	9	11
Lansing, MI	43	34	8	1	—	—	2
Milwaukee, WI	90	57	19	9	4	1	8
Peoria, IL	44	30	9	2	—	3	7
Rockford, IL	46	34	6	3	2	1	5
South Bend, IN	38	31	6	1	—	—	2
Toledo, OH	74	47	20	7	—	—	2
Youngstown, OH	71	62	7	—	1	1	8
W.N. Central	661	411	158	49	19	22	34
Des Moines, IA	41	24	10	1	2	4	—
Duluth, MN	39	34	4	1	—	—	2
Kansas City, KS	23	14	5	3	—	1	—
Kansas City, MO	83	53	25	3	1	—	5
Lincoln, NE	55	44	9	2	—	—	2
Minneapolis, MN	77	35	28	5	6	3	2
Omaha, NE	102	66	21	9	3	3	11
St. Louis, MO	115	54	27	20	6	7	1
St. Paul, MN	45	33	8	3	—	1	4
Wichita, KS	81	54	21	2	1	3	7
S. Atlantic	1,132	691	287	90	28	36	46
Atlanta, GA	81	41	18	9	2	11	1
Baltimore, MD	166	92	48	16	7	3	15
Charlotte, NC	86	59	19	4	2	2	3
Jacksonville, FL	161	93	53	6	2	7	—
Miami, FL	95	53	27	13	1	1	6
Norfolk, VA	55	31	14	4	2	4	—
Richmond, VA	75	41	23	9	2	—	4
Savannah, GA	79	59	16	2	1	1	7
St. Petersburg, FL	57	37	13	5	—	2	3
Tampa, FL	181	123	33	15	6	4	4
Washington, D.C.	73	43	21	5	3	1	2
Wilmington, DE	23	19	2	2	—	—	1
E.S. Central	837	551	191	55	16	24	49
Birmingham, AL	186	121	40	18	3	4	10
Chattanooga, TN	97	69	21	3	1	3	8
Knoxville, TN	90	64	20	3	—	3	6
Lexington, KY	41	26	11	4	—	—	1
Memphis, TN	116	75	31	2	4	4	8
Mobile, AL	67	46	13	6	1	1	1
Montgomery, AL	64	41	13	6	3	1	3
Nashville, TN	176	109	42	13	4	8	12
W.S. Central	1,466	882	375	123	45	41	71
Austin, TX	84	54	22	3	2	3	2
Baton Rouge, LA	69	28	6	25	3	7	3
Corpus Christi, TX	56	40	10	3	3	—	1
Dallas, TX	174	97	39	24	7	7	8
El Paso, TX	55	37	12	3	3	—	—
Fort Worth, TX	135	88	32	10	1	4	5
Houston, TX	364	221	98	26	10	9	17
Little Rock, AR	81	50	24	1	6	—	2
New Orleans, LA¶	U	U	U	U	U	U	U
San Antonio, TX	240	145	64	19	4	8	20
Shreveport, LA	68	38	23	3	3	1	6
Tulsa, OK	140	84	45	6	3	2	7
Mountain	1,036	636	263	84	28	24	56
Albuquerque, NM	116	71	30	13	—	2	4
Boise, ID	63	45	14	1	2	1	6
Colorado Springs, CO	59	40	13	2	2	2	6
Denver, CO	105	60	32	9	—	4	4
Las Vegas, NV	213	120	64	22	7	—	10
Ogden, UT	24	18	4	1	1	—	1
Phoenix, AZ	129	65	35	19	6	3	5
Pueblo, CO	20	14	6	—	—	—	1
Salt Lake City, UT	129	86	24	7	6	6	10
Tucson, AZ	178	117	41	10	4	6	9
Pacific	1,858	1,286	382	108	48	34	166
Berkeley, CA	19	11	8	—	—	—	—
Fresno, CA	155	108	30	9	6	2	9
Glendale, CA	46	30	12	4	—	—	6
Honolulu, HI	87	58	16	8	2	3	11
Long Beach, CA	69	46	18	2	2	1	13
Los Angeles, CA	272	170	69	16	10	7	21
Pasadena, CA	33	25	6	1	1	—	3
Portland, OR	119	83	25	5	3	3	9
Sacramento, CA	209	160	34	8	2	5	21
San Diego, CA	161	116	31	7	1	6	13
San Francisco, CA	108	77	23	4	2	2	12
San Jose, CA	213	160	31	15	4	3	21
Santa Cruz, CA	39	28	9	2	—	—	3
Seattle, WA	122	84	23	9	4	2	10
Spokane, WA	61	40	10	9	2	—	4
Tacoma, WA	145	90	37	9	9	—	10
Total	11,470**	7,464	2,657	779	283	283	703

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: 2008-723-026/41108 Region IV ISSN: 0149-2195