



MMWR™

Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Weekly

February 13, 2009 / Vol. 58 / No. 5

Increase in Coccidioidomycosis – California, 2000–2007

Coccidioidomycosis is an infection resulting from inhalation of airborne spores of *Coccidioides immitis* or *Coccidioides posadasii*, soil-dwelling fungi endemic to California's San Joaquin Valley; southern regions of Arizona, Utah, Nevada, and New Mexico; western Texas; and regions of Mexico and Central and South America (1). Of an estimated 150,000 new infections annually in the United States (2), approximately 60% are asymptomatic (1). Patients with symptoms usually experience a self-limited influenza-like illness (ILI), although some develop severe pneumonia. Fewer than 1% of patients develop disseminated disease. Infection usually produces immunity to reinfection. During 1995–2000, the number of reported coccidioidomycosis cases in California averaged 2.5 per 100,000 population annually. However, from 2000 to 2006, the incidence rate more than tripled, increasing from 2.4 to 8.0 per 100,000 population. To characterize this increase, the California Department of Public Health (CDPH) analyzed case and hospitalization data for the period 2000–2007 and preliminary case report data for 2008. The results indicated that, during 2000–2006, the number of reported cases and hospitalizations for coccidioidomycosis in California increased each year, before decreasing in 2007. Annual incidence during 2000–2007 was highest in Kern County (150.0 cases per 100,000 population), and the hospitalization rate was highest among non-Hispanic blacks, increasing from 3.0 to 7.5 per 100,000 population. Health-care providers should maintain heightened suspicion for coccidioidomycosis in patients who live or have traveled in areas where the disease is endemic and who have signs of ILI, pneumonia, or disseminated infection.

Coccidioidomycosis is a reportable disease in California, although laboratories are not required to report. During 1991–1995, California experienced a large epidemic of coccidioidomycosis in the San Joaquin Valley; since 1995, cases of coccidioidomycosis have been reported consistently to local

health departments in California using Confidential Morbidity Reports (CMRs). For the analysis summarized in this report, CDPH reviewed case and hospitalization data for the period 2000–2007 using CMRs and California Patient Discharge Data Set (CPDDS) data. Preliminary CMR case data for 2008 also were analyzed. CMRs include data on the patient's county of residence, sex, and dates of birth, illness onset, diagnosis, and case report. CPDDS data include inpatient discharge diagnoses from all California nonfederal hospitals. Cases with codes for coccidioidomycosis (114–114.5 and 114.9) from the *International Classification of Diseases, Ninth Edition* were selected. Duplicate records were removed so that the CMR data set retained only the first report of a case and the CPDDS retained only the first report of a patient's hospitalization. For the 3% of reported CMR cases with no date of illness onset or diagnosis, year of illness onset was presumed to be year of case report. CMR data were used to calculate incidence rates of reported cases overall and by age, sex, region, and county. Because 34% of reported CMR cases had missing data on race, incidence rates by race were not calculated. CPDDS data were used to calculate rates of first hospitalization overall and by age, sex, race/ethnicity, region, and county. California Department of Finance population projections were used for denominators (3). Negative binomial regression was used to test for statistical significance of change in rates of reported cases

INSIDE

- 109 Trends in Perinatal Group B Streptococcal Disease – United States, 2000–2006
- 112 Cigarette Brand Preference Among Middle and High School Students Who Are Established Smokers – United States, 2004 and 2006
- 115 Update: Influenza Activity – United States, September 28, 2008–January 31, 2009

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

Suggested Citation: Centers for Disease Control and Prevention. [Article title]. *MMWR* 2009;58:[inclusive page numbers].

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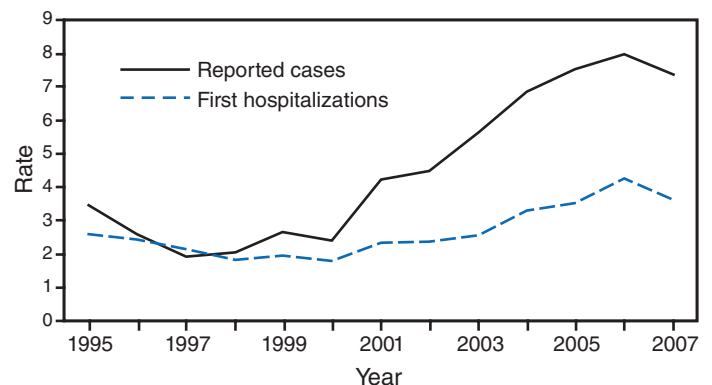
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and hospitalizations during 2000–2006, the period of annual increase in reported cases and hospitalizations. Fatality rates among hospitalized patients were calculated by using CPDDS data for 2000–2007.

After remaining stable since 1995, reported coccidioidomycosis cases in California increased from 816 in 2000 (incidence rate: 2.4 per 100,000 population) to 2,981 in 2006 (8.0 per 100,000 population) ($p < 0.001$) (Figure 1), before decreasing in 2007 to 2,791 cases (7.4 per 100,000 population). Preliminary 2008 CMR data indicated that 1,718 cases were reported in California during January 1–December 6, 2008, compared with 2,210 and 2,426 cases reported during the same period in 2006 and 2007, respectively.

During 2000–2007, estimated average annual incidence was highest among adults aged 40–49 years (3,518 cases [8.0 per 100,000 population]) versus other age groups (Table). A total of 10,909 (65%) cases were reported in male patients, for an average annual rate of 7.6 per 100,000 population, compared with 5,848 cases in females (4.0 per 100,000 population) (Table). The greatest incidence occurred in the San Joaquin Valley region, where coccidioidomycosis is endemic. A total of 12,855 (76%) of California's 16,970 cases were reported from the San Joaquin Valley during 2000–2007. Reported cases from this region increased from 490 (14.7 per 100,000 population) in 2000 to 2,135 (53.9 per 100,000 population) in 2007. Within the region, Kern County reported the highest incidence every year. Rates of reported cases in Kern County averaged 150.0 per 100,000 population during 2000–2007 (Figure 2), peaking in 2004 at 195.3 per 100,000 population.

FIGURE 1. Rates* of reported cases of coccidioidomycosis and first hospitalizations among persons with coccidioidomycosis diagnosed — California, 1995–2007†



* Per 100,000 population.

† Data on reported cases of coccidioidomycosis are from California Department of Public Health Confidential Morbidity Reports. Data on first hospitalizations of persons with coccidioidomycosis diagnosed are from the California Patient Discharge Data Set. Population data are from California Department of Finance population projections.

TABLE. Total numbers and average annual rates* of reported cases of coccidioidomycosis and first hospitalizations and deaths among persons with coccidioidomycosis diagnosed, by selected characteristics — California, 1995–1999 and 2000–2007†

Characteristic	1995–1999		2000–2007	
	No. of cases	Rate	No. of cases	Rate
Reported cases				
Age group (yrs)				
0–9	182	0.7	532	1.3
10–19	393	1.7	1,695	3.9
20–29	677	2.7	2,793	7.0
30–39	921	3.4	3,379	7.7
40–49	761	3.3	3,518	8.0
50–59	528	3.6	2,180	7.5
60–69	350	3.5	1,307	6.7
70–79	220	2.8	755	5.5
≥80	95	2.3	365	4.2
Sex				
Male	2,572	3.2	10,909	7.6
Female	1,529	1.9	5,848	4.0
Region				
California, overall	4,126	2.5	16,970	5.9
San Joaquin Valley§	2,829	17.9	12,855	44.1
Kern County	2,003	63.1	8,847	150.0
First hospitalizations				
Age group (yrs)				
0–9	47	0.2	151	0.4
10–19	148	0.6	361	0.8
20–29	348	1.4	853	2.1
30–39	574	2.1	1,409	3.2
40–49	709	3.1	1,851	4.2
50–59	609	4.1	1,690	5.1
60–69	509	5.0	1,130	5.8
70–79	439	5.6	785	5.8
≥80	170	4.2	427	5.0
Sex				
Male	2,237	2.8	5,960	4.1
Female	1,316	1.6	2,696	1.9
Region				
California, overall	3,553	2.2	8,657	3.0
San Joaquin Valley§	1,418	9.0	4,360	15.0
Kern County	704	22.2	2,206	37.4
Race/Ethnicity¶				
Black, non-Hispanic	349	—	1,005	5.3
White, non-Hispanic	1,947	—	3,800	3.0
Hispanic	881	—	2,869	2.9
Asian/Pacific Islander	212	—	552	1.7
American Indian/ Alaska Native	13	—	28	1.4
Multiracial/Other	60	—	192	3.4
Deaths	307	0.19	752	0.26

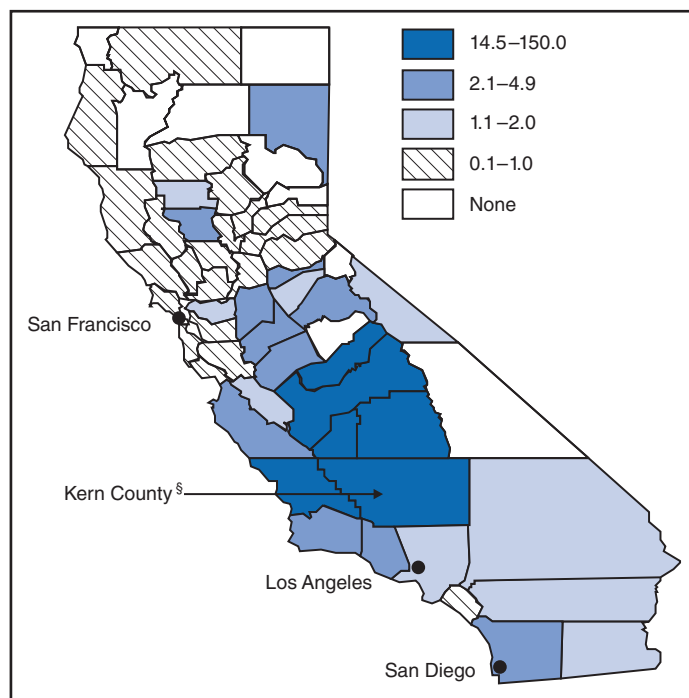
* Per 100,000 population.

† Data on reported cases are from California Department of Public Health Confidential Morbidity Reports. Data on first hospitalizations of persons with coccidioidomycosis diagnosed are from the California Patient Discharge Data Set. Denominator data are from California Department of Finance population projections.

§ Includes the following California counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare.

¶ Hospitalization rates by racial/ethnic population could not be calculated for 1995–1999 because population estimates for this period included inconsistent race/ethnicity categories.

FIGURE 2. Average annual rate* of reported cases of coccidioidomycosis, by county — California, 2000–2007†



* Per 100,000 population.

† Data on reported cases are from California Department of Public Health Confidential Morbidity Reports. County population data are from California Department of Finance population projections.

§ Kern County, located in the San Joaquin Valley region, where coccidioidomycosis is endemic, had the highest rate among counties (150.0 cases per 100,000 population).

In California, coccidioidomycosis cases requiring hospitalization increased from 611 in 2000 (1.8 per 100,000 population) to 1,587 in 2006 (4.3 per 100,000 population) ($p < 0.001$), before decreasing to 1,368 (3.6 per 100,000 population) in 2007 (Figure 1). Hospitalizations for coccidioidomycosis were highest among persons aged 60–79 years, averaging 5.8 per 100,000 population during 2000–2007 (Table). By race/ethnicity, hospitalizations were highest among non-Hispanic blacks, compared with non-Hispanic whites, Hispanics, and Asians/Pacific Islanders. From 2000 to 2007, hospitalizations among non-Hispanic blacks increased from 66 (3.0 per 100,000 population) to 169 (7.5 per 100,000 population). Hospitalizations among non-Hispanic whites increased from 297 (1.9 per 100,000 population) in 2000 to 570 (3.5 per 100,000 population) in 2007; hospitalizations among Hispanics increased from 182 (1.6 per 100,000 population) to 485 (3.6 per 100,000 population), and hospitalizations among Asians/Pacific Islanders increased from 36 (0.9 per 100,000 population) to 86 (1.9 per 100,000 population).

By geographic region, hospitalizations for coccidioidomycosis in the San Joaquin Valley increased from 230 (6.9 per 100,000 population) in 2000 to 701 (17.7 per 100,000

population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from 121 (18.2 per 100,000 population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). Overall in California, during 2000–2007, a total of 752 (8.7%) of the 8,657 persons hospitalized for coccidioidomycosis died.

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Editorial Note: This report describes increases in reported coccidioidomycosis cases and hospitalizations during 2000–2007 and the highest incidence rate in California since 1995, the first year that CMR data were available consistently. The number of reported cases and hospitalizations decreased in 2007, and preliminary data indicate those decreases might have continued in 2008. However, rates of coccidioidomycosis in California remain substantially higher than during 1995–2000. These increased rates likely are real, rather than surveillance artifact, because no major changes in diagnosis or reporting of coccidioidomycosis in California occurred before or during the period studied.

Increases in coccidioidomycosis in California are similar to those observed in neighboring Arizona and in the United States overall. Arizona, which annually reports approximately 60% of all coccidioidomycosis cases in the United States, reported a substantial increase in coccidioidomycosis from 1,812 cases (37 per 100,000 population) in 1999 to 5,535 cases (91 per 100,000 population) in 2006 (4). In the United States overall, the number of reported coccidioidomycosis cases increased from 1,697 (0.64 per 100,000 population) in 1996 to 8,917 (6.79 per 100,000 population in 2006) (5). Reasons for these recent increases in reported coccidioidomycosis are not fully understood. Some previous increases have been associated with local environmental and climatic variations (6). Other hypothesized causes include aerosolization of spores caused by soil disturbance during periods of increased construction activity (4), growing numbers of persons who are immunocompromised or have other risk factors for severe disease (7), and immigration of previously unexposed persons from areas where coccidioidomycosis is not endemic (2). Recent increases in coccidioidomycosis in California are partially attributable to several hundred cases reported from two San Joaquin Valley prisons (8) with inmates from areas where the disease is not endemic. Multiple clusters also have been reported at California military bases, where personnel often have intensive dust exposure (9). Such exposure is hypothesized to increase the risk for infection; local outbreaks of coccidioidomycosis have been noted after dust storms (1).

Coccidioidomycosis hospitalization rates in California were highest among persons aged 60–79 years, which is consistent with previous reports that older age might be a risk factor for severe coccidioidomycosis (7). Hospitalization rates also were substantially higher among non-Hispanic blacks, compared with non-Hispanic whites, Hispanics, and Asians/Pacific Islanders. Black race has been associated previously with increased risk for coccidioidomycosis hospitalization (7). In addition, blacks and persons of Filipino ancestry have been found to have increased risk for disseminated coccidioidomycosis, possibly because of underlying differences in susceptible host genetics (1,10). Immunocompromised persons and women in their second and third trimesters of pregnancy also have increased risk for disseminated disease (1).

The findings in this report are subject to at least three limitations. First, because not all persons with coccidioidomycosis seek medical care and not all diagnosed cases are reported to local health departments, this report likely underestimates the actual rate of coccidioidomycosis in California. Second, for cases in which patients were hospitalized, medical chart review was not performed to confirm laboratory diagnosis or cause of death from coccidioidomycosis, resulting in possible overestimation of hospitalizations and deaths in persons with coccidioidomycosis diagnosed. Finally, Kern County's public health laboratory performs much of the coccidioidomycosis testing for patients in that county and might be more likely to report cases routinely than laboratories in most other counties in the San Joaquin Valley region where this is not the practice. In 2009, California plans to make coccidioidomycosis a laboratory-reportable disease to improve completeness and timeliness of case reporting and delivery of targeted public health recommendations during periods of increased disease.

Given the recent increases in coccidioidomycosis in California and Arizona, heightened consideration of this disease is warranted in the differential diagnosis of any patient with ILI, pneumonia, or signs of disseminated infection who has lived or traveled in areas where coccidioidomycosis is endemic. Because intensive dust exposure appears to increase the risk for infection, CDC recommends that persons living or traveling in regions where coccidioidomycosis is endemic who are at risk for severe or disseminated disease (e.g., older persons, pregnant women, immunocompromised persons, and persons of black race or Filipino ancestry) should avoid exposure to outdoor dust as much as possible.* When such exposure is unavoidable, measures to reduce inhalation of outdoor dust, such as wetting soil and using respiratory protection when engaging in soil-disturbing activities, might be

* Additional information available at <http://www.cdc.gov/travel/yellowbook4-coccidioidomycosis.aspx>.

effective. However, options for environmental control of coccidioidomycosis are limited, and no safe, effective vaccine for the disease exists currently. Developing such a vaccine appears to be the best option for preventing disease in those persons at risk for coccidioidomycosis (9).

Acknowledgments

The findings in this report are based, in part, on contributions by SR Bissell, MS, California Department of Health; and EC Weiss, MD, Office of Workforce and Career Development, CDC.

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Trends in Perinatal Group B Streptococcal Disease – United States, 2000–2006

Group B *Streptococcus* (GBS) is a leading infectious cause of neonatal morbidity and mortality in the United States (1). The bacterium, a common colonizer of the maternal genital tract, can infect the fetus during gestation, causing fetal death. GBS also can be acquired by the fetus during passage through the birth canal or after delivery. Infection commonly manifests as meningitis, pneumonia, or sepsis. In 2002, CDC, the American College of Obstetricians and Gynecologists, and the American Academy of Pediatrics issued revised guidelines for prevention of early-onset GBS disease (i.e., in infants aged <7 days) (2). These guidelines recommended universal screening of all pregnant women for rectovaginal GBS colonization

at 35–37 weeks' gestation and administration of intrapartum antibiotic prophylaxis (IAP) to carriers. A report published in 2007 indicated that, during 2003–2005, the overall rate of early-onset GBS disease increased, whereas incidence of late-onset GBS disease (i.e., in infants aged 7–89 days) remained stable (3). This report updates the 2007 report by incorporating 2006 data from the Active Bacterial Core surveillance (ABCs) system. The updated analysis revealed an increase in the overall rate of early-onset GBS disease from 2003 to 2006, driven by an increasing incidence among black term infants. Late-onset GBS disease incidence among black infants, which had increased during 2003–2005, declined in 2006. Continued monitoring is needed to follow trends in early-onset GBS disease among black infants to determine whether additional interventions are warranted.

ABCs conducts active, population- and laboratory-based surveillance for all cases of invasive GBS disease in selected counties of 10 states.* GBS cases are identified through regular contact with laboratories and are defined as isolation of GBS from a normally sterile body site (e.g., blood or cerebrospinal fluid) or from the placenta or amniotic fluid in cases of fetal death. In 2005, the areas covered by ABCs represented approximately 450,000 live births (11% of U.S. live births); 70% of infants were white, 20% were black, and 10% were of other race. Surveillance areas used standardized case-report forms to collect demographic, neonatal, and obstetric data from medical records. Race and ethnicity were determined from medical records or birth certificates. Multiple imputation procedures were used to address missing data for race and gestational age (4). Live-birth data from state vital records and national vital statistics reports for each respective year other than 2006 were used as denominators for incidence calculations; incidence for 2006 was calculated using 2005 natality data. The Cochran-Armitage test was conducted to determine linear trend significance. The number of surveillance areas changed slightly during 2000–2006 because of the addition of Colorado in 2001 and New Mexico in 2004; New Mexico cases were not included in evaluations of incidence over time. Because the most notable incidence differences have been associated with race rather than ethnicity (5), the trend analyses described in this report focus on race.

During 2000–2006, a total of 1,199 early-onset disease (EOD) and 1,005 late-onset disease (LOD) cases were reported. In 2006, 316 cases were reported (179 EOD and 137 LOD). Of these, 178 (56%) were in white infants, 118 (37%)

* California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, and Tennessee. Additional information available at <http://www.cdc.gov/ncidod/dbmd/abc>.

were in black infants, 14 (4%) were in infants of other races, and six (3%) were in infants of unknown race; 52 (16%) were in Hispanic infants, 246 (78%) were in non-Hispanic infants, and 18 (6%) were in infants of unknown ethnicity. Among cases in 2006 for which outcome information was available ($n = 313$), the case-fatality ratio was 7% for EOD (13 of 177) and 5% (seven of 136) for LOD. Among cases for which gestational age was available (312 of 316), 28% (49 of 178) of EOD cases were in infants born preterm (gestational age <37 weeks), and 42% (56 of 134) of LOD cases were in infants born preterm.

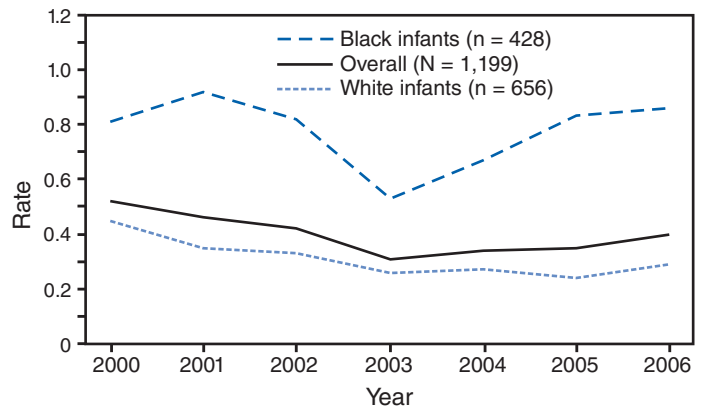
The overall EOD incidence rate showed an initial downward trend from 2000 to 2003 (0.52 to 0.31 cases per 1,000 live births), followed by an increase from 2003 to 2006 (0.31 to 0.40 cases per 1,000 live births; $p=0.03$). When stratified by race, incidence from 2003 to 2006 among black infants increased significantly (0.53 to 0.86 cases per 1,000 live births; $p=0.005$), whereas incidence among white infants did not change significantly (0.26 to 0.29 cases per 1,000 live births; $p=0.64$) (Figure 1).

When EOD incidence was stratified by gestational age, the average incidence among preterm infants during 2003–2006 was 2.8 times higher among black infants (1.79 cases per 1,000 live births) compared with white infants (0.67 cases per 1,000 live births) (Figure 2). Both preterm black and white infants had increases in EOD incidence from 2003 to 2006 that were not significant ($p=0.61$ and 0.21, respectively). EOD incidence among term white infants was stable during 2003–2006. Term black infants were the only group with a significant increase in incidence from 2003 to 2006 (0.33 to 0.70 cases per 1,000 live births; $p=0.002$).

Overall, 93% (549 of 593) of EOD cases from 2003 (the first full year after the universal screening recommendations) through 2006 had information available on prenatal GBS screening. Among these, 387 (70%) mothers were screened at least 2 days before the infant's birth. Among EOD cases in infants delivered at term (395 of 549), a similar proportion of mothers of black and white infants were screened (83% in each group). IAP was administered to 80 (20%) mothers of term infants with EOD during 2003–2006 (16% of black mothers and 23% of white mothers; $p=0.09$).

The overall rates of LOD remained stable from 2000 (0.36 cases per 1,000 live births) to 2006 (0.30 cases per 1,000 live births). In addition, no overall incidence trend was observed from 2003 to 2006 ($p=0.7$). When stratified by race, LOD incidence among black infants decreased significantly by 42% ($p=0.003$) from 2005 (0.95 cases per 1,000 live births) to 2006 (0.55 cases per 1,000 live births) (Figure 3). However, no significant trend was observed among black or white infants from 2003 to 2006.

FIGURE 1. Rate* of early-onset† invasive group B streptococcal disease, by race and year — Active Bacterial Core surveillance system, United States,§ 2000–2006¶



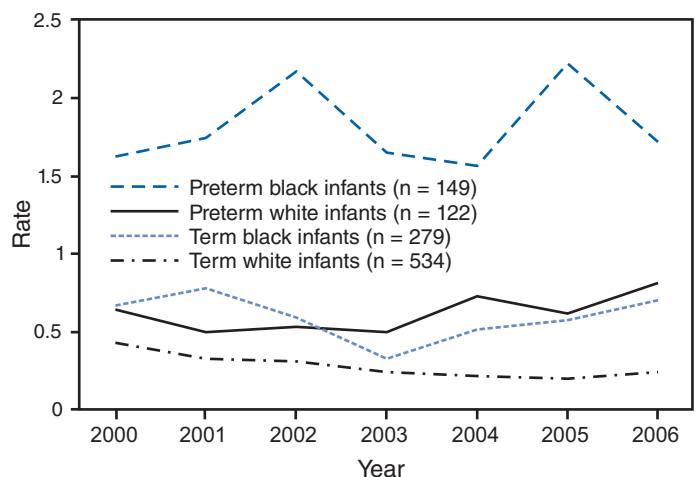
* Per 1,000 live births.

† Occurring in infants aged <7 days.

§ Includes selected counties in California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, and Tennessee. Additional information available at <http://www.cdc.gov/ncidod/dbmd/abcs>.

¶ Rates for 2000–2006 include surveillance areas participating since 2000, with the addition of Colorado in 2001. New Mexico, where surveillance began in 2004, is not included in comparison of incidence over time.

FIGURE 2. Rate* of early-onset† invasive group B streptococcal disease, by race, prematurity status, and year — Active Bacterial Core surveillance system, United States,§ 2000–2006¶



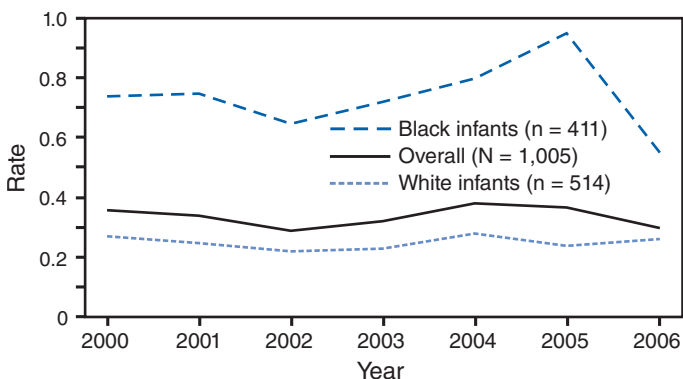
* Per 1,000 live births.

† Occurring in infants aged <7 days.

§ Includes selected counties in California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, and Tennessee. Additional information available at <http://www.cdc.gov/ncidod/dbmd/abcs>.

¶ Rates for 2000–2006 include surveillance areas participating since 2000, with the addition of Colorado in 2001. New Mexico, where surveillance began in 2004, is not included in comparison of incidence over time.

FIGURE 3. Rate* of late-onset† invasive group B streptococcal disease, by race and year — Active Bacterial Core surveillance system, United States,§ 2000–2006¶



* Per 1,000 live births.

† Occurring in infants aged 7–89 days.

§ Includes selected counties in California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, and Tennessee. Additional information available at <http://www.cdc.gov/ncidod/dbmd/abc>.

¶ Rates for 2000–2006 include surveillance areas participating since 2000, with the addition of Colorado in 2001. New Mexico, where surveillance began in 2004, is not included in comparison of incidence over time.

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Editorial Note: GBS emerged as a major cause of neonatal bacterial sepsis in the 1970s. Before the 2002 guidelines recommending universal screening, existing CDC guidelines allowed a choice of two strategies to determine candidates for IAP: 1) monitoring for certain risk factors (risk-based screening) during labor (e.g., preterm delivery or prolonged membrane rupture), or 2) late antenatal culture-based screening for GBS colonization (6). A 2002 population-based study showed that culture-based screening was >50% more effective than risk-based screening (7), and led to the 2002 recommendation for universal, culture-based screening. Implementation of universal screening was expected to result in a 30% further decline in the incidence of EOD, with the most dramatic reductions anticipated among term infants, because screening is performed during 35–37 weeks of gestation. In addition, the transition to a single prevention strategy was expected to reduce racial differences in EOD incidence. Universal screening was not anticipated to affect LOD incidence or racial differences

because implementation of IAP had not been associated with LOD prevention (8).

The results described in this report indicate an increase in EOD from 2003 to 2006,* and this increase has been driven by increasing incidence among black term infants. This increase was not anticipated and cannot yet be explained fully. The increase in EOD since 2003 was not accompanied by a significant change in the overall incidence rate for LOD. Because EOD incidence trends do not match LOD incidence trends, their shared live-birth denominator is not likely to contribute error to the worsening EOD rates. Also, racial differences in screening do not appear to be a likely cause of the increasing incidence trend among black term infants, because a similar and high proportion of mothers of both black and white case-infants delivered at term were screened. Consistent with this, a recent evaluation of live births during 2003–2004 in the ABCs catchment population found that black race was not associated with lack of screening (9). Additionally, IAP was administered to a similar proportion of black and white mothers of term infants with EOD. The overall proportion receiving IAP (20%) was low, suggesting that missed opportunities for prevention might contribute more than prophylaxis failures to the remaining EOD burden. However, data on screening result often were incomplete, limiting the ability to determine whether lack of IAP administration represented poor adherence to recommendations. Moreover, in the context of a widely implemented prevention strategy, population-based data rather than case-only data provide the most useful guide to assessing guidelines implementation.

Other factors might influence the effectiveness of prevention and thus rates of disease, including higher GBS carriage rates among black women (10), the timing of screening, adequacy of specimen collection, appropriate laboratory processing, and implementation of adequate IAP (2). Evaluation of these factors will be important in determining whether the causes of increasing racial differences in EOD can be directly linked to missed opportunities for prevention.

The findings in this report are subject to at least three limitations. First, although surveillance data can help describe and monitor racial differences in diseases, often they cannot explain why these differences exist. Unidentified risk factors for which race is a proxy might explain the differences. For example, ABCs includes limited information on cases and does not collect variables related to socioeconomic status. Second, select counties in 10 states are covered by ABCs. As a result, rates might not be representative of the entire United States.

*The analysis in this report differs from the previous one (3) in that values were imputed for both race and gestational age to account for missing data, allowing all the observed cases to contribute to estimates of stratified rates and improving the robustness of the rates reported.

Finally, these findings represent only 4 years of data since 2002, and additional surveillance is needed to confirm whether the increasing trend will continue.

Since efforts to prevent GBS disease became widespread in the 1990s, the United States has experienced an 80% decline in EOD incidence (8). Despite the increases in EOD rates after 2003, antenatal screening remains the most effective strategy available (7). Within the next year, CDC will work with the American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, and other partners to update the perinatal GBS disease prevention guidelines. This update will focus on both the laboratory and clinical components of the guidelines and will be based on data accumulated since 2002, including licensure of polymerase chain reaction–based rapid tests for GBS and a population-based review of approximately 8,000 labor and delivery records of births in 2003 and 2004 in the ABCs population (9).

Information for patients, health-care providers, and public health practitioners regarding GBS is available from CDC at <http://www.cdc.gov/groupbstrep>. Brochures are available in both English and Spanish by telephone (404-639-2215); information regarding bulk orders is available through the CDC Foundation by telephone (877-252-1200).

Acknowledgments

This report is based, in part, on contributions by P Daily, MPH, Emerging Infections Program, California Dept of Public Health; D Aragon, S Burnite, and A Daniels, Colorado Dept of Public Health; Z Fraser and JL Hadler, MD, Emerging Infections Program, Connecticut Dept of Public Health; MM Farley, MD, W Baughman, MSPH, P Malpiedi, MPH, P Martell-Cleary, MSW, S Bulens, MPH, and L Lorentzson, Emerging Infections Program, Div of Public Health, Georgia Dept of Human Resources; RA Hollick, MS, KD Holmes, MS, and E Vaeth, Maryland Active Bacterial Core Surveillance, Johns Hopkins Bloomberg School of Public Health; R Danila, PhD, B Jewell, J Rainbow, MPH, and L Triden, Minnesota Dept of Health; K Angeles, MPH, L Butler, MSN, J Keefe, MPH, and E Racz, MPH, New Mexico Dept of Health; G Smith and N Spina, MPH, Emerging Infections Program, New York State Dept of Health; K Stefonek, MPH, Oregon Public Health Div; B Barnes, Vanderbilt Univ School of Medicine; and TH Skoff, MS, E Weston, MPH, and C Wright, Div of Bacterial Diseases, National Center for Immunization and Respiratory Diseases, CDC.

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Cigarette Brand Preference Among Middle and High School Students Who Are Established Smokers – United States, 2004 and 2006

Studies have suggested a link between exposure to tobacco advertising and cigarette brand preference (1,2). Knowing the brand preferences of young established smokers can provide insight into what influences young smokers to start and continue to smoke. A report of 2005 data indicated that the three most heavily advertised brands, Marlboro, Newport, and Camel, were preferred by 81% of U.S. youths aged 12–17 years (3). To assess the cigarette brand preferences among middle school and high school students who were established smokers, CDC analyzed data from the 2004 and 2006 National Youth Tobacco Survey (NYTS). This report summarizes the results of that analysis, which indicated that among established student smokers in middle and high school, Marlboro was the preferred brand (43.3% and 52.3%, respectively), followed by Newport (26.4% and 21.4%, respectively). The use of Newport was significantly higher among blacks in middle school (59.7%) and high school (78.6%) compared with other racial/ethnic groups. Information on brand preferences and tobacco marketing strategies that are attractive to students can be used by tobacco control programs and community initiatives in the design of tobacco countermarketing campaigns. These countermarketing campaigns have been shown to be effective as part of a comprehensive tobacco control program to decrease the initiation of tobacco use among youths and young adults (1).

NYTS is a cross-sectional nationally representative sample of students enrolled in grades 6–12; data are collected approximately every 2 years. Students complete a self-administered survey in a classroom setting. The target population consists

of public and private school students in the 50 states and the District of Columbia. Black, Hispanic, and Asian students* are oversampled to ensure enough participants from those racial/ethnic populations to get reliable estimates. Respondents who self-identify as non-Hispanic and select two or more races are classified as multiracial. In 2004, 267 (93%) of 288 eligible schools participated, and of 31,774 students who were sampled, 27,933 (88%) completed the questionnaire, for an overall response rate of 82%. In 2006, 261 (92%) of the 285 eligible schools participated, and of 30,875 students who were sampled, 27,038 (88%) completed the questionnaire, for an overall response rate of 81%. Data for these 2 years were combined to increase sample size and precision of estimates for selected racial/ethnic populations. Data were weighted to provide national estimates, and statistical software was used for all data analyses to account for the complex sample design. T-tests were performed to determine differences between populations in their brand use. The differences were considered statistically significant at $p < 0.05$.

Respondents were asked how many cigarettes they had smoked in their entire life and whether they had smoked in the past 30 days. Established student smokers were defined as having smoked ≥ 25 cigarettes in their entire lives and smoked at least one cigarette during the 30 days preceding the survey. To determine the brand of cigarettes most often used in the past 30 days, respondents were asked "During the past 30 days, what brand of cigarette did you usually smoke?" Responses were "I did not smoke cigarettes during the past 30 days; I do not have a usual brand; American Spirit; Camel; GPC, Basic, or Doral; Kool; Lucky Strike; Marlboro; Newport; Parliament; Virginia Slims; some other brand."

For the study period, the percentage of high school students who were current established smokers (14.3%) was more than four times greater than the percentage of middle school students who were established smokers (3.0%) (Table 1). Among middle school students, whites (3.4%) were more likely to be established smokers than blacks (1.8%). Among high school students, significant differences in the prevalence of established smoking occurred among white (17.5%), Hispanic (10.8%), Asian (6.0%), and black (4.3%) students. No differences between male and female students in prevalence of established smoking were observed at either school level. Among middle school students, 43.3% of established cigarette smokers identified Marlboro as the brand they usually smoked during the preceding 30 days, followed by Newport (26.4%), other brands (14.6%), Camel (8.5%), and no usual brand (7.2%) (Table 2). Whites were more likely than blacks,

TABLE 1. Number of students who completed survey and percentage of established smokers* among middle and high school students, by sex and race/ethnicity — National Youth Tobacco Survey, United States, 2004 and 2006 combined

Characteristic	No.	Weighted no.†	%‡	(95% CI§)
Middle school¶				
Total	26,257	713,644	3.0	(2.6–3.5)
Sex**				
Female	13,214	336,160	2.8	(2.3–3.5)
Male	13,043	377,484	3.3	(2.8–3.8)
Race/Ethnicity††				
White	10,444	475,581	3.4	(2.8–4.2)
Black	4,715	63,946	1.8	(1.4–2.5)
Hispanic	7,311	100,690	2.9	(2.4–3.4)
Asian	1,233	5,700	0.9	(0.4–1.7)
Multiracial (two or more races)	411	42,008	4.2	(3.1–5.8)
High school¶¶				
Total	28,044	3,990,913	14.3	(13.1–15.6)
Sex**				
Female	14,323	1,949,257	13.7	(12.3–15.3)
Male	13,721	2,041,655	15.0	(13.7–16.3)
Race/Ethnicity††				
White	12,103	3,120,200	17.5	(16.0–19.2)
Black	5,229	163,437	4.3	(3.5–5.2)
Hispanic	7,081	380,485	10.8	(9.6–12.0)
Asian	1,324	50,901	6.0	(4.7–7.8)
Multiracial (two or more races)	1,122	164,477	16.1	(13.5–19.2)

* Students who reported smoking at least 25 cigarettes during their life-times and who had smoked on at least 1 of the 30 days preceding the survey.

† Data were weighted to be nationally representative.

‡ Confidence interval.

¶ Unspecified for either middle school or high school by 309 students.

** Unspecified by 178 middle school students and 183 high school students.

†† Unspecified by 2,143 of the middle school students and 1,185 of the high school students. White, black, Asian, and multiracial are non-Hispanic. Hispanic might be of any race.

Hispanics, and students of multiple races to smoke Marlboro. Blacks were more likely than whites, Hispanics, and students of multiple races to smoke Newport.

Among high school students, 52.3% of established cigarette smokers identified Marlboro as the brand they usually smoked during the preceding 30 days, followed by Newport, Camel, other brands, and no usual brand (Table 2). Asian, white, Hispanic, and multiracial students were more likely than blacks to smoke Marlboro. Blacks were more likely than Hispanics, multiracial students, Asians, and whites to smoke Newport. Whites and multiracial students were more likely than blacks to smoke Camel, and Hispanics were more likely than Asians to smoke other brands.

Brand preference differed by sex among middle school students: 49.6% of female smokers used Marlboro cigarettes, compared with 37.6% of male smokers, and 12.4% of male smokers used Camel cigarettes, compared with 4.1% of female smokers. Brand preference also differed by sex among high school students: use of Camel and no usual brand was higher for males (15.6% and 4.1%, respectively) than females

* For this report, white, black, and Asian students are non-Hispanic. Hispanic students might be of any race.

TABLE 2. Brand* of cigarettes usually smoked by established cigarette smokers,† in middle and high school during the 30 days preceding survey, by sex and race/ethnicity — National Youth Tobacco Survey, United States, 2004 and 2006 combined

Characteristic	Marlboro		Newport		Camel		Other brand [§]		No usual brand	
	% [¶]	(95% CI ^{**})	% [¶]	(95% CI)	% [¶]	(95% CI)	% [¶]	(95% CI)	% [¶]	(95% CI)
Middle school										
Total	43.3	(38.3–48.4)	26.4	(21.9–31.4)	8.5	(6.3–11.4)	14.6	(11.8–17.9)	7.2	(5.1–10.0)
Sex										
Female	49.6	(42.8–56.3)	26.2	(19.9–33.6)	4.1	(2.2–7.4)	13.6	(10.1–18.2)	6.6	(3.9–11.0)
Male	37.6	(31.4–44.2)	26.7	(21.2–33.2)	12.4	(8.7–17.5)	15.3	(11.3–20.4)	7.9	(5.2–11.8)
Race/Ethnicity ^{††}										
White	50.0	(43.9–56.1)	22.2	(17.6–27.6)	8.3	(5.7–11.9)	12.9	(9.4–17.3)	6.6	(4.3–10.1)
Black ^{§§}	11.8	(5.6–23.1)	59.7	(45.9–72.1)	5.1	(1.6–14.9) [†]	20.0	(11.4–32.5)	3.5	(0.9–12.7)
Hispanic	33.3	(24.7–43.3)	30.0	(21.9–39.6)	9.3	(5.7–14.7)	18.3	(12.5–26.0)	9.0	(4.9–16.0)
Asian ^{¶¶}	—	—	—	—	—	—	—	—	—	—
Multiracial (two or more races) ^{§§}	30.1	(18.4–45.0)	26.5	(14.3–43.9)	11.1	(5.0–22.8)	18.0	(8.4–34.4)	14.4	(5.6–32.3)
High school										
Total	52.3	(48.9–55.6)	21.4	(18.0–25.2)	12.8	(10.3–15.7)	10.3	(9.0–11.8)	3.3	(2.7–4.1)
Sex										
Female	54.5	(50.2–58.7)	23.7	(19.0–29.2)	9.9	(7.5–12.9)	9.4	(7.6–11.6)	2.5	(1.8–3.5)
Male	50.2	(46.5–53.8)	19.0	(16.1–22.4)	15.6	(12.6–19.0)	11.2	(9.4–13.3)	4.1	(3.2–5.3)
Race/Ethnicity ^{††}										
White	56.2	(52.2–60.1)	17.3	(13.8–21.5)	13.9	(11.0–17.3)	9.6	(8.2–11.3)	3.0	(2.3–3.8)
Black ^{§§}	9.6	(5.6–16.0)	78.6	(69.5–85.6)	1.5	(0.5–4.2)	7.8	(4.5–13.2)	2.5	(1.0–5.8)
Hispanic	44.9	(39.0–50.9)	28.7	(23.5–34.5)	7.7	(5.4–11.0)	14.2	(10.9–18.3)	4.5	(3.0–6.6)
Asian ^{¶¶}	62.2	(48.9–73.8)	18.9	(10.0–32.8)	9.2	(3.7–20.9)	4.8	(2.0–10.8)	5.0	(1.4–16.8)
Multiracial (two or more races) ^{§§}	42.0	(32.8–51.8)	24.0	(16.9–33.0)	13.2	(8.1–20.8)	13.5	(8.4–20.9)	7.3	(3.5–14.4)

* Brand of cigarette smoked was determined based on respondents choice from 11 options, which included "other brand" or not having a "usual brand."

† Students who reported smoking at least 25 cigarettes during their lifetimes and who had smoked on at least 1 of the 30 days preceding the survey; N = 713 middle school students and 3,179 high school students.

§ Other brands includes brands of cigarettes that were not a part of the top three used among middle and high school students (i.e., American Spirit, Kool, Lucky Strike, Parliament, Virginia Slims, GPC/Basic/Doral, or some other brand).

¶ Data were weighted to be nationally representative. Percentages might not sum to 100 because of rounding.

** Confidence interval.

†† White, black, Asian, and multiracial are non-Hispanic. Hispanic might be of any race.

§§ Wide variances in CIs reflect small sample sizes.

¶¶ Data not available because denominators include <50 respondents.

(9.9% and 2.5%, respectively). The use of Marlboro was significantly higher for females (54.5%) in high school compared with males (50.2%).

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Editorial Note: Knowing the brand preferences of student established smokers can provide insights into what influences student smokers to start and continue to smoke. The three most heavily advertised brands, Marlboro, Newport and Camel, continue to be the preferred brands of cigarettes smoked by established student smokers in middle and high school. Among middle school respondents, the preference for these three brands was 78.2%, ranging from 67.7% to 80.5% across racial/ethnic groups and by sex. Among high school respondents, the preference for these three brands was 86.5%, ranging from 79.2% to 90.3% across racial/ethnic groups and by sex. These findings are similar to those reported in earlier surveys. Analyses of the 2002 NYTS indicated that current

smokers in middle school identified Marlboro as the brand they usually smoked, followed by Newport, other brands, no usual brand and Camel. Current smokers in high school identified Marlboro as the brand they usually smoked, followed by Newport, other brands, Camel, and no usual brand (4). The current study also showed that Marlboro was the preferred brand among female (54.5%) and male (50.2%) established smokers. Unpublished data confirm that whites comprised a greater percentage of female established smokers than male established smokers in high school and whites are more likely to prefer Marlboro than are other racial/ethnic groups. Most black established student smokers used Newport, a mentholated brand. The tobacco industry has strategically targeted black communities in its advertisements and promotional efforts for menthol cigarettes (5).

In 2005, the cigarette industry spent \$13.1 billion in advertising and promotion, down from \$14.1 billion in 2004 (6). Since the 1998 Master Settlement Agreement,* which prohibits tobacco advertising that targets persons aged <18 years,

* Available at <http://www.naag.org/backpages/naag/tobacco/msa>.

cigarette advertising expenditures in magazines with more than 15% youth readership have decreased (7).[†] However, alternative promotional strategies likely are being used to reach youth, including sample distribution, point-of-sale promotion, specialty item distribution, and sponsorship of public entertainment (7). NYTS data indicate that although self-reported youth exposure to protobacco messages declined during 2000–2004 in all media channels except the Internet, most youth in the United States remain exposed to protobacco messages: in 2004, 81% saw images of smoking on television or in movies, 85% saw tobacco advertisements in stores, 50% saw tobacco advertisements in newspapers and magazines, and 33% saw tobacco advertisements on the Internet (8). The National Cancer Institute and the Institute of Medicine have recommended that stronger and more comprehensive regulations are needed to protect youth from exposure to all forms of advertising and promotional activities by tobacco companies (1,9).

The findings in this report are subject to at least three limitations. First, because the NYTS is limited to youth who are attending middle or high school, the findings might not be generalizable to youth who have dropped out of school. During 2005, nationally, 3% of persons aged 16 years, 4% of persons aged 17 years, and 8% of persons aged 18 years had dropped out of school (10). The dropout rate also varies by race/ethnicity. Second, data were collected by self-report and students might underreport or overreport their tobacco use. Finally, because established student smokers were the focus of this report, sample sizes are small among some racial/ethnic groups; estimates for these groups should be interpreted with caution. The effect of these limitations on estimates of brand use is unknown.

Tobacco advertising and promotional activities are important catalysts that can prompt smoking initiation, especially among youth (1).[§] Knowing the cigarette brand preferences of middle and high school students who are established smokers and the advertising and marketing used to promote these brands provides information that can be incorporated into targeted mass media campaigns to counter those messages and reduce smoking initiation. Mass media campaigns, combined with other interventions, are one component of comprehensive tobacco control initiatives that have been effective in reducing smoking initiation; other effective components include increasing the unit price of tobacco products, and implementing

smoke-free indoor air policies and legislation.[¶] The Institute for Medicine concluded that funding comprehensive tobacco control programs at levels recommended by CDC is needed to decrease initiation among youth and young adults and increase cessation among youth and adults (9).

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Update: Influenza Activity – United States, September 28, 2008–January 31, 2009

From September 28, 2008, to January 31, 2009, influenza activity remained low in the United States but began to increase at the end of January. Thus far during the 2008–09 influenza season, influenza A viruses have predominated and are antigenically related to the 2008–09 influenza vaccine

[†] The 15% youth readership criterion was identified in the Master Settlement Agreement between California and R.J. Reynolds.

[§] Youth exposure to tobacco advertising and promotional activities can have a significant effect on the rate of youth initiation of smoking by influencing youth's perceptions of the popularity, image, and social meaning of smoking.

[¶] CDC's *Guide to Community Preventive Services* reviews the effectiveness of interventions to reduce or prevent tobacco use and is available at <http://www.thecommunityguide.org/tobacco/#initiation>.

strains. Oseltamivir resistance has been detected in nearly all of the influenza A (H1N1) viruses tested so far during the 2008–09 season, with high levels of adamantane resistance among influenza A (H3N2) viruses. This report summarizes U.S. influenza activity* since the last update (*I*) and reviews interim recommendations for the use of influenza antiviral medications.

Viral Surveillance

During September 28, 2008–January 31, 2009, approximately 150 World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System collaborating laboratories in the United States tested 81,842 respiratory specimens for influenza viruses; 4,336 (5.3%) were positive (Figure 1). Of these, 3,641 (84.0%) were influenza A viruses and 695 (16.0%) were influenza B viruses. Among the 3,641 influenza A viruses, 1,305 (35.8%) were subtyped; 1,135 (87.0%) were influenza A (H1), and 170 (13.0%) were influenza A (H3) viruses. Influenza virus–positive tests have been reported from 46 states and the District of Columbia in all nine of the surveillance regions since September 28, 2008.

Antigenic Characterization

WHO collaborating laboratories in the United States are requested to submit a subset of their influenza-positive respiratory specimens to CDC for further antigenic characterization. CDC has antigenically characterized 255 influenza viruses collected by U.S. laboratories during the 2008–09 season, including 142 influenza A (H1N1), 35 influenza A (H3N2), and 78 influenza B viruses. All influenza A (H1N1) and A (H3N2) viruses and 23 (29.5%) influenza B viruses were antigenically related to the components included in the 2008–09 influenza vaccine (A/Brisbane/59/2007-like [H1N1], A/Brisbane/10/2007-like [H3N2], and B/Florida/04/2006-like). The other 55 (70.5%) influenza B viruses belonged to the B/Victoria/02/87 lineage.

Antiviral Resistance of Influenza Virus Isolates

CDC conducts surveillance for resistance of circulating influenza viruses to licensed antiviral medications: adamantanes

*The CDC influenza surveillance system collects five categories of information from 10 data sources: 1) viral surveillance (U.S. World Health Organization collaborating laboratories, the National Respiratory and Enteric Virus Surveillance System, and novel influenza A virus case reporting), 2) outpatient illness surveillance (U.S. Influenza Sentinel Provider Surveillance Network and the U.S. Department of Veterans Affairs/U.S. Department of Defense BioSense Outpatient Surveillance System), 3) mortality (122 Cities Mortality Reporting System and influenza-associated pediatric mortality reports), 4) hospitalizations (Emerging Infections Program and New Vaccine Surveillance Network), and 5) summary of geographic spread of influenza (state and territorial epidemiologist reports).

(amantadine and rimantadine) and neuraminidase inhibitors (zanamivir and oseltamivir). Since October 1, 2008, 308 influenza viruses from 26 states have been tested for resistance to antiviral medications (Table 1). Of the 190 influenza A (H1N1) viruses tested, 185 (97.4%) were resistant to oseltamivir and all were susceptible to zanamivir. All 41 influenza A (H3N2) and all 77 influenza B viruses tested were susceptible to oseltamivir and zanamivir. Two influenza A (H1N1) viruses (1.1%) and all 41 influenza A (H3N2) viruses tested were resistant to adamantanes. None of the influenza A (H1N1) viruses tested were resistant to both oseltamivir and adamantanes. The adamantanes are not effective against influenza B viruses. CDC has solicited a representative sample of viruses from WHO collaborating laboratories in the United States for resistance testing throughout the season, and more specimens are expected as influenza activity increases.

Novel Influenza A Viruses

In addition to the case reported from Texas in the previous update (*I*), one case of human infection with a novel influenza A virus was reported from South Dakota during the week ending January 31, 2009. A man aged 19 years was infected with swine influenza A (H1N1) virus in December 2008. The patient recovered fully. Investigation into swine exposure is ongoing.

State-Specific Activity Levels

For the week ending January 31, 2009, influenza activity[†] was reported as widespread in five states (Colorado, Delaware, New York, Texas, and Virginia) and regional in 21 others. Thirteen states and the District of Columbia reported local activity, and 11 states and Puerto Rico reported sporadic activity.

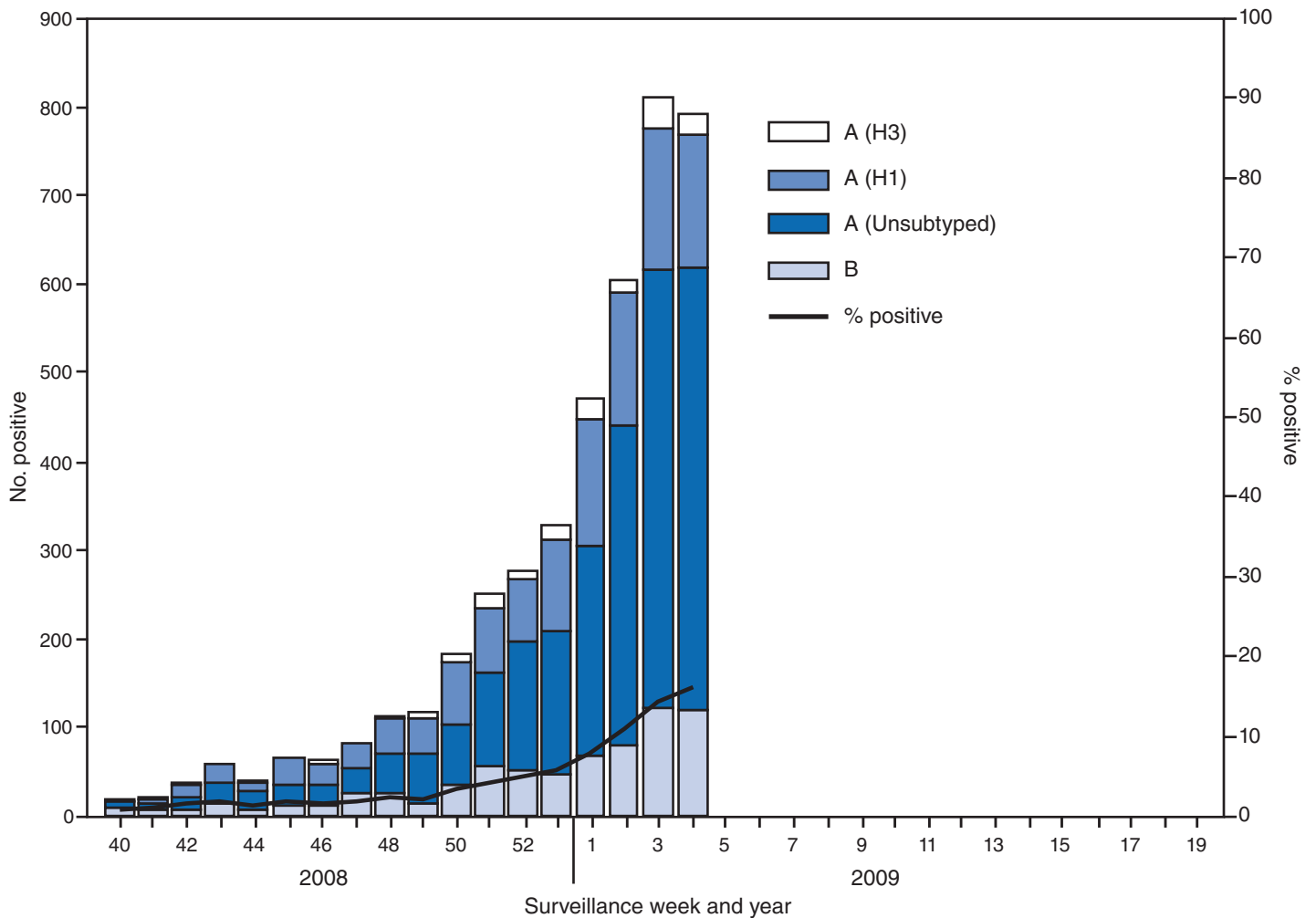
Outpatient Illness Surveillance

Since September 28, 2008, the weekly percentage of outpatient visits for influenza-like illness (ILI)[§] reported by approximately 1,500 U.S. sentinel providers comprising the U.S. Outpatient ILI Surveillance Network (ILINet), has ranged

[†] The five levels of activity are 1) no activity; 2) sporadic: isolated laboratory-confirmed influenza cases or a laboratory-confirmed outbreak in one institution, with no increase in activity; 3) local: increased influenza-like illness (ILI), or at least two institutional outbreaks (ILI or laboratory-confirmed influenza) in one region with recent laboratory evidence of influenza in that region, and virus activity no greater than sporadic in other regions; 4) regional: increased ILI activity or institutional outbreaks (ILI or laboratory-confirmed influenza) in at least two but less than half of the regions in the state with recent laboratory evidence of influenza in those regions; and 5) widespread: increased ILI activity or institutional outbreaks (ILI or laboratory-confirmed influenza) in at least half the regions in the state with recent laboratory evidence of influenza in the state.

[§] Defined as a temperature of $\geq 100.0^{\circ}\text{F}$ ($\geq 37.8^{\circ}\text{C}$), oral or equivalent, and cough and/or sore throat, in the absence of a known cause other than influenza.

FIGURE 1. Number* and percentage of respiratory virus specimens testing positive for influenza reported to CDC by U.S. World Health Organization/National Respiratory and Enteric Virus Surveillance System collaborating laboratories, by surveillance week — United States, 2008–09 influenza season



* N = 4,366 (of 81,842 tested).

from 0.9% to 2.3%, which was reported during the most recent surveillance week (Figure 2). This is below the national baseline of 2.4% based on a 3-year average of noninfluenza weeks.[‡] Four surveillance regions (East North Central, East South Central, New England, and West South Central) reported levels at or above their respective region-specific baselines. The five other surveillance regions reported percentages below their region-specific baselines.

[‡] The national and regional baselines are the mean percentage of visits for ILI during noninfluenza weeks for the previous three seasons plus two standard deviations. A noninfluenza week is a week during which <10% of specimens tested positive for influenza. National and regional percentages of patient visits for ILI are weighted on the basis of state population. Use of the national baseline for regional data is not appropriate.

Pneumonia- and Influenza-Related Mortality

For the week ending January 31, 2009, pneumonia or influenza was reported as an underlying or contributing cause of death for 7.0% of all deaths reported to the 122 Cities Mortality Reporting System. This is below the epidemic threshold of 7.9% for that week. Since September 28, 2008, the weekly percentage of deaths attributed to pneumonia and influenza ranged from 6.0% to 7.5%, remaining below the epidemic threshold.**

** The seasonal baseline proportion of pneumonia and influenza deaths is projected using a robust regression procedure in which a periodic regression model is applied to the observed percentage of deaths from pneumonia and influenza that were reported by the 122 Cities Mortality Reporting System during the preceding 5 years. The epidemic threshold is 1.645 standard deviations above the seasonal baseline.

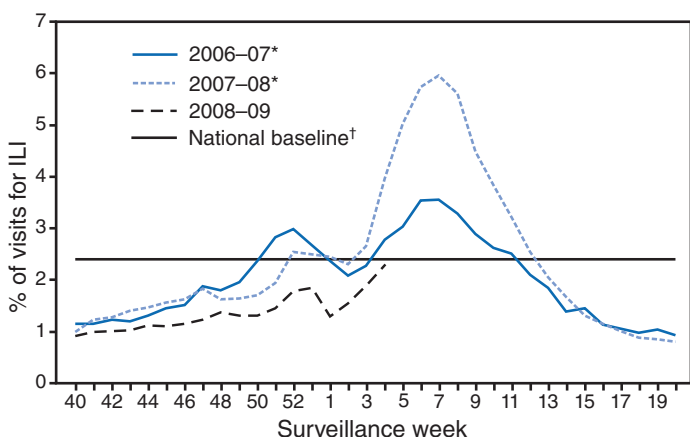
TABLE. Number and percentage of influenza viruses tested for resistance to influenza antiviral medications, by virus type — United States, October 1, 2008–January 31, 2009

Virus	No. of isolates tested	Resistant to oseltamivir*		No. of isolates tested	Resistant to adamantanes†	
		No.	(%)		No.	(%)
Influenza A (H1N1)	190	185	(97.4)	190	2	(1.1)
Influenza A (H3N2)	41	—	(0)	41	41	(100)
Influenza B	77	—	(0)	—†	—†	—†

* None of the tested isolates were resistant to zanamivir.

† Adamantanes (amantadine and rimantadine) are not effective against influenza B viruses.

FIGURE 2. Percentage of visits for influenza-like illness (ILI) reported by U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), by surveillance week — United States, September 28, 2008–January 31, 2009, and 2006–07 and 2007–08 influenza seasons



* Unlike the 2008–09 season, the 2006–07 and 2007–08 seasons did not have a surveillance week 53; therefore, the week 53 data point for those seasons is an average of weeks 52 and 1.

† The national baseline of 2.4% is the mean percentage of visits for ILI during noninfluenza weeks for the previous three seasons plus two standard deviations. A noninfluenza week is a week during which <10% of specimens tested positive for influenza. National percentages of patient visits for ILI are weighted on the basis of state population.

Influenza-Associated Hospitalizations

Hospitalizations associated with laboratory-confirmed influenza infections are monitored by two population-based surveillance networks, the Emerging Infections Program (EIP) and the New Vaccine Surveillance Network (NVSN). No influenza-associated pediatric hospitalizations have been reported in the NVSN this season.

From October 31, 2008, to January 31, 2009, preliminary rates of laboratory-confirmed influenza-associated hospitalization reported by EIP for children aged 0–4 years and 5–17 years were 0.8 per 10,000 and 0.04 per 10,000, respectively. For adults aged 18–49 years, 50–64 years, and ≥65 years, the rates were 0.07, 0.1, and 0.3 per 10,000, respectively.

Influenza-Related Pediatric Mortality

Three influenza-associated pediatric deaths have been reported for the 2008–09 season. Two occurred during the week ending January 10, 2009 (reported from Colorado and Texas), and one during the week ending January 24, 2009 (reported from New York City).

Two of the children had evidence of coinfection with *Staphylococcus aureus*, which was methicillin susceptible in one child and methicillin resistant in the other.

Reported by: WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza. L Brammer, MPH, S Epperson, MPH, L Blanton, MPH, R Dhara, MPH, T Wallis, MS, L Finelli, DrPH, A Fiore, MD, L Gubavera, PhD, J Bresee, MD, A Klimov, PhD, N Cox, PhD, Influenza Div, National Center for Immunization and Respiratory Diseases; C Reed, DSc, EIS Officer, CDC.

Editorial Note: From September 28, 2008, through January 31, 2009, the United States experienced low levels of influenza activity, but levels appeared to be increasing at the end of January. Activity is expected to increase throughout the country over the next few weeks. In 11 of the past 20 seasons, influenza activity has peaked during February or March (2).

In response to increased oseltamivir resistance among circulating influenza A (H1N1) viruses detected through antiviral resistance testing early in the influenza season, on December 19, 2008 CDC issued interim guidelines for the use of influenza antiviral medications (3). Resistance patterns among circulating influenza virus types and subtypes have remained unchanged since that date. Providers are encouraged to review local or state influenza virus surveillance data to determine which types (A or B) and subtypes (H3N2 or H1N1) are circulating in their communities and to consider using diagnostic tests that can distinguish influenza A from influenza B. When influenza A (H1N1) virus infection or exposure is suspected, zanamivir or combination therapy with oseltamivir and rimantadine are more appropriate options than oseltamivir alone.†† Amantadine can be substituted for rimantadine in combination therapy. However, clinical experience with combination therapy is limited. Enhanced surveillance for oseltamivir-resistant viruses is ongoing at CDC, and clinicians should remain alert for changes in recommendations that might occur as the 2008–09 influenza season progresses.

Vaccination remains the cornerstone of influenza prevention efforts. Influenza vaccination can prevent influenza virus infections from strains that are susceptible or resistant to antiviral

†† Available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

medications. Thus far in the season, all influenza A (H1N1) viruses found to be oseltamivir resistant are antigenically similar to the components included in the 2008–09 vaccine. Vaccine is still available, and vaccination efforts should continue throughout the influenza season (which can persist as late as April or May) to protect as many persons from influenza and its complications as possible.

Although influenza activity remains low nationwide, the first pediatric influenza-associated deaths of the 2008–09 season have been reported. Health-care providers should contact their local or state health department as soon as possible when deaths among children associated with laboratory-confirmed influenza are identified. Two deaths in children reported so far this season were associated with evidence of *S. aureus* coinfection. The proportion of pediatric deaths with evidence of *S. aureus* pneumonia or bacteremia increased substantially during the 2006–07 influenza season (4) and remained similarly high last season (CDC, unpublished data, 2008); and coinfection is known to occur in both children and adults. Health-care providers are encouraged to test persons hospitalized with respiratory illness for influenza, including those with suspected community-acquired pneumonia, so that appropriate antiviral treatment can be offered. In addition, providers should be alerted to the possibility of bacterial coinfection among persons with influenza, including both methicillin-susceptible and methicillin-resistant *S. aureus* coinfection, when choosing empiric antibiotic therapy for patients with suspected bacterial coinfection. Consensus guidelines for the management of community acquired pneumonia in adults, including influenza-associated pneumonia, were issued by The Infectious Disease Society of America and the American Thoracic Society in 2007 (5).

Two cases of human infection with swine influenza have been reported so far this season. Although human infection with swine influenza is uncommon, sporadic cases have occurred in past years, usually among persons in direct contact with ill pigs or who have been in places where pigs might have been present (e.g., agricultural fairs and farms). Sporadic cases of

human infections with swine influenza viruses identified in recent years have not resulted in sustained human-to-human transmission or community outbreaks. Nonetheless, when cases are identified, CDC recommends thorough investigations to evaluate the extent of the outbreak and possible human-to-human transmission, because transmission patterns can change with changes in swine influenza viruses.

CDC continues to conduct surveillance to provide up-to-date recommendations regarding prevention and treatment of influenza. Influenza surveillance reports for the United States are posted online weekly during October–May and are available at <http://www.cdc.gov/flu/weekly/fluactivity.htm>. Additional information regarding influenza viruses, influenza surveillance, influenza vaccine, and avian influenza is available at <http://www.cdc.gov/flu>.

Acknowledgments

This report is based, in part, on data contributed by participating state and territorial health departments and state public health laboratories, WHO collaborating laboratories, National Respiratory and Enteric Virus Surveillance System collaborating laboratories, the U.S. Influenza Sentinel Provider Surveillance System, and the 122 Cities Mortality Reporting System.

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TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending February 7, 2009 (5th week)*

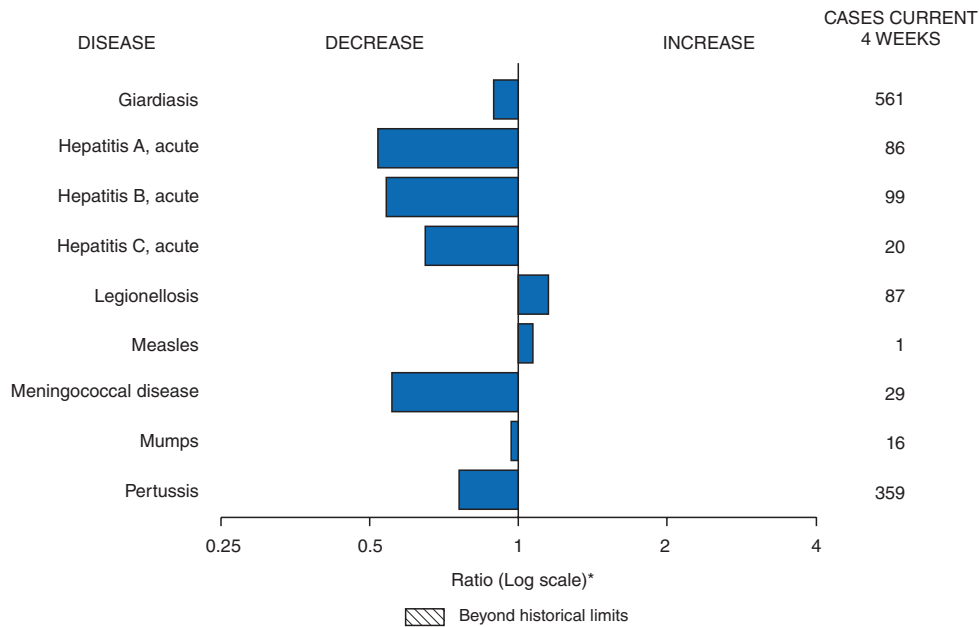
Disease	Current week	Cum 2009	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2008	2007	2006	2005	2004	
Anthrax	—	—	—	—	1	1	—	—	
Botulism:									
foodborne	3	3	0	14	32	20	19	16	WA (3)
infant	—	2	2	99	85	97	85	87	
other (wound and unspecified)	—	2	0	21	27	48	31	30	
Brucellosis	—	2	1	81	131	121	120	114	
Chancroid	—	3	0	29	23	33	17	30	
Cholera	—	—	0	3	7	9	8	6	
Cyclosporiasis§	3	9	2	131	93	137	543	160	NY (1), FL (2)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup	—	—	—	41	55	67	80	112	
eastern equine	—	—	—	3	4	8	21	6	
Powassan	—	—	—	1	7	1	1	1	
St. Louis	—	—	0	10	9	10	13	12	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§,**:									
<i>Ehrlichia chaffeensis</i>	—	9	2	880	828	578	506	338	
<i>Ehrlichia ewingii</i>	—	—	—	9	—	—	—	—	
<i>Anaplasma phagocytophilum</i>	1	1	1	578	834	646	786	537	NC (1)
undetermined	—	—	0	72	337	231	112	59	
<i>Haemophilus influenzae</i> ††									
invasive disease (age <5 yrs):									
serotype b	—	2	1	29	22	29	9	19	
nonsерotype b	1	13	4	177	199	175	135	135	FL (1)
unknown serotype	2	22	5	188	180	179	217	177	PA (1), AZ (1)
Hansen disease§	3	4	1	72	101	66	87	105	PA (1), CA (2)
Hantavirus pulmonary syndrome§	—	—	0	16	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal§	—	4	1	245	292	288	221	200	
Hepatitis C viral, acute	4	47	15	855	845	766	652	720	NY (1), MO (1), WV (1), GA (1)
HIV infection, pediatric (age <13 years)§§	—	—	3	—	—	—	380	436	
Influenza-associated pediatric mortality§,¶¶	1	4	2	88	77	43	45	—	TN (1)
Listeriosis	7	40	9	699	808	884	896	753	NY (3), MN (1), WA (1), CA (2)
Measles***	—	1	1	132	43	55	66	37	
Meningococcal disease, invasive†††:									
A, C, Y, and W-135	2	8	7	313	325	318	297	—	IN (1), CO (1)
serogroup B	—	5	3	168	167	193	156	—	
other serogroup	2	2	1	30	35	32	27	—	AZ (2)
unknown serogroup	4	34	16	591	550	651	765	—	OH (1), KS (1), OR (1), CA (1)
Mumps	4	28	10	406	800	6,584	314	258	MD (3), WA (1)
Novel influenza A virus infections	—	—	—	2	4	N	N	N	
Plague	—	—	—	1	7	17	8	3	
Poliomyelitis, paralytic	—	—	—	—	—	—	1	—	
Polio virus infection, nonparalytic§	—	—	—	—	—	N	N	N	
Psittacosis§	—	—	0	10	12	21	16	12	
Q fever total§,§§§:	—	3	2	99	171	169	136	70	
acute	—	2	1	87	—	—	—	—	
chronic	—	1	—	12	—	—	—	—	
Rabies, human	—	—	0	1	1	3	2	7	
Rubella¶¶¶	—	—	0	16	12	11	11	10	
Rubella, congenital syndrome	—	—	—	—	—	1	1	—	
SARS-CoV§,****	—	—	—	—	—	—	—	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	—	4	3	135	132	125	129	132	
Syphilis, congenital (age <1 yr)	—	—	7	246	430	349	329	353	
Tetanus	1	1	0	16	28	41	27	34	TX (1)
Toxic-shock syndrome (staphylococcal)§	—	5	2	72	92	101	90	95	
Trichinellosis	2	4	0	37	5	15	16	5	CA (2)
Tularemia	—	1	0	110	137	95	154	134	
Typhoid fever	8	23	6	407	434	353	324	322	CT (1), MD (1), FL (1), MS (1), CA (4)
Vancomycin-intermediate <i>Staphylococcus aureus</i> §	—	3	0	42	37	6	2	—	
Vancomycin-resistant <i>Staphylococcus aureus</i> §	—	—	—	—	2	1	3	1	
Vibriosis (noncholera <i>Vibrio</i> species infections)§	1	12	1	452	549	N	N	N	MD (1)
Yellow fever	—	—	—	—	—	—	—	—	

See Table I footnotes on next page.

TABLE I. (Continued) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending February 7, 2009 (5th week)*

—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.
 * Incidence data for reporting year 2008 and 2009 are provisional, whereas data for 2004, 2005, 2006, and 2007 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 starting in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.
 ¶ Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.
 ** 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. Four influenza-associated pediatric deaths occurring during the 2008-09 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.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals February 7, 2009, 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 February 7, 2009, and February 2, 2008 (5th week)*

Table with 16 columns: Reporting area, Current week, Previous 52 weeks (Med, Max), Cum 2009, Cum 2008, Current week, Previous 52 weeks (Med, Max), Cum 2009, Cum 2008, Current week, Previous 52 weeks (Med, Max), Cum 2009, Cum 2008. Rows include United States, New England, Mid. Atlantic, E.N. Central, W.N. Central, S. Atlantic, E.S. Central, W.S. Central, Mountain, and Pacific regions with their respective sub-states.

C.N.M.I.: Commonwealth of Northern Mariana Islands. U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum. * Incidence data for reporting year 2008 and 2009 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 February 7, 2009, and February 2, 2008 (5th week)*

Reporting area	Lyme disease				Malaria				Meningococcal disease, invasive† All serotypes						
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	70	448	1,455	389	645	15	20	44	59	83	8	17	48	49	90
New England	7	45	260	29	104	—	0	6	1	4	—	0	3	—	4
Connecticut	—	0	0	—	—	—	0	3	—	—	—	0	1	—	—
Maine§	4	6	73	4	—	—	0	0	—	1	—	0	1	—	—
Massachusetts	—	9	114	—	72	—	0	2	—	3	—	0	3	—	4
New Hampshire	1	13	141	11	29	—	0	2	—	—	—	0	0	—	—
Rhode Island§	—	0	0	—	—	—	0	1	—	—	—	0	1	—	—
Vermont§	2	4	40	14	3	—	0	1	1	—	—	0	0	—	—
Mid. Atlantic	17	250	1,005	163	358	1	4	14	7	16	—	2	6	3	10
New Jersey	—	29	211	21	115	—	0	0	—	—	—	0	2	—	3
New York (Upstate)	14	99	929	36	16	1	0	8	5	2	—	0	3	—	2
New York City	—	0	5	—	8	—	3	10	—	11	—	0	2	1	2
Pennsylvania	3	94	533	106	219	—	1	3	2	3	—	1	5	2	3
E.N. Central	1	12	146	19	33	—	2	7	3	22	2	3	9	9	20
Illinois	—	1	12	—	2	—	1	5	—	12	—	1	5	—	9
Indiana	—	0	8	—	—	—	0	2	—	—	1	0	4	1	1
Michigan	—	1	10	1	2	—	0	2	—	3	—	0	3	1	5
Ohio	—	1	5	1	1	—	0	2	3	7	1	1	4	7	4
Wisconsin	1	9	129	17	28	—	0	3	—	—	—	0	2	—	1
W.N. Central	—	8	171	—	3	—	1	10	2	1	1	2	8	6	8
Iowa	—	1	8	—	3	—	0	3	—	—	—	0	3	—	3
Kansas	—	0	1	—	—	—	0	2	1	—	1	0	2	1	1
Minnesota	—	4	171	—	—	—	0	8	1	—	—	0	7	2	—
Missouri	—	0	1	—	—	—	0	3	—	—	—	0	3	3	2
Nebraska§	—	0	2	—	—	—	0	2	—	1	—	0	1	—	1
North Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	1
S. Atlantic	40	64	219	151	127	14	4	15	32	21	—	3	10	10	12
Delaware	2	12	37	24	34	—	0	1	1	—	—	0	1	—	—
District of Columbia	—	2	11	—	5	—	0	2	—	—	—	0	0	—	—
Florida	2	2	10	13	2	4	1	7	9	7	—	1	3	4	6
Georgia	—	0	3	1	—	—	1	5	3	6	—	0	2	1	1
Maryland§	33	30	158	100	74	5	1	7	8	7	—	0	4	—	1
North Carolina	3	0	7	5	—	5	0	7	8	—	—	0	3	3	—
South Carolina§	—	0	2	2	1	—	0	1	1	—	—	0	3	1	3
Virginia§	—	13	53	6	9	—	1	3	2	1	—	0	2	1	1
West Virginia	—	1	11	—	2	—	0	0	—	—	—	0	1	—	—
E.S. Central	1	1	5	2	1	—	0	2	3	2	—	1	6	—	7
Alabama§	—	0	2	—	—	—	0	1	—	1	—	0	2	—	—
Kentucky	—	0	2	—	—	—	0	1	—	1	—	0	1	—	4
Mississippi	—	0	1	—	—	—	0	1	—	—	—	0	2	—	—
Tennessee§	1	0	3	2	1	—	0	2	3	—	—	0	3	—	3
W.S. Central	—	2	8	—	—	—	1	11	—	2	—	2	7	3	6
Arkansas§	—	0	0	—	—	—	0	0	—	—	—	0	2	1	—
Louisiana	—	0	1	—	—	—	0	1	—	—	—	0	3	1	5
Oklahoma	—	0	0	—	—	—	0	2	—	1	—	0	3	—	1
Texas§	—	2	8	—	—	—	1	11	—	1	—	1	5	1	—
Mountain	—	0	16	2	2	—	0	3	—	3	3	1	4	5	7
Arizona	—	0	2	—	1	—	0	2	—	2	2	0	2	2	—
Colorado	—	0	1	1	—	—	0	1	—	1	1	0	1	1	1
Idaho§	—	0	1	—	1	—	0	1	—	—	—	0	1	1	1
Montana§	—	0	16	1	—	—	0	0	—	—	—	0	1	—	—
Nevada§	—	0	2	—	—	—	0	3	—	—	—	0	1	1	1
New Mexico§	—	0	2	—	—	—	0	1	—	—	—	0	1	—	1
Utah	—	0	1	—	—	—	0	1	—	—	—	0	1	—	3
Wyoming§	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
Pacific	4	4	18	23	17	—	3	10	11	12	2	5	19	13	16
Alaska	—	0	2	—	—	—	0	2	—	—	—	0	2	1	—
California	4	3	9	21	16	—	2	8	9	8	1	3	19	5	13
Hawaii	N	0	0	N	N	—	0	1	—	1	—	0	1	1	—
Oregon§	—	1	3	2	1	—	0	1	1	3	1	1	3	3	3
Washington	—	0	11	—	—	—	0	7	1	—	—	0	5	3	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	2	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	1	—	—	0	1	—	—
U.S. Virgin Islands	N	0	0	N	N	—	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 year 2008 and 2009 are provisional.

† Data for meningococcal disease, invasive caused by serogroups A, C, Y, and 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 February 7, 2009, and February 2, 2008 (5th week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	87	182	540	730	810	37	103	169	198	416	13	33	146	56	18
New England	—	9	26	19	139	3	6	20	14	17	—	0	2	—	1
Connecticut	—	0	4	—	10	1	3	17	8	9	—	0	0	—	—
Maine†	—	1	5	11	6	1	1	5	3	2	N	0	0	N	N
Massachusetts	—	7	17	—	115	N	0	0	N	N	—	0	0	—	1
New Hampshire	—	1	4	5	3	—	0	3	—	3	—	0	1	—	—
Rhode Island†	—	1	8	1	4	N	0	0	N	N	—	0	2	—	—
Vermont†	—	0	2	2	1	1	1	6	3	3	—	0	0	—	—
Mid. Atlantic	11	18	51	65	81	10	33	67	45	81	—	1	17	—	3
New Jersey	—	1	6	—	8	—	0	0	—	—	—	0	2	—	2
New York (Upstate)	2	7	40	12	17	6	9	20	25	24	—	0	16	—	—
New York City	—	0	4	—	15	—	0	2	—	3	—	0	2	—	1
Pennsylvania	9	9	35	53	41	4	21	52	20	54	—	0	2	—	—
E.N. Central	28	35	169	221	290	—	3	29	3	1	—	1	15	—	1
Illinois	—	9	44	45	16	—	1	21	1	1	—	1	11	—	1
Indiana	2	1	96	11	2	—	0	2	—	—	—	0	3	—	—
Michigan	6	6	16	53	17	—	1	9	2	—	—	0	1	—	—
Ohio	20	10	57	110	244	—	1	7	—	—	—	0	4	—	—
Wisconsin	—	2	7	2	11	N	0	0	N	N	—	0	1	—	—
W.N. Central	12	20	118	178	79	—	3	13	1	8	—	4	32	1	1
Iowa	—	3	21	—	12	—	0	5	—	1	—	0	2	—	—
Kansas	—	1	13	6	2	—	0	0	—	—	—	0	0	—	—
Minnesota	—	2	71	—	—	—	0	10	—	3	—	0	0	—	—
Missouri	7	6	50	145	57	—	1	8	—	—	—	4	31	1	1
Nebraska†	5	2	33	25	6	—	0	0	—	—	—	0	4	—	—
North Dakota	—	0	1	—	—	—	0	7	—	2	—	0	0	—	—
South Dakota	—	0	7	2	2	—	0	2	1	2	—	0	1	—	—
S. Atlantic	8	18	44	105	55	23	34	88	106	286	13	14	71	51	8
Delaware	—	0	3	4	—	—	0	0	—	—	—	0	5	—	—
District of Columbia	—	0	1	—	2	—	0	0	—	—	—	0	2	—	—
Florida	6	6	20	41	8	3	0	3	8	139	—	0	3	—	—
Georgia	—	1	8	1	3	14	6	47	61	23	—	1	8	1	2
Maryland†	1	2	8	8	12	—	7	17	6	42	—	1	7	4	4
North Carolina	—	0	16	35	18	6	9	16	18	33	13	5	55	43	1
South Carolina†	1	2	11	10	3	—	0	0	—	—	—	1	9	1	—
Virginia†	—	3	22	6	9	—	10	24	9	49	—	2	15	2	—
West Virginia	—	0	2	—	—	—	1	9	4	—	—	0	1	—	1
E.S. Central	3	8	29	56	33	1	3	7	8	9	—	3	23	2	2
Alabama†	—	1	5	3	8	—	0	0	—	—	—	1	8	1	1
Kentucky	2	3	12	39	4	1	0	4	8	3	—	0	1	—	—
Mississippi	—	2	5	7	16	—	0	1	—	1	—	0	3	—	—
Tennessee†	1	2	14	7	5	—	2	6	—	5	—	2	19	1	1
W.S. Central	8	31	161	32	15	—	1	11	3	4	—	2	41	1	1
Arkansas†	—	1	20	—	7	—	0	6	2	4	—	0	14	1	—
Louisiana	—	1	7	2	—	—	0	0	—	—	—	0	1	—	1
Oklahoma	1	0	21	4	—	—	0	10	1	—	—	0	26	—	—
Texas†	7	26	154	26	8	—	0	1	—	—	—	1	6	—	—
Mountain	13	15	34	36	73	—	1	8	9	3	—	1	3	1	1
Arizona	—	3	10	6	18	N	0	0	N	N	—	0	2	—	—
Colorado	13	3	7	23	29	—	0	0	—	—	—	0	1	—	—
Idaho†	—	1	5	4	1	—	0	0	—	—	—	0	1	—	—
Montana†	—	0	11	—	4	—	0	2	1	—	—	0	1	—	—
Nevada†	—	0	7	2	1	—	0	4	—	—	—	0	2	—	—
New Mexico†	—	1	8	—	—	—	0	3	2	2	—	0	1	—	1
Utah	—	4	17	1	17	—	0	6	—	—	—	0	1	1	—
Wyoming†	—	0	2	—	3	—	0	4	6	1	—	0	2	—	—
Pacific	4	25	80	18	45	—	4	13	9	7	—	0	1	—	—
Alaska	—	3	21	8	12	—	0	4	2	4	N	0	0	N	N
California	—	8	23	—	13	—	3	12	7	3	—	0	1	—	—
Hawaii	—	0	2	1	2	—	0	0	—	—	N	0	0	N	N
Oregon†	—	3	10	3	12	—	0	2	—	—	—	0	1	—	—
Washington	4	6	74	6	6	—	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	—	—	—	1	5	1	4	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

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

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

* Incidence data for reporting year 2008 and 2009 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 February 7, 2009, and February 2, 2008 (5th week)*

Reporting area	Streptococcal diseases, invasive, group A				<i>Streptococcus pneumoniae</i> , invasive disease, nondrug resistant† Age <5 years					
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max		
United States	86	88	182	417	524	28	33	55	120	208
New England	1	4	31	6	26	1	1	11	2	14
Connecticut	—	0	26	—	—	—	0	11	—	—
Maine§	—	0	3	1	2	—	0	1	—	—
Massachusetts	—	1	8	—	22	—	0	4	—	11
New Hampshire	—	0	2	2	2	1	0	1	1	3
Rhode Island§	—	0	8	1	—	—	0	2	—	—
Vermont§	1	0	3	2	—	—	0	1	1	—
Mid. Atlantic	16	16	43	66	117	1	3	18	8	37
New Jersey	—	2	11	—	27	—	1	4	2	9
New York (Upstate)	9	6	21	28	31	1	2	18	6	11
New York City	—	3	10	4	24	—	0	5	—	17
Pennsylvania	7	7	16	34	35	N	0	2	N	N
E.N. Central	10	16	42	84	100	4	6	11	21	45
Illinois	—	5	16	19	27	—	1	5	—	15
Indiana	2	2	19	9	10	—	0	5	2	2
Michigan	—	3	9	11	27	—	1	5	4	11
Ohio	8	5	14	37	29	3	1	4	13	11
Wisconsin	—	1	10	8	7	1	0	4	2	6
W.N. Central	8	5	39	23	23	4	2	11	11	11
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	3	0	5	5	6	—	0	3	2	2
Minnesota	—	0	35	—	—	1	0	9	3	—
Missouri	2	2	10	8	12	2	1	2	5	7
Nebraska§	3	1	3	8	3	—	0	1	—	2
North Dakota	—	0	3	—	—	—	0	2	—	—
South Dakota	—	0	2	2	2	1	0	1	1	—
S. Atlantic	23	21	37	120	118	9	6	16	39	39
Delaware	—	0	2	3	—	—	0	0	—	—
District of Columbia	—	0	4	—	2	—	0	1	—	—
Florida	7	5	10	29	34	3	1	4	9	4
Georgia	6	5	14	36	31	3	1	6	14	9
Maryland§	8	3	8	20	24	2	1	4	7	12
North Carolina	2	3	10	11	2	N	0	0	N	N
South Carolina§	—	1	5	11	8	1	1	6	7	8
Virginia§	—	2	9	7	14	—	0	6	—	6
West Virginia	—	0	3	3	3	—	0	2	2	—
E.S. Central	3	3	9	21	12	—	2	6	1	5
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	3	5	3	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	3	—	3
Tennessee§	3	3	6	16	9	—	1	5	1	2
W.S. Central	17	9	40	42	30	5	5	21	15	17
Arkansas§	—	0	2	—	—	—	0	2	1	2
Louisiana	—	0	1	—	4	—	0	3	4	1
Oklahoma	7	2	8	22	7	2	1	3	3	5
Texas§	10	6	37	20	19	3	3	18	7	9
Mountain	6	9	20	43	83	4	4	11	22	35
Arizona	1	3	8	14	27	1	2	7	14	22
Colorado	5	2	10	18	23	3	1	4	5	6
Idaho§	—	0	2	—	2	—	0	1	—	1
Montana§	N	0	0	N	N	—	0	1	—	—
Nevada§	—	0	1	—	2	N	0	0	N	N
New Mexico§	—	1	8	9	20	—	0	3	2	2
Utah	—	1	4	1	9	—	0	4	1	4
Wyoming§	—	0	2	1	—	—	0	1	—	—
Pacific	2	3	8	12	15	—	0	2	1	5
Alaska	—	1	4	2	3	N	0	0	N	N
California	—	0	0	—	—	N	0	0	N	N
Hawaii	2	2	8	10	12	—	0	2	1	5
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	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	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

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

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

* Incidence data for reporting year 2008 and 2009 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 February 7, 2009, and February 2, 2008 (5th week)*

Reporting area	<i>Streptococcus pneumoniae</i> , invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages					Aged <5 years									
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
	Med	Max				Med	Max				Med	Max			
United States	60	52	105	293	404	7	8	23	29	41	94	240	433	834	1,059
New England	—	1	48	3	7	—	0	5	—	—	3	5	14	29	22
Connecticut	—	0	48	—	—	—	0	5	—	—	2	0	3	4	—
Maine§	—	0	2	—	2	—	0	1	—	—	—	0	2	—	—
Massachusetts	—	0	0	—	—	—	0	0	—	—	1	4	11	21	19
New Hampshire	—	0	0	—	—	—	0	0	—	—	—	0	2	4	1
Rhode Island§	—	0	2	—	3	—	0	1	—	—	—	0	5	—	2
Vermont§	—	0	2	3	2	—	0	1	—	—	—	0	2	—	—
Mid. Atlantic	3	4	13	11	31	—	0	2	1	1	32	32	52	156	165
New Jersey	—	0	0	—	—	—	0	0	—	—	—	3	9	10	25
New York (Upstate)	1	1	6	3	4	—	0	1	1	—	1	2	7	4	6
New York City	—	1	6	—	9	—	0	0	—	—	29	20	36	124	102
Pennsylvania	2	1	9	8	18	—	0	2	—	1	2	5	12	18	32
E.N. Central	5	11	41	49	108	1	2	7	5	16	20	16	239	93	78
Illinois	—	0	7	—	37	—	0	2	—	7	—	2	230	18	16
Indiana	—	2	31	—	16	—	0	5	—	1	3	3	10	11	9
Michigan	1	0	3	3	4	—	0	1	—	1	7	3	18	25	13
Ohio	4	7	18	46	51	1	1	4	5	7	9	6	15	34	35
Wisconsin	—	0	0	—	—	—	0	0	—	—	1	1	3	5	5
W.N. Central	1	2	9	9	31	1	0	2	3	1	1	8	14	22	45
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	—	—
Kansas	1	1	5	2	12	1	0	1	2	1	1	0	5	1	—
Minnesota	—	0	0	—	—	—	0	0	—	—	—	2	6	5	10
Missouri	—	1	5	7	19	—	0	1	1	—	—	4	10	14	34
Nebraska§	—	0	0	—	—	—	0	0	—	—	—	0	2	2	1
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	1	—	—	—	0	1	—	—	—	0	1	—	—
S. Atlantic	45	22	53	180	158	4	4	13	14	15	11	55	107	158	169
Delaware	—	0	1	1	—	—	0	0	—	—	1	0	4	6	—
District of Columbia	—	0	3	—	4	—	0	1	—	—	1	2	9	24	13
Florida	26	14	30	109	100	—	2	12	7	12	—	19	37	55	78
Georgia	17	7	23	58	46	4	1	5	7	2	—	13	65	—	6
Maryland§	—	0	2	1	2	—	0	0	—	1	—	7	14	10	20
North Carolina	N	0	0	N	N	N	0	0	N	N	9	5	19	50	24
South Carolina§	—	0	0	—	—	—	0	0	—	—	—	2	6	3	12
Virginia§	N	0	0	N	N	N	0	0	N	N	—	5	16	10	16
West Virginia	2	1	9	11	6	—	0	2	—	—	—	0	1	—	—
E.S. Central	6	5	20	28	45	1	1	4	4	3	17	21	37	100	91
Alabama§	N	0	0	N	N	N	0	0	N	N	2	8	17	31	45
Kentucky	3	1	6	12	9	1	0	2	3	1	1	1	10	7	7
Mississippi	—	0	2	—	—	—	0	1	—	—	9	3	18	15	7
Tennessee§	3	3	18	16	36	—	0	3	1	2	5	8	19	47	32
W.S. Central	—	2	7	7	15	—	0	2	1	3	3	42	65	146	186
Arkansas§	—	0	4	5	1	—	0	1	1	—	1	3	19	30	8
Louisiana	—	1	6	2	14	—	0	1	—	3	2	10	31	9	34
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	7	4	16
Texas§	—	0	0	—	—	—	0	0	—	—	—	26	46	103	128
Mountain	—	1	11	4	8	—	0	4	1	1	—	9	25	13	51
Arizona	—	0	0	—	—	—	0	0	—	—	—	4	13	2	29
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	7	2	8
Idaho§	N	0	1	N	N	N	0	1	N	N	—	0	2	—	—
Montana§	—	0	1	—	—	—	0	0	—	—	—	0	7	—	—
Nevada§	N	0	1	N	N	N	0	0	N	N	—	1	6	7	9
New Mexico§	—	0	1	—	—	—	0	0	—	—	—	1	4	2	5
Utah	—	1	10	1	8	—	0	4	1	1	—	0	18	—	—
Wyoming§	—	0	2	3	—	—	0	0	—	—	—	0	1	—	—
Pacific	—	0	1	2	1	—	0	1	—	1	7	44	71	117	252
Alaska	N	0	0	N	N	N	0	0	N	N	—	0	1	—	—
California	N	0	0	N	N	N	0	0	N	N	7	39	65	104	222
Hawaii	—	0	1	2	1	—	0	1	—	1	—	0	3	4	4
Oregon§	N	0	0	N	N	N	0	0	N	N	—	0	3	3	2
Washington	N	0	0	N	N	N	0	0	N	N	—	3	9	6	24
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	—	3	11	12	5
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 year 2008 and 2009 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 February 7, 2009, and February 2, 2008 (5th week)*

Reporting area	West Nile virus disease†														
	Varicella (chickenpox)					Neuroinvasive					Nonneuroinvasive§				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
	Med	Max				Med	Max				Med	Max			
United States	330	493	1,011	1,730	2,584	—	1	75	—	1	—	1	74	—	1
New England	6	10	22	36	77	—	0	2	—	—	0	1	—	—	
Connecticut	—	0	0	—	—	—	0	2	—	—	0	1	—	—	
Maine¶	—	0	0	—	—	—	0	0	—	—	0	0	—	—	
Massachusetts	—	0	1	—	—	—	0	0	—	—	0	0	—	—	
New Hampshire	2	4	10	21	45	—	0	0	—	—	0	0	—	—	
Rhode Island¶¶	—	0	0	—	—	—	0	1	—	—	0	0	—	—	
Vermont¶	4	4	17	15	32	—	0	0	—	—	0	0	—	—	
Mid. Atlantic	39	41	81	185	282	—	0	8	—	—	0	4	—	—	
New Jersey	N	0	0	N	N	—	0	1	—	—	0	1	—	—	
New York (Upstate)	N	0	0	N	N	—	0	5	—	—	0	2	—	—	
New York City	N	0	0	N	N	—	0	2	—	—	0	2	—	—	
Pennsylvania	39	41	81	185	282	—	0	2	—	—	0	1	—	—	
E.N. Central	108	143	312	698	788	—	0	8	—	—	0	3	—	—	
Illinois	15	32	67	164	17	—	0	4	—	—	0	2	—	—	
Indiana	—	0	0	—	—	—	0	1	—	—	0	1	—	—	
Michigan	33	57	116	209	394	—	0	4	—	—	0	2	—	—	
Ohio	59	46	106	308	374	—	0	3	—	—	0	1	—	—	
Wisconsin	1	5	50	17	3	—	0	2	—	—	0	1	—	—	
W.N. Central	9	21	71	99	147	—	0	6	—	1	—	0	21	—	
Iowa	N	0	0	N	N	—	0	2	—	—	0	1	—	—	
Kansas	1	6	40	5	58	—	0	2	—	1	—	0	3	—	
Minnesota	—	0	0	—	—	—	0	2	—	—	0	4	—	—	
Missouri	8	9	51	94	85	—	0	3	—	—	0	1	—	—	
Nebraska¶	N	0	0	N	N	—	0	1	—	—	0	8	—	—	
North Dakota	—	0	39	—	1	—	0	2	—	—	0	11	—	—	
South Dakota	—	0	5	—	3	—	0	5	—	—	0	6	—	—	
S. Atlantic	42	82	173	170	505	—	0	3	—	—	0	3	—	—	
Delaware	—	1	5	—	1	—	0	0	—	—	0	1	—	—	
District of Columbia	—	0	3	—	4	—	0	0	—	—	0	0	—	—	
Florida	35	29	87	136	103	—	0	2	—	—	0	0	—	—	
Georgia	N	0	0	N	N	—	0	1	—	—	0	1	—	—	
Maryland¶	N	0	0	N	N	—	0	2	—	—	0	2	—	—	
North Carolina	N	0	0	N	N	—	0	0	—	—	0	0	—	—	
South Carolina¶	—	12	67	1	74	—	0	0	—	—	0	1	—	—	
Virginia¶	—	19	60	—	225	—	0	0	—	—	0	1	—	—	
West Virginia	7	11	33	33	98	—	0	1	—	—	0	0	—	—	
E.S. Central	—	16	101	16	97	—	0	7	—	—	0	8	—	1	
Alabama¶	—	16	101	16	97	—	0	3	—	—	0	3	—	—	
Kentucky	N	0	0	N	N	—	0	1	—	—	0	0	—	—	
Mississippi	—	0	2	—	—	—	0	4	—	—	0	7	—	—	
Tennessee¶	N	0	0	N	N	—	0	2	—	—	0	3	—	1	
W.S. Central	95	106	435	351	450	—	0	8	—	—	0	7	—	—	
Arkansas¶	—	7	55	—	41	—	0	1	—	—	0	1	—	—	
Louisiana	—	1	10	4	8	—	0	3	—	—	0	5	—	—	
Oklahoma	N	0	0	N	N	—	0	1	—	—	0	1	—	—	
Texas¶	95	99	422	347	401	—	0	6	—	—	0	4	—	—	
Mountain	27	38	90	154	228	—	0	12	—	—	0	22	—	—	
Arizona	—	0	0	—	—	—	0	10	—	—	0	8	—	—	
Colorado	10	14	44	44	107	—	0	4	—	—	0	10	—	—	
Idaho¶	N	0	0	N	N	—	0	1	—	—	0	6	—	—	
Montana¶	12	5	27	52	30	—	0	0	—	—	0	2	—	—	
Nevada¶	N	0	0	N	N	—	0	2	—	—	0	3	—	—	
New Mexico¶	—	3	18	18	30	—	0	1	—	—	0	1	—	—	
Utah	5	11	55	40	59	—	0	2	—	—	0	5	—	—	
Wyoming¶	—	0	4	—	2	—	0	0	—	—	0	2	—	—	
Pacific	4	3	8	21	10	—	0	38	—	—	0	23	—	—	
Alaska	3	1	6	18	1	—	0	0	—	—	0	0	—	—	
California	—	0	0	—	—	—	0	37	—	—	0	20	—	—	
Hawaii	1	1	5	3	9	—	0	0	—	—	0	0	—	—	
Oregon¶	N	0	0	N	N	—	0	2	—	—	0	4	—	—	
Washington	N	0	0	N	N	—	0	1	—	—	0	1	—	—	
American Samoa	N	0	0	N	N	—	0	0	—	—	0	0	—	—	
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Guam	—	2	17	—	4	—	0	0	—	—	0	0	—	—	
Puerto Rico	1	6	20	9	52	—	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 year 2008 and 2009 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 starting 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).

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