



# MMWR™

## Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Weekly

July 24, 2009 / Vol. 58 / No. 28

### Obesity Prevalence Among Low-Income, Preschool-Aged Children – United States, 1998–2008

Childhood obesity continues to be a leading public health concern that disproportionately affects low-income and minority children (1). Children who are obese in their preschool years are more likely to be obese in adolescence and adulthood (2) and to develop diabetes, hypertension, hyperlipidemia, asthma, and sleep apnea (3). One of the *Healthy People 2010* objectives (19-3) is to reduce to 5% the proportion of children and adolescents who are obese (4). CDC's Pediatric Nutrition Surveillance System (PedNSS) is the only source of nationally compiled obesity surveillance data obtained at the state and local level for low-income, preschool-aged children participating in federally funded health and nutrition programs. To describe progress in reducing childhood obesity, CDC examined trends and current prevalence in obesity using PedNSS data submitted by participating states, territories, and Indian tribal organizations during 1998–2008. The findings indicated that obesity prevalence among low-income, preschool-aged children increased steadily from 12.4% in 1998 to 14.5% in 2003, but subsequently remained essentially the same, with a 14.6% prevalence in 2008. Reducing childhood obesity will require effective prevention strategies that focus on environments and policies promoting physical activity and a healthy diet for families, child care centers, and communities.

PedNSS is a state-based surveillance system that monitors the nutritional status of children from birth through age 4 years enrolled in federally funded programs that serve low-income children. For all states except California and North Carolina, data come exclusively from the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).\*

\*Eligibility criteria for WIC includes a family income  $\leq 185\%$  of the poverty income threshold, based on U.S. Poverty Income Guidelines, available at <http://aspe.os.dhhs.gov/poverty>. A person who participates or has family members who participate in certain other benefit programs, such as the Medicaid or Aid to Families with Dependent Children/Temporary Assistance to Needy Families, automatically meets the income-eligibility requirement.

In California, data are exclusively from Medicaid-funded programs. North Carolina submits data from both WIC (95.5%) and non-WIC programs (4.5%).<sup>†</sup> For the states included in this analysis, 21.0% of children aged 2–4 years are covered by PedNSS. On average, children are seen twice a year by the program; height and weight are measured each time. Data are collected at the clinic level and submitted to CDC for analysis. Federally funded programs submit data on weight, height (measured by trained staff using a standard protocol during clinic visits), age, sex, and the race/ethnicity reported by the child's parent or caregiver. CDC uses weight, height, and age data to calculate body mass index (BMI) (weight [kg] / height [m<sup>2</sup>]). For children aged 2–4 years, obesity is defined as BMI-for-age  $\geq 95$ th percentile based on the 2000 CDC sex-specific growth charts (5). CDC performs routine edits to assess data quality. An error flag is applied to height or weight data that are either missing, miscoded, or biologically implausible (e.g., height-for-age z-score  $< -5.0$  or  $> 3.0$ , body mass index [BMI]-for-age [children aged  $\geq 2$  years] z-score  $< -4.0$  or  $> 5.0$ , weight-for-age z-score  $< -4.0$  or  $> 5.0$ , or BMI-for-age [children aged

<sup>†</sup> Including the Early and Periodic Screening, Diagnosis, and Treatment Program, other Medicaid-funded child health programs, and Title V Maternal and Child Health Programs. Eligibility criteria includes a family income  $\leq 200\%$  of the poverty income threshold, based on U.S. Poverty Income Guidelines. The non-WIC records accounted for 24% of records in 1998, 19% in 2003, and 15% in 2008.

#### INSIDE

- 773 Neurologic Complications Associated with Novel Influenza A (H1N1) Virus Infection in Children – Dallas, Texas, May 2009
- 778 Bubonic and Pneumonic Plague – Uganda, 2006
- 782 QuickStats

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].

### Centers for Disease Control and Prevention

Thomas R. Frieden, MD, MPH  
*Director*

Tanja Popovic, MD, PhD  
*Chief Science Officer*

James W. Stephens, PhD  
*Associate Director for Science*

Steven L. Solomon, MD  
*Director, Coordinating Center for Health Information and Service*

Jay M. Bernhardt, PhD, MPH

*Director, National Center for Health Marketing*

Katherine L. Daniel, PhD

*Deputy Director, National Center for Health Marketing*

### Editorial and Production Staff

Frederic E. Shaw, MD, JD  
*Editor, MMWR Series*

Christine G. Casey, MD  
*Deputy Editor, MMWR Series*

Robert A. Gunn, MD, MPH  
*Associate Editor, MMWR Series*

Teresa F. Rutledge  
*Managing Editor, MMWR Series*

Douglas W. Weatherwax  
*Lead Technical Writer-Editor*

Donald G. Meadows, MA

Jude C. Rutledge  
*Writers-Editors*

Martha F. Boyd  
*Lead Visual Information Specialist*

Malbea A. LaPete

Stephen R. Spriggs

*Visual Information Specialists*

Kim L. Bright, MBA

Quang M. Doan, MBA

Phyllis H. King

*Information Technology Specialists*

### Editorial Board

William L. Roper, MD, MPH, Chapel Hill, NC, Chairman

Virginia A. Caine, MD, Indianapolis, IN

Jonathan E. Fielding, MD, MPH, MBA, Los Angeles, CA

David W. Fleming, MD, Seattle, WA

William E. Halperin, MD, DrPH, MPH, Newark, NJ

King K. Holmes, MD, PhD, Seattle, WA

Deborah Holtzman, PhD, Atlanta, GA

John K. Iglehart, Bethesda, MD

Dennis G. Maki, MD, Madison, WI

Sue Mallonee, MPH, Oklahoma City, OK

Patricia Quinlisk, MD, MPH, Des Moines, IA

Patrick L. Remington, MD, MPH, Madison, WI

Barbara K. Rimer, DrPH, Chapel Hill, NC

John V. Rullan, MD, MPH, San Juan, PR

William Schaffner, MD, Nashville, TN

Anne Schuchat, MD, Atlanta, GA

Dixie E. Snider, MD, MPH, Atlanta, GA

John W. Ward, MD, Atlanta, GA

$\geq 2$  years] z-score  $< -4.0$  or  $> 5.0$ ). All flagged data are excluded from PedNSS analyses.

CDC randomly selected one record per child per year to estimate obesity prevalence in 1998, 2003, and 2008. To assess the change in obesity prevalence in PedNSS overall and by race/ethnicity, prevalence was estimated using data only from the subset of federally funded programs that participated in 1998, 2003, and 2008 (N = 37). The average annual change in obesity prevalence during 1998–2003 and 2003–2008 was estimated for each PedNSS program. If data for a program were unavailable for a given year but were available for the preceding or subsequent year, CDC substituted the data for the adjacent year and calculated the annual change to account for the shorter or longer period. Chi-square tests for difference in proportions were conducted across each period, and tests were statistically significant ( $p < 0.05$ ) unless otherwise noted in this report.

During 1998–2008, the number of federally funded programs reporting data to PedNSS varied from 43 to 52. In 2008, records on approximately 8 million children were submitted from 43 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and six Indian tribal organizations (Table). The overall prevalence of obesity among low-income, preschool-aged children increased from 12.4% (n = 1,999,970) in 1998 to 14.5% (n = 1,967,625) in 2003 and 14.6% (n = 2,222,410) in 2008 (Figure). Obesity prevalence increased 0.43 percentage points annually during 1998–2003, but only 0.02 percentage points annually during 2003–2008. Obesity increased across all racial/ethnic groups during 1998–2003, with the exception of Asian/Pacific Islander (A/PI) children. However, during 2003–2008, obesity remained stable among all groups except American Indian/Alaska Native (AI/AN) children. In 2008, prevalence was highest among AI/AN (21.2%) and Hispanic (18.5%) children, and lowest among non-Hispanic white (12.6%), non-Hispanic black (11.8%), and A/PI (12.3%) children.

In 2008, only programs in Colorado and Hawaii had obesity prevalences  $\leq 10\%$ . The two federally funded programs with prevalence  $> 20\%$  were Indian tribal organizations (Table). Of the 41 PedNSS programs supplying data for 1998–2003, a total of 38 (93%) reported an increase in obesity prevalence. In contrast, of the 44 programs supplying data for 2003–2008, 22 (50%) reported an increase in obesity, whereas 14 (32%) reported no change, and eight (18%) reported a decrease.

**Reported by:** *AJ Sharma, PhD, LM Grummer-Strawn, PhD, K Dalenius, MPH, D Galuska, PhD, M Anandappa, MS, E Borland, H Mackintosh, MSPH, R Smith, MS, Div of Nutrition, Physical Activity and Obesity, National Center for Chronic Disease Prevention and Health Promotion, CDC.*

**TABLE. Average annual change in obesity\* prevalence among children aged 2–4 years, by state, territory, and Indian tribal organization† — Pediatric Nutrition Surveillance System, United States, 1998–2003 and 2003–2008**

State, territory, or Indian tribal organization	1998		2003		2008		Average percentage-point change per year	
	No. of children	Obesity prevalence (%)	No. of children	Obesity prevalence (%)	No. of children	Obesity prevalence (%)	1998–2003	2003–2008
Alabama	39,998	11.7	30,221	14.7†	56,813	13.8	0.50	-0.23
Arizona	51,279	9.7	67,618	12.4†	75,338	14.6	0.45	0.55
Arkansas	34,968	9.7	31,625	12.2	38,591	13.9	0.50	0.34
California	398,222	15.5	344,384	17.6	301,643	17.3	0.42	-0.06
Colorado	—§	—	50,773	9.4	43,476	9.4	—	0.00**
Connecticut	23,272	17.8	22,495	19.6	25,623	15.5	0.36	-0.82
Florida	141,831	11.3	155,482	13.4	209,671	14.1	0.42	0.14
Georgia	87,823	9.4	92,728	12.4	124,533	14.8	0.60	0.48
Hawaii	3,649	10.3	15,602	10.1	16,106	9.3	-0.04**	-0.16
Idaho	15,121	9.8	16,340	11.2	20,081	12.3	0.28	0.22
Illinois	88,178	13.5	70,666	13.9	63,414	14.7	0.08	0.16
Indiana	64,411	10.5	51,953	13.7	66,499	14.5	0.64	0.16
Iowa	29,788	10.6	32,913	13.9	33,548	15.1	0.66	0.24
Kansas	22,628	8.8	27,076	12.6	34,352	13.3	0.76	0.14
Kentucky	48,075	12.1	60,984	17.2	62,832	15.7	1.02	-0.30
Louisiana	45,834	10.4	44,036	13.3	34,041	13.8¶	0.58	0.13
Maine	11,747	12.1	9,861	15.8	—	—	0.74	—
Maryland	23,329	12.0	42,884	14.4†	54,866	15.7	0.40	0.33
Massachusetts	59,511	14.8	55,785	16.7	59,297	16.7	0.38	0.00**
Michigan	90,760	10.1	93,962	12.9	103,523	13.9	0.56	0.20
Minnesota	76,271	11.0	40,161	13.2	65,607	13.4	0.44	0.04**
Mississippi	11,850	13.2	—	—	44,807	14.6	—	—
Missouri	58,000	9.8	56,346	13.3	60,908	13.9	0.70	0.12
Montana	9,658	9.0	10,178	11.0	10,428	12.4	0.40	0.28
Nebraska	13,961	9.9	17,242	13.4	20,658	13.9	0.70	0.10**
Nevada	6,123	11.6	14,595	13.6	23,348	12.9	0.40	-0.14
New Hampshire	5,530	13.5	7,227	15.6	8,082	15.5	0.42	-0.02**
New Jersey	56,292	15.1	56,774	17.9	68,163	17.9	0.56	0.00**
New Mexico	17,523	7.6	27,555	9.7	22,295	12.0	0.42	0.46
New York	207,479	14.7	186,284	16.6	209,713	14.6	0.38	-0.40
North Carolina	80,956	11.1	75,206	14.5	96,381	15.7	0.68	0.24
North Dakota	7,246	9.4	6,097	11.6	6,551	13.8	0.44	0.44
Ohio	17,219	10.4	89,824	11.6	125,011	12.2	0.24	0.12
Oregon	34,546	11.9	29,875	14.7	49,193	14.7	0.56	0.00**
Pennsylvania	108,858	10.7	100,053	12.4	111,879	11.5	0.34	-0.18
Rhode Island	—	—	—	—	11,466	16.2	—	—
South Carolina	48,543	10.0	32,239	12.4	28,209	13.3	0.48	0.18
South Dakota	8,968	9.0	8,423	13.6	9,125	16.2	0.92	0.52
Tennessee	56,208	10.0	60,086	12.0	49,016	13.8	0.40	0.36
Texas	—	—	422,127	14.4	164,435	16.2	—	0.36
Utah	23,765	6.5	31,099	8.6	—	—	0.42	—
Vermont	6,225	11.6	8,504	13.1	7,009	13.3	0.30	0.04**
Virginia	—	—	20,238	18.5	59,627	19.0	—	0.10**
Washington	55,162	12.0	65,828	13.8¶	92,980	14.4	0.45	0.10
West Virginia	24,170	10.6	22,079	13.2	22,689	13.5	0.52	0.06**
Wisconsin	52,186	10.1	50,284	13.0	55,875	13.6	0.58	0.12
Wyoming	—	—	5,269	9.5	—	—	—	—
District of Columbia	6,499	10.9	5,926	13.3	6,195	13.3	0.48	0.00**
Puerto Rico	—	—	102,624	24.0	99,829	17.9	—	-1.22
U.S. Virgin Islands	—	—	—	—	2,339	13.6	—	—
Cheyenne River Sioux Tribe (SD)	362	22.1†	388	17.5	423	18.4	-1.15**	0.18**
Chickasaw Nation (OK)	1,039	8.9	1,478	12.0	—	—	0.62	—
Inter Tribal Council of Arizona	4,680	19.8	5,037	20.9	5,823	23.5	0.22**	0.52
Navajo Nation	—	—	7,616	14.4	6,824	16.9	—	0.50
Rosebud Sioux Tribe (SD)	604	16.4	641	17.3	651	19.2	0.18**	0.38**
Standing Rock Sioux Tribe (ND)	—	—	422	20.1	541	25.0	—	0.98**
Three Affiliated Tribes (ND)	—	—	—	—	163	19.6	—	—

\* Defined as body mass index (BMI)-for-age  $\geq$ 95th percentile based on the 2000 CDC sex-specific growth charts, available at <http://www.cdc.gov/growthcharts>.

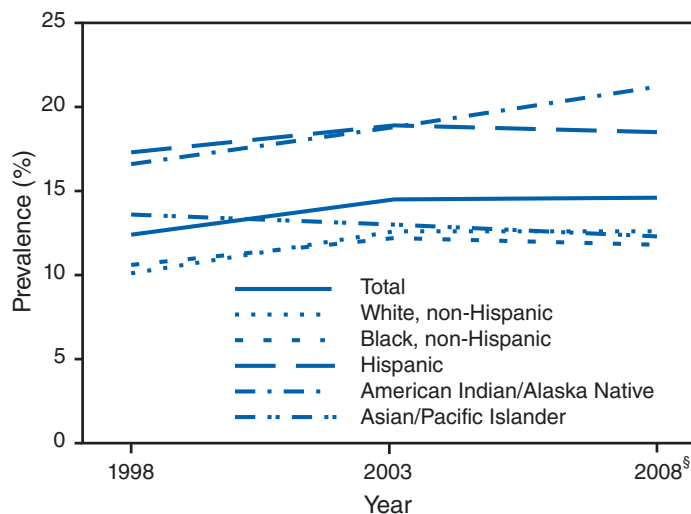
† Data from subsequent year used.

§ Data not available.

¶ Data from preceding year used.

\*\* No significant change in obesity prevalence.

**FIGURE. Change in obesity\* prevalence during 1998–2003 and 2003–2008 among children aged 2–4 years, by race/ethnicity — Pediatric Nutrition Surveillance System, United States, 1998–2008†**



\* Defined as body mass index (BMI)-for-age  $\geq 95$ th percentile based on the 2000 CDC sex-specific growth charts, available at <http://www.cdc.gov/growthcharts>.

† Includes only the 37 federally funded programs that provided data in 1998, 2003, and 2008.

§ Sample sizes in 2008 were as follows: total, 2,222,410; non-Hispanic white, 845,910; non-Hispanic black, 438,645; Hispanic, 749,109; American Indian/Alaska Native, 23,960; and Asian/Pacific Islander, 68,933.

**Editorial Note:** Reduction of obesity among children and adolescents is a national priority in the United States (4). The results presented in this report indicate that among low-income, preschool-aged children participating in federally funded nutrition programs, the prevalence of obesity increased during 1998–2003, but stabilized during 2003–2008. In 2008, the national prevalence of obesity in this group remained highest among low-income Hispanic and AI/AN children and continued to increase among AI/AN children. These results suggest overall progress in stabilizing the prevalence of childhood obesity in a subset of low-income, preschool-aged children. However, these results should be confirmed through additional research using other data sets.

Children in preschool age groups are a priority for surveillance because obesity trends in this group can serve as a bellwether for trends in older children and adults (2). PedNSS currently serves as the only source of national obesity prevalence data compiled specifically on low-income, preschool-aged children. Because PedNSS nutritional data are dependent on enrollments in participating federally funded programs, PedNSS results are subject to variations in enrollment in these programs in each state. However, the effect of such variations on PedNSS results is difficult to determine. Conditions within a state that

differentially affect the enrollment of children with varying prevalences of obesity could affect state or national results. In addition, changes in the proportion of children from each state might alter the results. For example, California, the largest data contributor to PedNSS, has one of the highest prevalences of obesity. The percentage of the total PedNSS sample provided by California decreased from 20.2% in 1998 to 13.6% in 2008. However, even deletion of all California data would not alter the overall results; an increase from 1998 to 2003 would still be observed, followed by stabilization through 2008. Furthermore, stabilization or declines were observed in half of the individual federally funded programs in PedNSS.

To maintain the consistency of PedNSS data, methods for data collection and recording are set nationally and are uniform across states and participating federal programs. The procedures for collecting height and weight data did not change during 1998–2008, with the exception of an increasing use of digital scales. Given the procedures within the WIC program for regular calibration of scales, this change should not affect rates of obesity. CDC has stringent requirements for data quality and uses standardized procedures for data cleaning; data files that do not meet these standards are rejected, as are records that do not meet standards for acceptable heights and weights.

The reason for the stabilization of overall obesity prevalence among these children during 2003–2008 is not known and likely is complex. One factor might be prevention efforts within state and local WIC programs targeting behaviors related to obesity in children. For example, certain initiatives in WIC<sup>§</sup> have attempted to raise public awareness, acceptance, and support of breastfeeding, increased the percentage of low-fat or fat-free milk vouchers issued for children aged >2 years,<sup>¶</sup> and reduced television viewing (6). Recommendations such as those from the Institute of Medicine's *Preventing Childhood Obesity* report also might have spurred greater attention to obesity prevention for all children (7).

The National Health and Nutrition Examination Survey (NHANES) also has found a stabilization of obesity prevalence in U.S. children. NHANES found no significant increase in obesity prevalence during 1999–2006 in children aged 2–19 years (8). This apparent plateau remained even after adjusting for differences in prevalence by age group. Trends in the 2–5 year age group were not analyzed separately because of small sample size. For NHANES 2003–2006, the overall prevalence of obesity (BMI-for-age  $\geq 95$ th percentile) for children aged

<sup>§</sup> Additional information available at [http://www.nal.usda.gov/wicworks/spotlight/bfweek\\_resources.html](http://www.nal.usda.gov/wicworks/spotlight/bfweek_resources.html).

<sup>¶</sup> Additional information available at [http://www.health.state.ny.us/prevention/nutrition/resources/docs/2003-2006\\_ewph\\_community\\_intervention\\_projects.pdf](http://www.health.state.ny.us/prevention/nutrition/resources/docs/2003-2006_ewph_community_intervention_projects.pdf).

2–5 years was 12.4% (standard error = 1.0%), lower than the rates for both 2003 and 2008 described in this report.

The findings in this report are subject to at least three limitations. First, the proportion of children participating in federally funded nutrition programs increased during 1998–2008, as evidenced by the 11% increase in the number of children in these analyses (i.e., from 1,999,970 in 1998 to 2,222,410 in 2008). However, how the addition of these children might have affected the prevalence of obesity is unknown. Second, the percentage of the total PedNSS dataset that is made up of WIC records increased from 76% in 1998 to 85% in 2008. If the prevalence of obesity were lower in WIC than in non-WIC programs, this increase could partially explain the observed trends. However, when the analysis was conducted using only data from WIC, results were not substantially different. Finally, PedNSS data are not representative of all low-income, preschool-aged children in the United States because not all states participate in PedNSS and not all low-income children participate in federally funded programs.

Childhood obesity remains a serious public health problem even among this subset, particularly among AI/AN children. A sustained and effective public health response is necessary across the United States to reduce childhood obesity. Strategies should emphasize improving environments and policies that promote physical activity and a healthy diet.

#### References

1. Wang Y, Beydoun MA. The obesity epidemic in the United States—gender, age, socioeconomic, racial/ethnic, and geographic characteristics: a systematic review and meta-regression analysis. *Epidemiol Rev* 2007;29:6–28.
2. Serdula MK, Ivery D, Coates RJ, Freedman DS, Williamson DF, Byers T. Do obese children become obese adults? A review of the literature. *Prev Med* 1993;22:167–77.
3. American Academy of Pediatrics. Policy statement: prevention of pediatric overweight and obesity. *Pediatrics* 2003;112:424–30.
4. US Department of Health and Human Services. Healthy people 2010: objectives for improving health (part B: focus areas 15–28). 2nd ed. Washington, DC: US Department of Health and Human Services; 2000. Available at <http://www.health.gov/healthypeople>.
5. Kuczumarski RJ, Ogden CL, Grummer-Strawn LM, et al. CDC growth charts: United States. *Adv Data* 2000;314:1–27. Available at <http://www.cdc.gov/growthcharts>.
6. Johnson DB, Birkett D, Evens C, Pickering S. Statewide intervention to reduce television viewing in WIC clients and staff. *Am J Health Promot* 2005;19:418–21.
7. Institute of Medicine. Preventing childhood obesity: health in the balance. Washington, DC: National Academies Press; 2005.
8. Ogden CL, Carroll MD, Flegal KM. High body mass index for age among US children and adolescents, 2003–2006. *JAMA* 2008;299:2401–5.

## Neurologic Complications Associated with Novel Influenza A (H1N1) Virus Infection in Children – Dallas, Texas, May 2009

Neurologic complications, including seizures, encephalitis, encephalopathy, Reye syndrome, and other neurologic disorders, have been described previously in association with respiratory tract infection with seasonal influenza A or B viruses (1–2), but not with novel influenza A (H1N1) virus. On May 28, 2009, the Dallas County Department of Health and Human Services (DCHHS) notified CDC of four children with neurologic complications associated with novel influenza A (H1N1) virus infection admitted to hospitals in Dallas County, Texas, during May 18–28. This report summarizes the clinical characteristics of those four cases. Patients were aged 7–17 years and were admitted with signs of influenza-like illness (ILI) and seizures or altered mental status. Three of the four patients had abnormal electroencephalograms (EEGs). In all four patients, novel influenza A (H1N1) viral RNA was detected in nasopharyngeal specimens but not in cerebrospinal fluid (CSF). Antiviral therapy included oseltamivir (four patients) and rimantadine (three patients). All four patients recovered fully and had no neurologic sequelae at discharge. These findings indicate that, as with seasonal influenza, neurologic complications can occur after respiratory tract infection with novel influenza A (H1N1) virus. For children who have ILI accompanied by unexplained seizures or mental status changes, clinicians should consider acute seasonal influenza or novel influenza A (H1N1) virus infection in the differential diagnosis, send respiratory specimens for appropriate diagnostic testing, and promptly initiate empirical antiviral treatment, especially in hospitalized patients.

### Case Identification

Since April 22, DCHHS has requested all hospitals in Dallas County to report details concerning patients admitted with novel influenza A (H1N1) virus infection. As of July 20, DCHHS had identified 405 persons with laboratory-confirmed novel influenza A (H1N1) virus infection in the greater Dallas area, including 44 hospitalized patients. No deaths had been reported. Of confirmed novel influenza A (H1N1) virus infections, 83% were in patients aged <18 years. Among these pediatric cases, 145 children, including 26 who were hospitalized, were identified through the Children's Medical Center of Dallas (CMCD) laboratory-based surveillance program. Medical records from admission and discharge for all hospitalized H1N1 patients are routinely

screened by DCHHS epidemiology staff. Characteristics of hospitalized patients are compiled on an ongoing basis, with further investigation of cases noted to have unusual features and severe illness.

A patient with acute neurologic complications associated with novel influenza A (H1N1) virus infection was defined as having laboratory-confirmed novel influenza A (H1N1) virus infection of the respiratory tract associated with seizures, encephalopathy, or encephalitis within 5 days of ILI symptom onset, without evidence of an alternative etiology. Encephalopathy was defined as altered mental status lasting  $\geq 24$  hours. Encephalitis was defined as encephalopathy plus two or more of the following: fever  $\geq 100.4^{\circ}\text{F}$  ( $\geq 38.0^{\circ}\text{C}$ ), focal neurologic signs, CSF pleocytosis, EEG indicative of encephalitis, or abnormal neuroimaging indicative of infection or inflammation (1–2).

During April 22–July 20, seven possible cases of neurologic complications associated with novel A (H1N1) virus infection were identified. Three cases were excluded because the neurologic complications were determined to have alternative etiologies (e.g., hypocalcemia and apnea related to prematurity) or did not meet the case definition (e.g., altered mental status for  $< 24$  hours). Of the remaining four cases described in this report, one patient (patient A) was initially reported by a community hospital in Dallas on May 18. The three other cases were reported by CMCD to DCHHS during May 23–27. No additional cases had been reported in Dallas County through July 20.

Nasopharyngeal swab specimens collected from all three patients admitted to CMCD were tested for influenza A and B antigens by either Directigen EZ Flu A+B rapid enzyme immunoassay (EIA) (BD [Becton, Dickinson, and Company], Sparks, Maryland), QuickVue Influenza A+B test (EIA) (Quidel, San Diego, California), or D<sup>3</sup> Ultra direct fluorescent assay (Diagnostic Hybrids, Athens, Ohio). All positive specimens were sent to DCHHS, and novel influenza A (H1N1) virus was identified by real-time reverse transcription–polymerase chain reaction (rRT-PCR) using CDC-approved primers and probe sets. All CSF samples were tested at CDC using rRT-PCR for influenza, enteroviruses, parechovirus, adenovirus, and human parainfluenza virus serotype 3. CSF for patients B and D were tested for additional viruses by a commercial laboratory (Viracor).\*

\*Viruses detected by the Luminex multiplex respiratory viral panel [xTAG] are influenza A and B; parainfluenza 1, 2, and 3; respiratory syncytial virus A and B; adenovirus; human metapneumovirus; and rhinovirus.

## Case Reports

**Patient A.** On May 17, a previously healthy black male aged 17 years visited a community hospital emergency department after 1 day of fever reaching  $102.6^{\circ}\text{F}$  ( $39.2^{\circ}\text{C}$ ), cough, headache, dizziness, and weakness. Influenza A was diagnosed by EIA, and the patient was discharged home with a prescription for oseltamivir. The patient was admitted the next day to another community hospital because of increased generalized weakness, disorientation to place, and markedly slow and intermittent responsiveness to questions. On physical examination, the patient was noted to be confused and unable to provide history of his own illness. He also was unable to lift his arms above his shoulders or stand. He had taken 1 dose of oseltamivir the morning of admission. A computed tomography (CT) head scan revealed pan-sinusitis, and CSF was normal (Table). The patient received ceftriaxone for 2 days, which was discontinued when CSF bacterial cultures indicated no growth. He received oseltamivir throughout his hospital admission. His mental status returned to normal on day three. He was discharged on day four with no apparent sequelae and completed a 5-day total course of oseltamivir.

**Patient B.** On May 23, a previously healthy Hispanic male aged 10 years was taken to a Dallas community hospital via emergency medical services after a 3-minute generalized tonic-clonic seizure and subsequent postictal mental state. The seizure occurred after 4 days of fever reaching  $104.0^{\circ}\text{F}$  ( $40.0^{\circ}\text{C}$ ), cough, decreased appetite, and fatigue. His family reported that the patient had contact with another child with ILI symptoms before the patient's illness onset. Upon initial evaluation in the emergency department, the patient was afebrile. A chest radiograph revealed a left lower lobe infiltrate, and a CT head scan was normal except for an incidentally noted single punctuate calcification in left frontal cortex. Influenza A was detected in a nasopharyngeal swab specimen by EIA. Three hours later, the patient had a second 3-minute generalized seizure. Intravenous (IV) lorazepam and ceftriaxone were administered, and the patient was transferred to a CMCD intensive-care unit.

On admission to CMCD, the patient was febrile, confused, and drowsy. He had difficulty answering questions and made frequent inappropriate attempts to get out of bed. CSF analysis was normal. He was administered IV fosphenytoin to prevent additional seizures, vancomycin and ceftriaxone for empirical treatment of bacterial pneumonia, supplemental oxygen via bilevel positive airway pressure for oxygen saturations  $< 92\%$ , and anticonvulsants. Over the ensuing 2 days, he had intermittent fevers reaching  $102.0^{\circ}\text{F}$  ( $38.9^{\circ}\text{C}$ ). On hospital day four, he had a prolonged partial complex seizure with focal onset (eye

**TABLE. Selected characteristics and laboratory, radiologic, and neurodiagnostic results for four patients with neurologic complications associated with novel influenza A (H1N1) virus infection\* — Dallas, Texas, May 2009**

Characteristic	Patient A	Patient B	Patient C	Patient D
Age (yrs)	17	10	7	11
Sex	Male	Male	Male	Male
Race/Ethnicity	Black, non-Hispanic	Hispanic	White, non-Hispanic	Black, non-Hispanic
Dates of hospitalization	May 18–21	May 23–29	May 26–28	May 27–30
Neurologic complication(s) diagnosed	Encephalopathy	Seizures, encephalopathy	Seizures	Encephalopathy
Interval from respiratory illness onset to neurologic symptoms (days)	1	4	2	1
Fever (maximum temperature)	102.6°F (39.2°C)	104.0°F (40.0°C)	100.8°F (38.2°C)	102.0°F (38.9°C)
<b>Admission laboratory data</b>				
Serum electrolytes, chemistry	Normal (except initial creatinine 1.3 mg/dL [normal range for age: 0.3–1.0 mg/dL])	Normal	Normal (except sodium 131 mmol/L [normal range: 134–146 mmol/L])	Normal
Liver function tests (U/L)	ND†	AST§ 28, ALT¶ 51, GGT** 29	AST 36, ALT 12, GGT 29	AST 41, ALT 27, GGT <10, ammonia 28 mmol/L (repeat testing normal)
Blood bacterial culture	ND	<i>S. epidermidis</i> , <i>Micrococcus</i> (contaminants), no growth x2	No growth	No growth
Urine bacterial culture	ND	ND	ND	No growth
Other	Creatine kinase 75 U/L (normal range: 22–269 U/L)	Urine toxicology screen positive for benzodiazepines only	—	Urine toxicology screen positive for caffeine, salicylate, and acetaminophen; serum salicylate level <1 mg/dL
<b>Cerebrospinal fluid (CSF) analysis</b>				
WBC†† (per mm <sup>3</sup> ) (differential)	2 (differential ND)	2 (65%L 31%M)	4 (differential ND)	4 (95%L 5%M)
RBC§§ (per mm <sup>3</sup> )	18	0	2	1
Glucose (mg/dL) (normal range: 50–80 mg/dL)	39	63	58	65
Protein (mg/dL) (normal range: 10–45 mg/dL)	37	50	15	21
Bacterial culture	No growth	No growth	No growth	No growth
<b>Neurodiagnostic testing</b>				
Computed tomography	No intra-parenchymal abnormality; pan-sinusitis	Single punctuate calcification in left frontal cortex	No intracranial abnormality	No intracranial abnormality; sphenoid sinusitis
Magnetic resonance imaging	ND	No parenchymal abnormality	Cortical nonspecific scattered T2 hyperintense foci within the cerebral white matter	No intracranial abnormality
Electroencephalogram	ND	Generalized continuous polymorphic delta slowing, without epileptogenic focus; consistent with mild/moderate encephalopathy	Midline parietal intermittent polymorphic delta slowing, without epileptogenic focus; consistent with localized cerebral dysfunction	Posterior background slowing, no epileptiform activity; consistent with mild encephalopathy
<b>Viral testing and antiviral therapy</b>				
Influenza EIA¶¶	Positive***	Positive	Positive	Positive
Influenza DFA†††	ND	ND	ND	Positive
CSF influenza rRT-PCR§§§	Negative	Negative	Negative	Negative
rRT-PCR	Enteroviruses: negative Parechovirus: negative Adenovirus: negative HPIV-3¶¶¶: negative	Enteroviruses: negative Parechovirus: negative Adenovirus: negative HPIV-3: negative	Enteroviruses: negative Parechovirus: negative Adenovirus: negative HPIV-3: negative	Enteroviruses: negative Parechovirus: negative Adenovirus: negative HPIV-3: negative

**TABLE. (Continued) Selected characteristics and laboratory, radiologic, and neurodiagnostic results for four patients with neurologic complications associated with novel influenza A (H1N1) virus infection — Dallas, Texas, May 2009**

Characteristic	Patient A	Patient B	Patient C	Patient D
Other testing	ND	CSF respiratory viral panel (RVP) <sup>****</sup>	ND	HSV <sup>†††</sup> rRT-PCR: negative Enterovirus rRT-PCR: negative CSF RVP: negative
Antiviral therapy	Oseltamivir	Oseltamivir and rimantadine	Oseltamivir and rimantadine	Oseltamivir and rimantadine

\* A patient with acute neurologic complications associated with novel influenza A (H1N1) virus infection was defined as having laboratory-confirmed novel influenza A (H1N1) virus infection of the respiratory tract associated with seizures, encephalopathy, or encephalitis within 5 days of influenza-like illness symptom onset, without evidence of an alternative etiology. Encephalopathy was defined as altered mental status lasting  $\geq 24$  hours. Encephalitis was defined as encephalopathy plus two or more of the following: fever  $\geq 100.4^{\circ}\text{F}$  ( $\geq 38.0^{\circ}\text{C}$ ), focal neurologic signs, cerebrospinal fluid pleocytosis, an electroencephalogram indicative of encephalitis, or abnormal neuroimaging indicative of infection or inflammation.

† Not done.

‡ Aspartate transaminases (normal range: 10–45 U/L).

¶ Alanine aminotransferase (normal range: 10–50 U/L).

\*\* Gamma glutamyltranspeptidase (normal range: 3–30 U/L).

†† White blood cell count.

‡‡ Red blood cell count.

¶¶ Enzyme immunoassay. All four patients had nasopharyngeal specimens obtained and tested for influenza A and B antigen by using Directigen EZ Flu A+B (EIA), QuickVue Influenza A+B test (EIA), or direct fluorescent assay using D<sup>3</sup> Ultra.

\*\*\*\* All four patients' nasopharyngeal specimens were confirmed positive for novel influenza A (H1N1) virus by Dallas County Department of Health and Human Services, using CDC-approved primers and probes.

††† Direct fluorescent assay.

‡‡‡ Real-time reverse-transcription polymerase chain reaction (performed at CDC).

¶¶¶ Human parainfluenza virus type 3.

\*\*\*\* CSF viral PCR testing was performed by Viracor, using the Luminex multiplex respiratory viral panel (xTAG), which tests for 10 different viruses (influenza A and B; parainfluenza 1, 2, and 3; respiratory syncytial virus A and B; adenovirus; human metapneumovirus; and rhinovirus).

†††† Herpes simplex virus.

deviation to the right) and secondary generalization, lasting 30–40 minutes, which eventually was controlled by 4 doses of IV lorazepam and a bolus of IV fosphenytoin. Oseltamivir and rimantadine were initiated. Brain magnetic resonance imaging (MRI) with magnetic resonance angiography was normal, and an EEG was consistent with encephalopathy (Table). His mental status returned slowly to baseline by hospital day seven, when he was discharged without apparent sequelae to continue levetiracetam, amoxicillin, and clindamycin, and complete a 5-day course of oseltamivir.

**Patient C.** On May 26, a white male aged 7 years with a history of a simple febrile seizure 1 year previously was taken to a Dallas community hospital via emergency medical services after a seizure and 2 days of cough, nasal congestion, and fatigue. On the day of admission, he had been found at home on the floor, with tonic movements of his upper and lower extremities lasting at least 2 minutes. On admission to the community hospital, he was noted to have postictal drowsiness and a temperature of  $100.8^{\circ}\text{F}$  ( $38.2^{\circ}\text{C}$ ). A diagnosis of influenza A was made by EIA. Blood tests, CSF, and a CT head scan were normal (Table).

The patient was transferred the same day to CMCD, where he exhibited normal mental status and no fever or seizures. A brain MRI showed nonspecific white matter abnormalities not characteristic of infection or inflammation. Localized cerebral dysfunction was evident on EEG (Table). Oseltamivir and rimantadine were started on hospital day one, and the patient was discharged on hospital day three without any neurologic

sequelae, to complete a 5-day course of both antivirals and to continue levetiracetam until reassessment by neurologists in 3 months.

**Patient D.** On May 27, a black male aged 11 years with a history of asthma was taken to CMCD because of 1 day of fever and vomiting. A household contact, his grandmother, had an upper respiratory infection 3 days before his illness. One day before admission, he had a fever of  $102.0^{\circ}\text{F}$  ( $38.9^{\circ}\text{C}$ ), fatigue, headache, abdominal pain, and vomiting, and was given bismuth subsalicylate twice and one 81 mg aspirin. At CMCD, he was febrile. Neurologic examination revealed ataxia. Soon after admission, the patient had a seizure consisting of episodic eye rolling and tongue thrusting. An EIA test for influenza A was positive, and oseltamivir, rimantadine, cefotaxime, and acyclovir were initiated.

During the first 2 hospital days, the patient was disoriented, had visual hallucinations, had difficulty responding to questions and following commands, had slow speech, and required supplemental oxygen via facemask for mild hypoxia and hypopnea attributed to decreased respiratory drive associated with encephalopathy. Chest radiograph was normal. An EEG was consistent with encephalopathy, and a CT head scan was normal (Table). The patient's mental status returned to normal by hospital day four. He completed a 5-day course of oseltamivir.

**Reported by:** AS Evans, MD, S Agadi, MD, JD Siegel, MD, Univ of Texas Southwestern Medical Center; WM Chung, MD, JT Carlo, MD, Dallas County Health and Human Svcs, Dallas, Texas. TM Uyeki, MD,



J Sejvar, MD, S Lindstrom, PhD, D Erdman, DrPH, S Oberste, PhD, National Center for Immunization and Respiratory Diseases; SJ Olsen, PhD, Div of Emerging Infections and Surveillance Svcs, National Center for Preparedness, Detection, and Control of Infectious Diseases; F Dawood, MD, OW Morgan, PhD, EIS officers, CDC.

**Editorial Note:** Infection with seasonal influenza virus can be associated with neurologic complications (1–2), but the frequency with which these occur with novel influenza A (H1N1) virus infection is unknown. This is the first report describing patients with neurologic complications associated with novel influenza A (H1N1) virus infection. The severity of the neurologic disease in the four patients described in this report was less than the typical disease described in two studies of neurologic complications associated with seasonal influenza (1–2), which included reports of severe static encephalopathy and death. Only two of the four patients described in this report had seizures, and none died or had neurologic sequelae at discharge. Considering that clusters of influenza-associated encephalopathy in children have been reported during previous community outbreaks of seasonal influenza (1–2) and that children appear to be infected with novel influenza A (H1N1) virus more frequently than adults (3), additional neurologic complications in children are likely to be reported as the pandemic continues. Clinicians should consider influenza associated encephalopathy in the differential diagnosis of children with ILI and seizures or mental status changes, and remain aware of the potential for severe neurologic sequelae associated with seasonal or novel influenza A (H1N1) virus infection.

Neurologic complications in children associated with seasonal influenza have included acute cognitive and behavioral problems, focal neurologic deficits, and death from neurologic complications (4). Influenza-associated neurologic complications are estimated to account for up to 5% of cases of acute childhood encephalitis or encephalopathy (4) and were reported in 6% of influenza-associated deaths among children during one influenza season (2003–04) in the United States (5). The epidemiology of influenza-associated encephalopathy has been described extensively in Japan, where incidence has appeared to be higher than in other countries (1). In Japan, approximately 80% of influenza-associated encephalopathy cases occur in children aged <5 years (1,6), and neurologic signs typically develop within 1–2 days of influenza symptom onset (1,6). Manifestations have included seizures, altered consciousness, incoherence, irritability, and psychotic behaviors (1,6). Outcomes reported in one case-series from Japan ranged from complete resolution (in nearly 50% of cases), to mild (20%) or severe neurologic sequelae (10%), to death (20%) (6).

Neuroimaging results in influenza-associated encephalopathy might be normal, but in severe cases, abnormalities can include diffuse cerebral edema and bilateral thalamic lesions.

EEG might show diffuse abnormalities (1,2,4). Only rarely is influenza virus detected in CSF, suggesting that neurologic manifestations might be an indirect effect of influenza respiratory tract infection (2,7).

For patients with respiratory illness and neurologic signs, diagnostic testing for possible etiologic pathogens associated with neurologic disease, including influenza viruses, is recommended (8). Health-care providers also should consider a diagnosis of Reye syndrome in patients with viral illness and altered mental status. Although one of the patients described in this report, patient D, received a salicylate-containing product and aspirin, no evidence of Reye syndrome was observed. Salicylates and salicylate-containing products should not be administered to children with influenza or other viral infections because of the increased risk for developing Reye syndrome (9).

Antiviral treatment should be initiated as soon as possible for any hospitalized patient with neurologic symptoms and suspected seasonal influenza or novel influenza A (H1N1) virus infection (2).<sup>†</sup> Although respiratory specimens should be obtained for appropriate diagnostic testing before administering antiviral agents, clinicians should not wait for the results before beginning treatment. Antiviral medications have been shown to decrease the risk for complications from influenza (10); however, the effectiveness of antiviral treatment to prevent influenza-associated encephalopathy sequelae is unknown. Clinicians also should send respiratory specimens for appropriate diagnostic testing. Although no vaccination against novel influenza A (H1N1) virus is available currently, CDC recommends that all children aged >6 months receive annual seasonal influenza vaccination to prevent illness and complications from infection with seasonal influenza virus strains.<sup>§</sup>

<sup>†</sup> CDC guidance on antiviral therapy available at <http://www.cdc.gov/h1n1flu/recommendations.htm>.

<sup>§</sup> CDC recommendations for seasonal influenza vaccination available at <http://www.cdc.gov/mmwr/pdf/rr/rr5707.pdf>.

### Acknowledgments

The findings in this report are based, in part, on contributions by E Brock, A Varghese, Children's Medical Center Dallas; L Miller, Charleton Methodist Hospital; C Rowe, Las Colinas Medical Center; J Stringer, E Bannister, PhD, J Rodriguez, S Hughes, K Baumgart, MPH, A Friedman, Dallas County Health and Human Svcs; and N Pascoe, Texas Dept of State Health Svcs.

### References

1. Morishima T, Togashi T, Yokota S, et al. Encephalitis and encephalopathy associated with an influenza epidemic in Japan. *Clin Infect Dis* 2002;35:512–7.
2. Maricich SM, Neul JL, Lotze TE, et al. Neurologic complications associated with influenza A in children during the 2003–2004 influenza season in Houston, Texas. *Pediatrics* 2004;114:e626–33.

3. Dawood FS, Jain S, Finelli L, et al. Emergence of a novel swine-origin influenza A (H1N1) virus in humans. *N Engl J Med* 2009;360:2605–15.
4. Amin R, Ford-Jones E, Richardson SE, et al. Acute childhood encephalitis and encephalopathy associated with influenza: a prospective 11-year review. *Pediatr Infect Dis J* 2008;27:390–5.
5. Bhat N, Wright JG, Broder KR, et al. Influenza-associated deaths among children in the United States, 2003–2004. *N Engl J Med* 2005;353:2559–67.
6. Wada T, Morishima T, Okumura A, et al. Differences in clinical manifestations of influenza-associated encephalopathy by age. *Microbiol Immunol* 2009;53:83–8.
7. Ito Y, Ichiyama T, Kimura H, et al. Detection of influenza virus RNA by reverse transcription-PCR and proinflammatory cytokines in influenza-virus-associated encephalopathy. *J Med Virol* 1999;58:420–5.
8. Tunkel A, Glaser C, Bloch K, et al. Management of encephalitis: clinical practice guidelines of the Infectious Diseases Society of America. *Clin Infect Dis* 2008;47:303–27.
9. Belay ED, Bresee JS, Holman RC, Khan AS, Shahriari A, Schonberger LB. Reye's syndrome in the United States from 1981 through 1997. *N Engl J Med* 1999;340:1377–82.
10. Kaiser L, Wat C, Mills T, Mahoney P, Ward P, Hayden F. Impact of oseltamivir treatment on influenza-related lower respiratory tract complications and hospitalizations. *Arch Intern Med* 2003;163:1667–72.

## Bubonic and Pneumonic Plague — Uganda, 2006

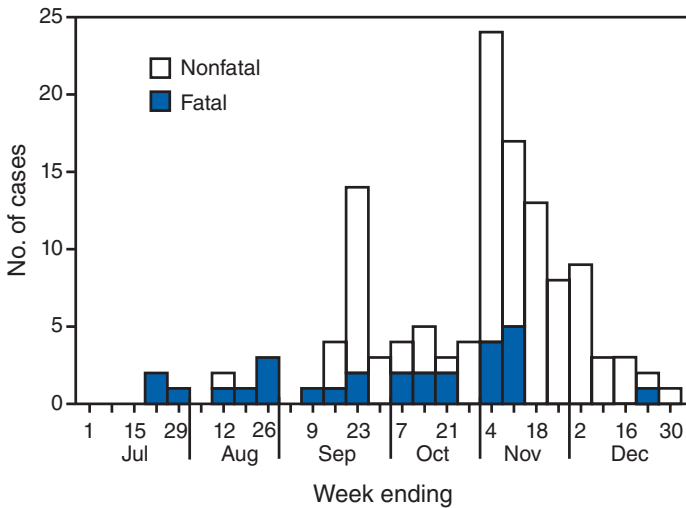
Plague is a life-threatening fleaborne disease caused by the bacterium *Yersinia pestis*. The most common clinical form is bubonic plague, which is characterized by high fever and regional lymphadenitis. Without treatment, infection can spread from lymph nodes to the lungs, resulting in pneumonic plague and the potential for person-to-person transmission through respiratory droplets (1,2). In November 2006, the Uganda Ministry of Health received reports of an increase in bubonic plague cases and a possible outbreak of pneumonic plague among residents in the Arua and Nebbi districts. In response, the Uganda Ministry of Health and CDC conducted a joint investigation in the two districts during November 28–December 30, 2006. Overall, 127 clinical plague cases were identified, along with evidence of a focal pneumonic outbreak in Nebbi District. Median age of the patients was 14 years (range: 2 weeks–65 years); 65 (51%) were female. Twenty-eight (22%) of the 127 patients died. Among the 102 patients with documented symptoms, 90 (88%) had bubonic plague, and 12 (12%) had pneumonic plague. The results of this investigation underscore the need to 1) continue efforts to educate residents of rural Uganda regarding the source, signs, and symptoms of plague and the life-saving importance of seeking treatment; 2) strengthen plague surveillance and diagnostic capabilities; and 3) improve emergency response and vector-control capacity, especially in remote regions of the country.

In rural Uganda, where laboratory capacity is limited, clinicians generally rely on clinical criteria for the diagnosis of plague. These criteria, as established by the Uganda Ministry of Health, are as follows: sudden onset of fever, chills, malaise, headache, or prostration accompanied by either painful regional lymphadenitis (bubonic plague) or cough with hemoptysis (pneumonic plague). For this investigation, a plague case was defined as clinically diagnosed plague with onset during July 1–December 30, 2006, in a resident of Arua or Nebbi districts. Beginning November 28, cases were ascertained through retrospective review of patient logs in eight clinics and two hospitals that historically have accounted for 85% of reported plague cases in the region (Uganda Virus Research Institute, unpublished data, 1999–2005). Information was collected on patient age, sex, village of residence, clinical presentation, and outcome. In addition, clinicians at these facilities and all other health clinics in Arua and Nebbi districts were asked to report immediately by cellular telephone or messenger any new cases identified. When possible, diagnostic samples (i.e., serum and bubo aspirates) were collected from patients with acute or recent illness diagnosed as plague. Laboratory-confirmed plague was defined as isolation of *Y. pestis* or a four-fold change in antibody titer to F1 antigen between paired acute and convalescent serum samples with a least one sample having a titer  $\geq 1:16$ .

A total of 127 plague cases with onset dates during July 19–December 30, 2006 (Figure 1), were identified in Arua and Nebbi districts in northwestern Uganda (Figure 2). Among the 102 patients with documented symptoms, 90 (88%) had bubonic plague, and 12 (12%) had pneumonic plague. Two or more plague cases were reported from nine different villages, including four villages that reported 10 or more cases (Nave, 18; Kestro, 18; Andosi, 17; and Yiapi, 10). The median patient age was 14 years (range: 2 weeks–65 years); 65 patients (51%) were female (Table).

Of 11 pneumonic plague deaths, six (55%) occurred in one village, in which four members of a single family died. Interviews with village residents indicated that the index case in that family was in a boy aged 10 years who developed fever and a cervical bubo, followed by hemoptysis; he died on November 3. Within 7 days, the child's mother, grandmother, and aunt, all of whom had cared for the child, also developed hemoptysis and died. Initially, ill village residents did not seek health care because they believed the illness was of supernatural origin stemming from a local feud. However, when two additional village members not involved in the feud died of similar symptoms on November 8, ill villagers began seeking care at the health clinic, where they were treated with appropriate antibiotics and recovered.

**FIGURE 1. Number of plague cases (N = 127),\* by week of onset and outcome — Arua and Nebbi districts, Uganda, July 1–December 30, 2006**

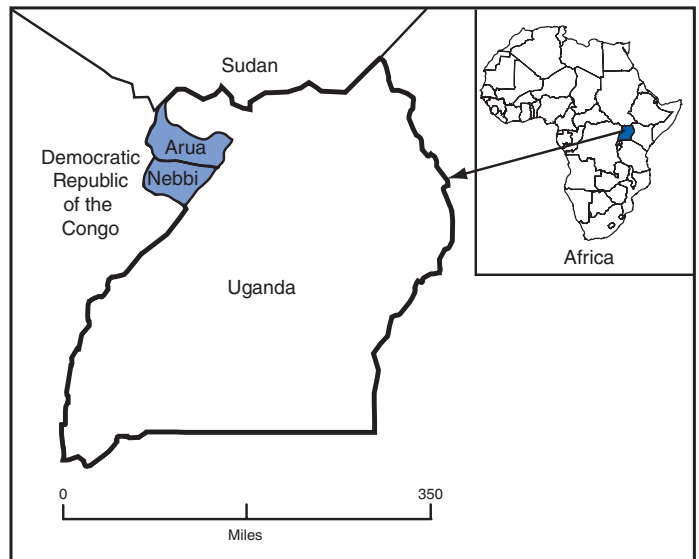


\* Defined as sudden onset of fever, chills, malaise, headache, or prostration accompanied by either painful regional lymphadenitis (bubonic plague) or cough with hemoptysis (pneumonic plague).

Bubo aspirates were obtained from 11 (12%) of 90 patients with bubonic manifestations. None of the cases met the criteria for laboratory confirmation. *Y. pestis* was not recovered from any of the 11 aspirates; however, eight of the 11 patients had been treated with antibiotics before sample collection. Paired acute and convalescent blood samples were obtained from seven (6%) of the 127 patients and convalescent blood samples alone from another 31 (24%). No paired serum samples had a four-fold change in antibody titer. However, convalescent sera from five (13%) of the 38 total patients with convalescent samples had single titers that ranged from 1:16 to 1:256 (median: 1:64), which is suggestive of recent or previous *Y. pestis* infection. Samples were not available from any of the 12 patients who received a diagnosis of pneumonic plague; 11 of these patients died before the investigation began.

To evaluate access to care, patient behaviors, and potential plague exposures, structured interviews were conducted during December 1–16 with a convenience sample of 39 plague patients in six Arua and Nebbi villages. Dates of illness onset for interviewed patients were from October 13 to December 14. Twenty-seven patients (69%) reported that they walked to the local health clinic for treatment of plague symptoms, and 12 (31%) rode a bicycle. Fifteen patients (38%) said travel to the nearest health clinic took >2 hours, and 24 patients (62%) said travel took ≤2 hours. Seventeen (44%) of the interviewed patients reported taking medications, including acetaminophen, chloroquine, or traditional herbs, obtained in the village before visiting the clinic. Twenty-three patients (59%) reported seeing dead rats in their homes during the 2

**FIGURE 2. Geographic location of Arua and Nebbi districts in northwestern Uganda**



weeks preceding their illness; some villagers reported recently finding and burying dead rats near their homes.

While visiting villages, investigators in the two districts recovered eight dead rats (*Rattus rattus*), of which four tested positive for *Y. pestis* by direct fluorescent antibody staining and two tested positive by culture isolation. Live *R. rattus* species trapped in two affected villages were found to have an average of two fleas per rat; recovery of more than one flea per rat has been associated with increased risk for plague transmission (3). On December 8, 2006, vector-control teams comprised of local villagers began applying dichlorvos, a residual insecticide, to households in affected villages in an effort to interrupt plague transmission. By December 14, the teams had treated 935 houses in 10 Arua District villages that had reported two or more plague cases since September 1. The death of the vector-control team leader from causes unrelated to plague prevented expansion of the spraying operation to affected villages in Nebbi District.

**Reported by:** A Ogen-Odoi, E Katangole Mbidde, Uganda Virus Research Institute; J Lutwama, MD, J Wamala, MD, A Mucunguzi, MD, M Mugagga, A Kagirita, L Lukwago, M Musenero Musanza, MD, A Talisuna, MD, J Turyagaruki, MD, Uganda Ministry of Health; J Kirungi, Masindi District Health Office; O Namusisi, MD, African Field Epidemiology Network; R Downing, PhD, J Tappero, MD, CDC Uganda. R Enscoe, MS, M Schriefer, PhD, S Bearden, PhD, C Sexton, E Zielinski-Gutierrez, DrPH, K Griffith, MD, P Mead, MD, Div of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases; M Duffy, DVM, EIS Officer, CDC.

**Editorial Note:** African countries accounted for nearly 90% of the 28,530 plague cases reported to the World Health Organization during the most recent 10-year reporting period

**TABLE. Number and percentage of plague cases,\* by primary clinical form, patient age group, sex, and outcome — Arua and Nebbi districts, Uganda, July 1–December 30, 2006**

Characteristic	Total (N = 127)		Pneumonic plague (n = 12)		Bubonic plague (n = 90)		Primary form of plague not specified (n = 25)	
	No.	(%)†	No.	(%)	No.	(%)	No.	(%)
<b>Age group (yrs)</b>								
≤14	71	(56)	4	(33)	55	(61)	12	(48)
15–29	30	(24)	2	(17)	21	(23)	7	(28)
30–44	18	(14)	2	(17)	12	(13)	4	(16)
≥45	8	(6)	4	(33)	2	(2)	2	(8)
<b>Sex</b>								
Male	62	(49)	4	(33)	42	(47)	16	(64)
Female	65	(51)	8	(67)	48	(53)	9	(36)
<b>Outcome</b>								
Recovered	88	(69)	1	(8)	75	(83)	12	(48)
Died	28	(22)	11	(92)	9	(10)	8	(32)
Unknown	11	(9)	0	—	6	(7)	5	(20)

\* Defined as sudden onset of fever, chills, malaise, headache, or prostration accompanied by either painful regional lymphadenitis (bubonic plague) or cough with hemoptysis (pneumonic plague).

† Percentages might not add to 100% because of rounding.

(1994–2003) (4). In Uganda, 200–400 clinically diagnosed plague cases are reported annually, with an estimated case-fatality rate of 30% (4). Although human cases typically occur sporadically or in small clusters, the potential for pneumonic outbreaks with spread to other areas is a great concern (5,6). Approximately 6 weeks after this investigation, an outbreak of pneumonic plague with seven deaths was reported from Masindi District, a neighboring but ecologically distinct region where plague is not endemic. The index patient was an adolescent girl aged 15 years who had become ill while visiting relatives in a plague-affected area of Nebbi District.

The investigation described in this report highlights some of the challenges associated with identifying and controlling plague in rural Africa. Because of limited laboratory capacity, clinicians usually rely on clinical criteria alone when diagnosing illnesses. Consequently, patients with other causes of acute lymphadenitis (e.g., staphylococcal) can be misdiagnosed as having plague, and patients with plague can be misdiagnosed as having other illnesses. When laboratory services are available, impassible roads and other logistic barriers can prevent timely specimen collection. Patients with less serious conditions might survive long enough to be tested; however, patients with more severe *Y. pestis* infection are likely to die before specimens can be collected. Such differential testing might have contributed to the low rate of seropositivity observed in this investigation among those patients whose specimens were tested. Greater regional laboratory capacity and point-of-care diagnostic assays would help clinicians and health officials identify plague cases more quickly, distinguish these cases from other causes of

similar illness, and facilitate more effective control of plague in Africa.

Also highlighted by this investigation is the effect of local beliefs on care-seeking behavior. Anthropologic studies have indicated that tribes living in Arua District hold diverse beliefs about disease causation and the role of the supernatural in human illness (7). Investigators observed that villagers initially ascribed an outbreak of pneumonic plague to feuding rather than to a disease that can be treated with antibiotics. Because prompt antimicrobial treatment can be life-saving for patients with plague, further studies are needed to 1) define local beliefs as they relate to plague, 2) determine how they influence care-seeking, and 3) identify effective messages that will result in plague patients seeking care at their local health center more quickly.

To enhance recognition, treatment, and control of plague in Uganda, CDC has entered into a cooperative agreement with the Uganda Ministry of Health and the Uganda Viral Research Institute. Studies are under way to 1) evaluate rapid, point-of-care diagnostic assays for plague, 2) describe belief systems that influence health-care-seeking behavior, 3) define the relative importance of various rodent and fleas species in plague transmission, and 4) assess opportunities for integrating flea control into existing vector-control programs (e.g., indoor residual spraying for malaria prevention). The overarching goal of this multidisciplinary effort is to create effective prevention programs and develop and exercise local contingency plans for plague outbreak response.

### Acknowledgment

This report is based, in part, on contributions by R Mbabaz, Kiryandongo Hospital, Masindi District, Uganda.

### References

1. Perry RD, Fetherston JD. *Yersinia pestis*—etiologic agent of plague. Clin Microbiol Rev 1997;10:35–66.
2. CDC. Prevention of plague: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1996;45(No. RR-14).
3. Politzer R. Plague. World Health Organization monograph series. No. 22. Geneva, Switzerland: World Health Organization; 1954.
4. World Health Organization. Human plague in 2002 and 2003. Wkly Epidemiol Rec 2004;79:301–6.
5. World Health Organization. Outbreak news. Plague, Democratic Republic of the Congo. Wkly Epidemiol Rec 2006;81:241–2.
6. Ratsitorahina M, Chanteau S, Rahalison L, Ratsifasoamanana L, Boisier P. Epidemiological and diagnostic aspects of the outbreak of pneumonic plague in Madagascar. Lancet 2000;355:111–3.
7. Barnes-Dean V. Lugbara illness beliefs and social change. Africa: Journal of International African Institute 1986;56:334–51.

### Errata: Vol. 58, No. 22

In the report, “Outbreak of Cryptosporidiosis Associated with a Splash Park — Idaho, 2007,” the relative risk (RR) and 95% confidence interval (CI) for exposure to a splash feature were reported incorrectly. On page 615, the fifth sentence of the first paragraph should read, “Patients were more likely than non-ill park visitors to have been exposed to water from a splash feature (relative risk [RR] = **6.1**).” On page 616, the second sentence in the first full paragraph should read, “Patients were more likely to have been exposed to splash-feature water only than were non-ill persons (RR = **6.1**; 95% CI = **2.3–16.2**) (Table 2).” On page 618, in Table 2, the relative risk for “Splash feature only” exposure should be **6.1**, with a 95% CI of **2.3–16.2**.

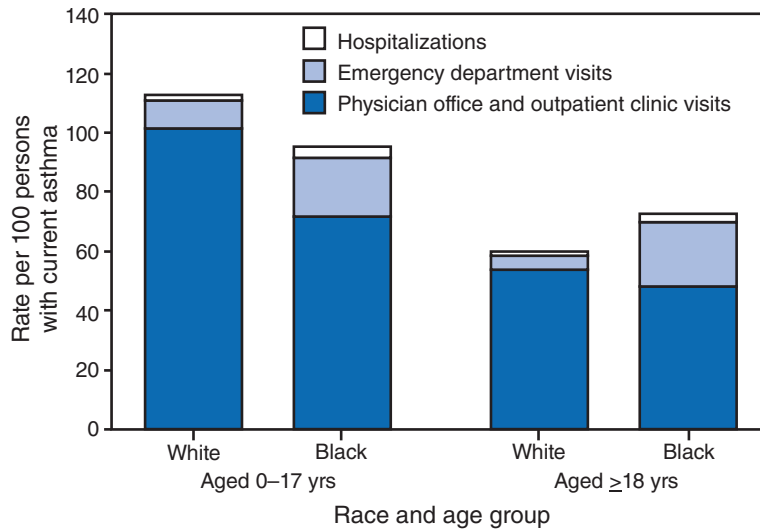
### Errata: Vol. 58, No. 20

In the report, “Apparent Disappearance of Black-White Infant Mortality Gap — Dane County, Wisconsin, 1990–2007,” errors appeared in Table 2 on page 563. Under the Birthweight (g) risk factors, the categories should be  $\geq 2,500$ , **<2,500**, and  $<1,500$ . In addition, the fourth footnote should read: <sup>‡</sup> Prevalence change percentage = (2002–2007 prevalence minus 1992–2001 prevalence)  $\times$  100 / 1992–2001 prevalence.

# QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

## Average Annual Rate of Health-Care Visits for Asthma Among Persons with Current Asthma,\* by Type of Visit, Black/White Race, and Age Group — United States, 2004–2006



\* Current asthma were determined by positive responses to the following two questions: "Has a doctor or other health professional ever told you that you have asthma?" and "Do you still have asthma?" Current asthma estimates are from the National Health Interview Survey, 2004–2006, and are based on household interviews of a sample of the civilian, noninstitutionalized U.S. population. Health-care visits for asthma were based on first listing of *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) diagnosis code 493.

During 2004–2006, the average annual rate of health-care visits among persons with current asthma was lower for blacks aged <17 years (95 per 100 persons) than for whites (113 per 100). However, among adults with current asthma, the rate of health-care visits was higher among blacks (73 per 100) than among whites (60 per 100). For both age groups, rates for physician office and outpatient clinic visits were higher among whites, whereas rates for emergency department visits and hospitalizations were higher among blacks.

**SOURCES:** National Ambulatory Medical Care Survey (physician office visits), National Hospital Ambulatory Medical Care Survey (emergency department and outpatient clinic visits), National Hospital Discharge Survey (hospitalizations), annual data files, 2004–2006. National Health Interview Survey (persons with current asthma), annual data files, 2004–2006. Available at <http://www.cdc.gov/nchs>.

**TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending July 18, 2009 (28th week)\***

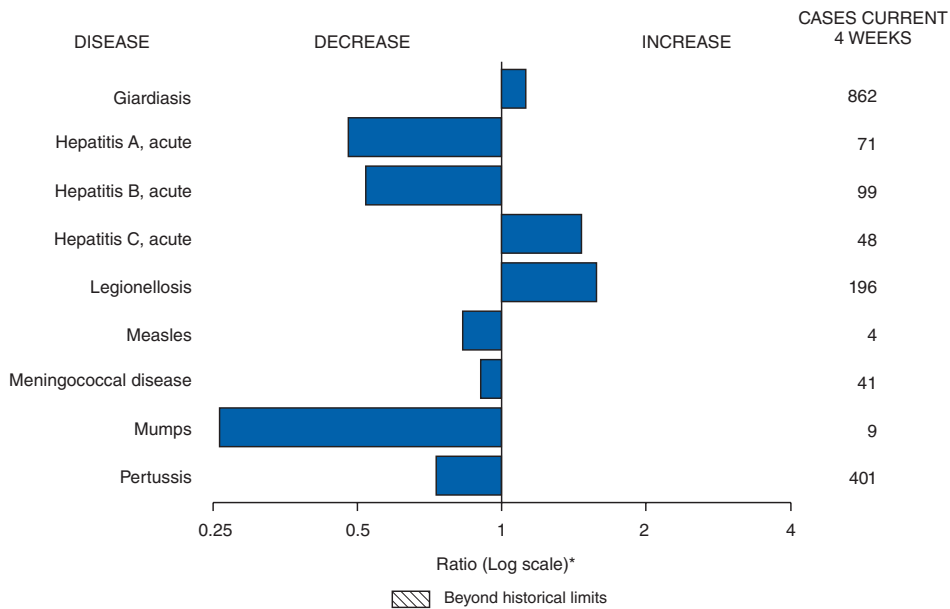
Disease	Current week	Cum 2009	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2008	2007	2006	2005	2004	
Anthrax	—	—	—	—	1	1	—	—	
Botulism:									
foodborne	—	10	0	17	32	20	19	16	
infant	—	28	2	109	85	97	85	87	
other (wound and unspecified)	—	13	1	19	27	48	31	30	
Brucellosis	2	50	2	80	131	121	120	114	FL (1), HI (1)
Chancroid	—	18	1	25	23	33	17	30	
Cholera	—	2	0	5	7	9	8	6	
Cyclosporiasis§	4	57	10	139	93	137	543	160	NY (1), FL (2), TX (1)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup	—	1	4	62	55	67	80	112	
eastern equine	—	—	0	4	4	8	21	6	
Powassan	—	—	0	2	7	1	1	1	
St. Louis	—	4	0	13	9	10	13	12	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§,**:									
<i>Ehrlichia chaffeensis</i>	16	222	26	1,137	828	578	506	338	NY (1), OH (2), MO (3), MD (3), NC (1), GA (1), FL (1), OK (4)
<i>Ehrlichia ewingii</i>	—	—	0	9	—	—	—	—	
<i>Anaplasma phagocytophilum</i>	6	160	30	1,026	834	646	786	537	NY (5), VA (1)
undetermined	2	40	10	180	337	231	112	59	NY (1), OH (1)
<i>Haemophilus influenzae</i> ,††									
invasive disease (age <5 yrs):									
serotype b	—	14	0	30	22	29	9	19	
nonserotype b	—	109	3	244	199	175	135	135	
unknown serotype	2	125	3	163	180	179	217	177	OH (1), HI (1)
Hansen disease§	—	32	1	80	101	66	87	105	
Hantavirus pulmonary syndrome§	—	4	1	18	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal§	2	87	7	330	292	288	221	200	MN (1), AR (1)
Hepatitis C viral, acute	12	471	16	878	845	766	652	720	NY (2), PA (1), OH (3), MI (1), NE (1), WA (3), OR (1)
HIV infection, pediatric (age <13 years)§§	—	—	4	—	—	—	380	436	
Influenza-associated pediatric mortality§,¶¶	5	96	1	90	77	43	45	—	MN (1), NY (3), VA (1)
Listeriosis	8	290	20	759	808	884	896	753	NY (1), PA (1), OH (2), DE (1), TX (1), WA (1), CA (1)
Measles***	—	39	2	140	43	55	66	37	
Meningococcal disease, invasive†††:									
A, C, Y, and W-135	4	154	4	330	325	318	297	—	FL (1), TX (3)
serogroup B	—	81	3	188	167	193	156	—	
other serogroup	—	14	0	38	35	32	27	—	
unknown serogroup	9	267	10	616	550	651	765	—	NY (1), GA (1), FL (1), AZ (1), NV (1), CA (4)
Mumps	5	181	16	454	800	6,584	314	258	ME (1), NY (1), OH (1), FL (1), HI (1)
Novel influenza A virus infections§§§	—	40,617	—	2	4	N	N	N	
Plague	—	4	0	1	7	17	8	3	
Poliomyelitis, paralytic	—	—	—	—	—	—	1	—	
Polio virus infection, nonparalytic§	—	—	—	—	—	N	N	N	
Psittacosis§	—	6	0	8	12	21	16	12	
Q fever total§,¶¶¶:	2	42	3	124	171	169	136	70	
acute	1	37	1	110	—	—	—	—	NY (1)
chronic	1	5	0	14	—	—	—	—	NE (1)
Rabies, human	—	1	0	2	1	3	2	7	
Rubella****	—	1	0	16	12	11	11	10	
Rubella, congenital syndrome	—	1	—	—	—	1	1	—	
SARS-CoV§,††††	—	—	—	—	—	—	—	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	1	85	2	157	132	125	129	132	NY (1)
Syphilis, congenital (age <1 yr)	—	95	8	422	430	349	329	353	
Tetanus	—	6	1	19	28	41	27	34	
Toxic-shock syndrome (staphylococcal)§	—	43	2	71	92	101	90	95	
Trichinellosis	—	11	1	39	5	15	16	5	
Tularemia	1	22	5	123	137	95	154	134	MO (1)
Typhoid fever	2	170	7	447	434	353	324	322	MD (1), CA (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> §	1	31	0	63	37	6	2	—	MN (1)
Vancomycin-resistant <i>Staphylococcus aureus</i> §	—	—	—	—	2	1	3	1	
Vibriosis (noncholera <i>Vibrio</i> species infections)§	14	152	8	492	549	N	N	N	NC (2), GA (1), FL (3), WA (3), CA (4), HI (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 July 18, 2009 (28th week)\***

—: No reported cases. N: Not reportable. 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. The total sum of incident cases is then divided by 25 weeks. Additional information is available at <http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.  
 § Not reportable in all states. Data from states where the condition is not reportable 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. Ninety-five 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.  
 §§§ These cases were obtained from state and territorial health departments in response to the novel influenza A (H1N1) virus infections and include both confirmed and probable cases in addition to those reported to the National Notifiable Diseases Surveillance System (NNDSS). Because of the volume of cases and the method by which they are being collected, a 5-year weekly average for this disease is not calculated.  
 ¶¶¶ 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 July 18, 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.

**Notifiable Disease Data Team and 122 Cities Mortality Data Team**  
 Patsy A. Hall  
 Deborah A. Adams      Rosaline Dhara  
 Willie J. Anderson      Michael S. Wodajo  
 Lenee Blanton      Pearl C. Sharp



TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending July 18, 2009, and July 12, 2008 (28th week)\*

Table with columns for Reporting area, Current week, Previous 52 weeks (Med, Max), Cum 2009, Cum 2008 for Chlamydia†, Coccidioidomycosis, and Cryptosporidiosis. Rows list various US states and territories.

C.N.M.I.: Commonwealth of Northern Mariana Islands. U: Unavailable. -: No reported cases. N: Not reportable. 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 July 18, 2009, and July 12, 2008 (28th week)\*

Reporting area	Giardiasis					Gonorrhea					Haemophilus influenzae, invasive All ages, 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		
<b>United States</b>	268	315	641	7,810	8,184	2,142	5,603	7,164	136,197	176,378	23	50	124	1,512	1,692
<b>New England</b>	6	25	64	504	702	77	97	301	2,614	2,723	—	3	16	86	92
Connecticut	—	6	14	128	167	55	47	275	1,215	1,213	—	0	12	29	20
Maine‡	6	4	12	94	66	—	2	9	74	50	—	0	2	13	8
Massachusetts	—	10	27	150	298	22	37	112	1,066	1,194	—	1	5	32	46
New Hampshire	—	2	10	47	60	—	1	6	55	64	—	0	2	6	7
Rhode Island‡	—	1	8	31	46	—	6	19	181	183	—	0	7	3	4
Vermont‡	—	3	15	54	65	—	1	4	23	19	—	0	1	3	7
<b>Mid. Atlantic</b>	53	58	116	1,436	1,587	625	591	1,138	15,923	17,362	6	11	25	316	313
New Jersey	—	7	21	85	262	—	92	127	2,056	2,861	—	1	7	31	49
New York (Upstate)	31	24	81	617	523	91	108	664	2,764	3,222	3	2	20	75	91
New York City	5	15	30	369	435	399	209	577	6,041	5,391	1	2	11	77	56
Pennsylvania	17	16	46	365	367	135	189	267	5,062	5,888	2	4	10	133	117
<b>E.N. Central</b>	19	45	90	1,080	1,262	348	1,101	1,627	26,137	36,677	5	8	27	210	271
Illinois	—	9	32	189	346	—	359	499	7,332	10,630	—	3	9	75	82
Indiana	N	0	11	N	N	93	152	256	4,003	4,711	—	1	22	47	47
Michigan	3	12	22	295	272	162	290	493	7,971	9,103	—	0	3	14	16
Ohio	15	16	31	406	413	37	251	482	4,511	8,821	5	1	6	65	86
Wisconsin	1	9	19	190	231	56	98	149	2,320	3,412	—	0	4	9	40
<b>W.N. Central</b>	57	25	143	732	783	32	293	393	7,068	8,925	—	3	15	86	128
Iowa	6	6	18	144	149	—	32	53	851	815	—	0	0	—	2
Kansas	—	3	11	60	63	12	39	83	1,055	1,181	—	0	2	11	15
Minnesota	40	0	106	214	191	—	46	78	1,022	1,705	—	0	10	21	37
Missouri	3	7	22	186	223	—	138	184	3,232	4,269	—	1	4	31	49
Nebraska‡	8	3	10	85	100	12	25	51	674	749	—	0	4	18	17
North Dakota	—	0	16	8	10	1	2	7	33	61	—	0	4	5	8
South Dakota	—	2	11	35	47	7	8	20	201	145	—	0	0	—	—
<b>S. Atlantic</b>	57	67	108	1,855	1,369	409	1,220	2,042	28,252	43,661	7	13	30	439	429
Delaware	—	0	3	16	24	18	16	35	473	615	—	0	2	3	4
District of Columbia	—	0	5	—	32	48	50	88	1,524	1,365	—	0	2	—	3
Florida	39	33	57	928	597	208	415	507	10,931	13,029	3	4	10	152	107
Georgia	8	14	67	515	320	2	255	876	4,734	7,888	1	3	9	92	88
Maryland‡	3	5	10	127	129	—	119	212	2,887	3,310	1	1	6	53	72
North Carolina	N	0	0	N	N	—	0	542	—	6,620	—	1	17	48	43
South Carolina‡	1	2	8	47	63	—	167	419	3,800	5,156	1	1	5	30	37
Virginia‡	6	8	31	199	169	130	152	308	3,616	5,276	—	1	6	41	60
West Virginia	—	1	5	23	35	3	11	26	287	402	1	0	3	20	15
<b>E.S. Central</b>	3	8	22	170	220	247	514	771	13,614	15,957	1	3	7	90	90
Alabama‡	1	4	12	75	123	—	151	216	3,441	5,394	—	0	4	23	15
Kentucky	N	0	0	N	N	92	80	153	1,839	2,340	—	0	5	15	6
Mississippi	N	0	0	N	N	—	144	253	3,906	3,738	—	0	1	—	11
Tennessee‡	2	4	13	95	97	155	162	301	4,428	4,485	1	2	5	52	58
<b>W.S. Central</b>	7	8	22	190	170	89	924	1,325	23,357	27,605	1	2	22	74	79
Arkansas‡	1	2	8	66	61	75	85	134	2,374	2,475	—	0	2	13	9
Louisiana	1	2	10	56	62	—	157	420	4,062	5,192	—	0	1	11	8
Oklahoma	5	3	18	68	47	14	70	616	2,378	2,528	1	1	20	49	56
Texas‡	N	0	0	N	N	—	566	725	14,543	17,410	—	0	1	1	6
<b>Mountain</b>	9	24	62	588	656	41	179	313	3,871	6,424	—	5	11	143	197
Arizona	—	3	10	92	59	1	49	82	822	1,896	—	1	7	52	81
Colorado	—	9	27	194	242	2	56	158	1,382	1,972	—	1	6	47	36
Idaho‡	4	3	14	66	72	—	2	13	46	91	—	0	2	2	10
Montana‡	—	2	9	46	33	1	2	6	44	60	—	0	1	1	2
Nevada‡	4	2	8	47	56	13	32	86	906	1,304	—	0	2	11	11
New Mexico‡	—	2	8	43	48	24	23	52	539	759	—	0	3	15	30
Utah	—	6	18	71	128	—	5	15	90	288	—	0	2	15	27
Wyoming‡	1	1	4	29	18	—	2	8	42	54	—	0	2	—	—
<b>Pacific</b>	57	54	130	1,255	1,435	274	561	756	15,361	17,044	3	2	7	68	93
Alaska	—	2	10	33	37	—	14	24	338	271	—	0	3	8	13
California	44	35	59	893	987	222	474	657	13,134	14,034	—	0	3	12	33
Hawaii	—	0	4	6	19	—	11	19	317	327	3	0	2	17	11
Oregon‡	—	7	17	159	227	20	21	48	546	660	—	1	3	28	34
Washington	13	7	74	164	165	32	47	81	1,026	1,752	—	0	2	3	2
American Samoa	—	0	0	—	—	—	0	0	—	3	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	1	15	—	45	—	0	0	—	—
Puerto Rico	—	3	15	49	92	7	4	24	140	153	—	0	1	1	—
U.S. Virgin Islands	—	0	0	—	—	—	2	7	63	72	N	0	0	N	N

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

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

\* Incidence data for reporting year 2008 and 2009 are provisional.

† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.

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

**TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 18, 2009, and July 12, 2008 (28th week)\***

Reporting area	Hepatitis (viral, acute), by type†											Legionellosis			
	A					B									
	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		
<b>United States</b>	24	36	89	885	1,471	41	70	197	1,619	1,983	53	48	152	1,053	1,223
<b>New England</b>	—	2	8	34	71	—	1	4	16	46	3	2	18	40	77
Connecticut	—	0	4	12	14	—	0	3	7	17	3	1	5	25	15
Maine§	—	0	5	1	4	—	0	2	6	9	—	0	2	1	1
Massachusetts	—	1	3	14	36	—	0	2	1	13	—	0	6	6	34
New Hampshire	—	0	2	3	5	—	0	2	2	3	—	0	4	4	13
Rhode Island§	—	0	2	3	10	—	0	1	—	3	—	0	14	3	10
Vermont§	—	0	1	1	2	—	0	1	—	1	—	0	1	1	4
<b>Mid. Atlantic</b>	1	5	13	99	157	3	6	17	153	248	25	14	60	340	331
New Jersey	—	0	5	5	36	—	1	5	22	71	—	1	14	11	44
New York (Upstate)	—	1	4	26	33	2	1	11	35	35	20	5	24	124	94
New York City	—	2	6	32	52	—	1	4	32	53	—	2	12	66	47
Pennsylvania	1	1	4	36	36	1	2	8	64	89	5	6	35	139	146
<b>E.N. Central</b>	2	4	12	98	203	1	10	21	222	263	8	8	41	166	271
Illinois	—	1	5	25	76	—	2	7	24	93	—	1	13	8	38
Indiana	—	0	3	8	10	—	1	18	50	22	—	0	6	8	26
Michigan	—	1	5	34	72	1	3	8	71	74	—	2	16	41	73
Ohio	2	1	4	26	26	—	2	13	57	62	8	4	18	104	121
Wisconsin	—	0	3	5	19	—	0	4	20	12	—	0	6	5	13
<b>W.N. Central</b>	2	2	16	62	176	—	2	16	71	43	—	2	8	32	59
Iowa	—	0	3	15	83	—	0	3	12	12	—	0	2	10	9
Kansas	—	0	1	6	11	—	0	2	4	6	—	0	1	2	1
Minnesota	—	0	12	12	20	—	0	11	11	4	—	0	3	5	8
Missouri	—	0	3	14	21	—	1	5	33	18	—	1	7	9	28
Nebraska§	2	0	2	13	39	—	0	2	10	3	—	0	1	5	12
North Dakota	—	0	2	—	—	—	0	1	—	—	—	0	3	1	—
South Dakota	—	0	1	2	2	—	0	1	1	—	—	0	1	—	1
<b>S. Atlantic</b>	10	7	15	220	196	26	18	31	517	493	11	9	22	234	217
Delaware	—	0	1	3	5	U	0	1	U	U	—	0	5	8	6
District of Columbia	U	0	0	U	U	U	0	0	U	U	—	0	2	—	7
Florida	5	4	8	104	75	7	6	11	169	173	3	3	7	80	72
Georgia	1	1	4	34	28	—	3	9	76	92	—	1	5	27	18
Maryland§	2	0	4	23	24	—	2	5	41	45	3	2	10	57	57
North Carolina	—	1	7	22	35	—	1	19	122	49	2	0	7	32	11
South Carolina§	2	0	3	19	6	—	1	5	23	37	—	0	1	3	4
Virginia§	—	1	6	15	20	—	2	10	42	57	3	1	5	26	29
West Virginia	—	0	1	—	3	19	1	6	44	40	—	0	3	1	13
<b>E.S. Central</b>	—	1	5	22	42	2	8	11	156	198	1	2	5	49	69
Alabama§	—	0	2	6	5	1	2	7	47	53	—	0	2	6	8
Kentucky	—	0	2	4	15	1	2	7	42	54	—	1	3	22	34
Mississippi	—	0	1	5	4	—	0	3	7	20	—	0	1	1	1
Tennessee§	—	0	4	7	18	—	2	8	60	71	1	0	4	20	26
<b>W.S. Central</b>	—	3	43	73	139	—	11	99	230	405	—	2	21	42	36
Arkansas§	—	0	1	4	4	—	1	5	22	27	—	0	2	3	5
Louisiana	—	0	2	2	7	—	1	4	22	54	—	0	2	2	5
Oklahoma	—	0	6	1	4	—	2	17	50	48	—	0	6	3	3
Texas§	—	3	37	66	124	—	6	76	136	276	—	1	19	34	23
<b>Mountain</b>	—	3	8	82	138	—	3	9	69	106	1	2	8	52	38
Arizona	—	1	6	38	73	—	1	4	26	42	—	0	3	22	10
Colorado	—	0	5	23	23	—	0	3	12	16	—	0	2	4	3
Idaho§	—	0	1	2	14	—	0	2	4	4	—	0	1	—	2
Montana§	—	0	1	4	—	—	0	1	—	—	—	0	2	4	3
Nevada§	—	0	3	6	5	—	0	3	15	25	1	0	2	8	6
New Mexico§	—	0	1	5	14	—	0	2	5	7	—	0	2	—	3
Utah	—	0	2	4	6	—	0	3	4	7	—	0	5	13	11
Wyoming§	—	0	0	—	3	—	0	2	3	5	—	0	1	1	—
<b>Pacific</b>	9	7	18	195	349	9	7	36	185	181	4	3	12	98	125
Alaska	—	0	1	3	3	—	0	1	3	6	—	0	1	2	1
California	7	6	17	150	287	6	5	28	137	123	4	3	9	75	94
Hawaii	—	0	2	4	6	—	0	1	3	4	—	0	1	1	5
Oregon§	1	0	2	12	20	—	1	4	23	25	—	0	2	7	11
Washington	1	1	4	26	33	3	1	8	19	23	—	0	4	13	14
American Samoa	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	2	15	17	—	0	5	10	27	—	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 reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.  
 \* Incidence data for reporting year 2008 and 2009 are provisional.  
 † Data for acute hepatitis C, viral are available in Table I.  
 § Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 18, 2009, and July 12, 2008 (28th week)\*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive†				
	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		
<b>United States</b>	549	485	1,915	7,331	13,456	10	22	46	493	542	13	16	48	516	761
<b>New England</b>	56	63	736	834	5,504	—	0	5	15	28	—	0	4	17	21
Connecticut	—	0	241	—	2,115	—	0	4	4	6	—	0	1	1	1
Maine <sup>§</sup>	56	6	73	216	88	—	0	1	1	1	—	0	1	3	4
Massachusetts	—	12	366	117	2,370	—	0	4	6	15	—	0	3	9	13
New Hampshire	—	14	111	361	750	—	0	1	1	2	—	0	1	1	2
Rhode Island <sup>§</sup>	—	0	78	53	106	—	0	1	1	1	—	0	1	2	1
Vermont <sup>§</sup>	—	5	41	87	75	—	0	1	2	3	—	0	1	1	—
<b>Mid. Atlantic</b>	402	229	1,401	4,497	4,987	1	5	17	120	134	1	2	5	53	81
New Jersey	—	25	166	509	2,089	—	0	4	—	27	—	0	1	2	10
New York (Upstate)	183	87	1,368	1,481	1,135	1	0	10	26	15	1	0	2	15	20
New York City	—	1	54	1	285	—	3	11	69	73	—	0	2	9	17
Pennsylvania	219	53	338	2,506	1,478	—	1	4	25	19	—	1	4	27	34
<b>E.N. Central</b>	4	17	155	356	1,048	—	3	6	61	84	—	3	8	86	132
Illinois	—	0	7	19	66	—	1	5	23	40	—	1	6	19	47
Indiana	—	0	6	8	16	—	0	1	8	4	—	0	4	20	17
Michigan	2	1	10	21	14	—	0	3	11	10	—	0	4	16	20
Ohio	1	0	6	15	8	—	0	2	16	20	—	0	3	25	30
Wisconsin	1	15	140	293	944	—	0	2	3	10	—	0	1	6	18
<b>W.N. Central</b>	4	6	336	87	204	—	1	7	29	31	—	1	9	40	69
Iowa	—	1	8	36	65	—	0	3	5	2	—	0	1	4	13
Kansas	—	0	4	10	5	—	0	2	2	3	—	0	2	8	3
Minnesota	—	1	326	28	128	—	0	7	13	14	—	0	4	9	20
Missouri	2	0	1	4	2	—	0	2	5	6	—	0	2	13	22
Nebraska <sup>§</sup>	2	0	3	8	2	—	0	1	3	6	—	0	1	4	9
North Dakota	—	0	10	—	—	—	0	0	—	—	—	0	3	—	1
South Dakota	—	0	1	1	2	—	0	1	1	—	—	0	1	2	1
<b>S. Atlantic</b>	77	65	223	1,419	1,576	2	6	15	164	145	3	2	9	97	107
Delaware	19	12	30	405	452	—	0	1	1	1	—	0	1	2	1
District of Columbia	—	0	5	—	31	—	0	2	—	2	—	0	0	—	—
Florida	2	1	6	21	18	1	1	7	43	25	2	1	4	34	39
Georgia	1	0	6	22	22	—	1	4	36	33	1	0	2	20	14
Maryland <sup>§</sup>	47	30	163	681	733	1	1	8	42	41	—	0	1	5	12
North Carolina	2	1	7	37	4	—	0	5	18	15	—	0	5	16	9
South Carolina <sup>§</sup>	—	0	3	13	13	—	0	1	1	5	—	0	1	7	15
Virginia <sup>§</sup>	6	12	61	200	225	—	1	4	22	22	—	0	2	9	13
West Virginia	—	1	17	40	78	—	0	1	1	1	—	0	2	4	4
<b>E.S. Central</b>	—	0	5	10	24	1	0	3	18	10	—	0	3	17	38
Alabama <sup>§</sup>	—	0	1	1	8	—	0	3	6	3	—	0	1	4	5
Kentucky	—	0	2	1	2	—	0	2	7	3	—	0	1	3	7
Mississippi	—	0	0	—	1	—	0	0	—	1	—	0	1	1	9
Tennessee <sup>§</sup>	—	0	3	8	13	1	0	2	5	3	—	0	1	9	17
<b>W.S. Central</b>	—	2	21	18	44	—	1	10	11	24	3	1	12	47	78
Arkansas <sup>§</sup>	—	0	0	—	—	—	0	1	—	—	—	0	2	5	12
Louisiana	—	0	1	—	1	—	0	1	1	2	—	0	3	9	17
Oklahoma	—	0	2	—	—	—	0	2	1	2	—	0	3	4	10
Texas <sup>§</sup>	—	2	21	18	43	—	1	10	9	20	3	1	9	29	39
<b>Mountain</b>	—	1	13	18	22	—	0	3	7	14	2	1	4	43	41
Arizona	—	0	2	2	3	—	0	2	2	5	1	0	2	9	5
Colorado	—	0	1	1	2	—	0	1	2	3	—	0	2	13	9
Idaho <sup>§</sup>	—	0	2	6	4	—	0	1	1	—	—	0	1	5	4
Montana <sup>§</sup>	—	0	13	1	2	—	0	1	1	—	—	0	2	4	4
Nevada <sup>§</sup>	—	0	2	7	4	—	0	1	—	4	1	0	2	4	7
New Mexico <sup>§</sup>	—	0	2	—	6	—	0	1	—	1	—	0	1	3	5
Utah	—	0	1	—	—	—	0	1	1	1	—	0	1	1	5
Wyoming <sup>§</sup>	—	0	1	1	1	—	0	0	—	—	—	0	2	4	2
<b>Pacific</b>	6	3	13	92	47	6	3	10	68	72	4	4	14	116	194
Alaska	—	0	2	1	3	—	0	1	1	3	—	0	2	2	3
California	6	2	6	81	29	4	2	8	52	56	4	2	8	75	146
Hawaii	N	0	0	N	N	—	0	1	1	2	—	0	1	3	3
Oregon <sup>§</sup>	—	0	3	7	15	—	0	2	7	4	—	1	7	27	23
Washington	—	0	12	3	—	2	0	3	7	7	—	0	6	9	19
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	2	—	1	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	1	2	—	0	1	—	2
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 reportable. 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 July 18, 2009, and July 12, 2008 (28th 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		
<b>United States</b>	125	251	1,697	6,192	4,224	93	69	130	1,794	2,140	16	29	179	622	790
<b>New England</b>	2	16	33	241	492	2	8	15	176	199	—	0	2	4	3
Connecticut	—	0	4	13	32	1	3	10	80	96	—	0	0	—	—
Maine†	2	1	10	62	14	1	1	5	28	31	—	0	2	4	—
Massachusetts	—	10	26	105	389	—	0	0	—	—	—	0	1	—	1
New Hampshire	—	1	6	42	16	—	1	7	19	20	—	0	0	—	1
Rhode Island†	—	1	6	11	34	—	0	3	21	18	—	0	2	—	1
Vermont†	—	0	2	8	7	—	1	6	28	34	—	0	0	—	—
<b>Mid. Atlantic</b>	15	23	64	528	484	10	16	30	326	452	2	1	29	28	60
New Jersey	—	3	12	56	101	—	0	0	—	—	—	0	6	—	42
New York (Upstate)	6	6	41	105	157	10	8	20	208	232	1	0	29	4	6
New York City	—	0	21	48	45	—	0	2	—	10	—	0	4	15	6
Pennsylvania	9	11	33	319	181	—	7	17	118	210	1	0	2	9	6
<b>E.N. Central</b>	43	47	238	1,317	749	—	2	28	75	81	—	1	15	28	52
Illinois	—	14	45	234	104	—	1	20	26	32	—	1	10	14	40
Indiana	—	3	158	127	23	—	0	6	6	2	—	0	3	1	1
Michigan	1	9	21	292	107	—	1	9	24	28	—	0	1	3	2
Ohio	37	16	57	601	458	—	0	7	19	19	—	0	3	10	9
Wisconsin	5	4	10	63	57	N	0	0	N	N	—	0	0	—	—
<b>W.N. Central</b>	11	32	872	946	375	5	5	17	137	146	5	3	33	64	191
Iowa	—	5	21	86	63	—	0	5	9	10	—	0	1	1	5
Kansas	—	3	12	104	31	—	1	6	49	43	—	0	1	2	—
Minnesota	—	0	808	165	104	3	0	11	29	25	—	0	0	—	—
Missouri	9	14	51	488	128	2	1	8	19	20	3	2	32	55	180
Nebraska†	2	4	32	90	36	—	0	2	—	22	2	0	4	6	3
North Dakota	—	0	24	2	1	—	0	9	4	14	—	0	1	—	—
South Dakota	—	0	10	11	12	—	1	4	27	12	—	0	0	—	3
<b>S. Atlantic</b>	19	26	71	853	398	73	25	103	825	980	6	15	54	293	234
Delaware	—	0	3	7	6	—	0	0	—	—	—	0	3	3	15
District of Columbia	—	0	2	—	1	—	0	0	—	—	—	0	1	—	5
Florida	13	8	33	281	103	—	0	87	87	138	—	0	3	4	5
Georgia	—	3	11	106	38	71	5	52	225	213	—	1	5	21	38
Maryland†	1	3	10	56	52	—	6	13	166	249	—	1	7	25	28
North Carolina	—	0	65	199	76	N	2	4	N	N	4	10	36	194	83
South Carolina†	2	3	16	112	59	—	0	0	—	—	—	0	9	12	16
Virginia†	2	3	24	84	57	—	10	24	282	321	2	2	15	32	38
West Virginia	1	0	2	8	6	2	1	6	65	59	—	0	1	2	6
<b>E.S. Central</b>	4	13	33	382	148	—	3	7	63	93	1	4	22	110	127
Alabama†	1	3	19	139	20	—	0	0	—	—	—	1	7	21	34
Kentucky	2	5	15	119	29	—	1	4	29	17	—	0	0	—	1
Mississippi	—	1	4	24	65	—	0	2	—	2	—	0	3	4	4
Tennessee†	1	2	14	100	34	—	2	6	34	74	1	3	17	85	88
<b>W.S. Central</b>	15	47	389	1,106	496	—	0	7	31	61	1	2	161	79	105
Arkansas†	13	4	38	118	45	—	0	5	23	34	—	0	61	28	13
Louisiana	1	2	7	56	32	—	0	0	—	—	—	0	2	2	3
Oklahoma	1	0	45	17	14	—	0	6	7	25	1	0	98	38	72
Texas†	—	38	304	915	405	—	0	1	1	2	—	1	6	11	17
<b>Mountain</b>	2	15	31	413	485	—	2	9	51	34	1	1	3	14	16
Arizona	2	3	8	98	137	N	0	0	N	N	1	0	2	3	6
Colorado	—	4	12	151	81	—	0	0	—	—	—	0	1	—	—
Idaho†	—	1	5	42	20	—	0	2	—	4	—	0	1	—	—
Montana†	—	0	4	9	61	—	0	4	14	1	—	0	2	7	2
Nevada†	—	0	3	7	21	—	0	5	2	3	—	0	2	1	—
New Mexico†	—	1	10	30	27	—	0	2	15	18	—	0	1	1	1
Utah	—	3	19	75	130	—	0	6	3	2	—	0	1	1	2
Wyoming†	—	0	2	1	8	—	0	4	17	6	—	0	2	1	5
<b>Pacific</b>	14	21	98	406	597	3	4	13	110	94	—	0	1	2	2
Alaska	—	3	21	28	51	—	0	2	9	12	N	0	0	N	N
California	—	5	19	92	299	3	4	12	101	79	—	0	1	2	—
Hawaii	—	0	3	17	6	—	0	0	—	—	N	0	0	N	N
Oregon†	2	3	14	120	89	—	0	2	—	3	—	0	1	—	2
Washington	12	6	76	149	152	—	0	0	—	—	—	0	0	—	—
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	1	1	—	—	1	5	22	32	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 reportable. 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 July 18, 2009, and July 12, 2008 (28th week)\***

Reporting area	Salmonellosis					Shiga toxin-producing <i>E. coli</i> (STEC)†					Shigellosis				
	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		
<b>United States</b>	680	807	2,324	18,130	20,544	68	76	255	1,639	2,001	185	355	1,268	7,685	9,609
<b>New England</b>	3	25	235	787	1,280	1	3	50	98	127	1	3	24	75	121
Connecticut	—	0	209	209	491	—	0	50	50	47	—	0	19	19	40
Maine§	2	2	8	57	72	1	0	3	10	4	—	0	6	2	4
Massachusetts	—	16	41	263	561	—	1	11	15	52	—	2	9	40	65
New Hampshire	1	3	42	166	71	—	1	3	18	12	1	0	1	3	3
Rhode Island§	—	2	9	64	42	—	0	1	—	7	—	0	1	8	7
Vermont§	—	1	7	28	43	—	0	6	5	5	—	0	2	3	2
<b>Mid. Atlantic</b>	47	86	201	1,970	2,564	3	6	27	106	218	8	54	68	1,370	1,250
New Jersey	—	12	55	122	621	—	1	7	14	76	—	17	37	249	356
New York (Upstate)	28	24	65	560	604	3	3	12	50	58	5	5	23	108	356
New York City	3	18	49	495	587	—	1	5	36	25	1	9	23	219	451
Pennsylvania	16	29	78	793	752	—	0	8	6	59	2	19	47	794	87
<b>E.N. Central</b>	49	88	168	2,210	2,525	1	13	74	285	314	47	81	132	1,508	1,716
Illinois	—	24	50	490	744	—	1	10	61	54	—	15	34	308	533
Indiana	—	8	50	172	267	—	1	14	29	25	—	1	21	29	420
Michigan	8	18	38	475	468	—	3	43	69	63	—	5	24	126	56
Ohio	41	27	52	762	671	1	3	15	61	78	46	41	80	787	523
Wisconsin	—	13	30	311	375	—	3	16	65	94	1	11	42	258	184
<b>W.N. Central</b>	41	49	109	1,295	1,359	26	12	58	284	334	18	14	49	396	471
Iowa	4	7	16	206	226	4	3	21	80	81	—	3	12	44	81
Kansas	—	7	19	176	218	—	1	7	22	22	—	3	11	129	10
Minnesota	16	12	56	316	347	12	2	13	81	74	3	3	24	40	138
Missouri	12	11	48	221	341	6	2	11	47	86	13	3	33	164	140
Nebraska§	9	5	41	217	131	4	2	30	41	43	2	0	3	14	—
North Dakota	—	0	30	32	22	—	0	28	3	1	—	0	9	3	28
South Dakota	—	3	22	127	74	—	0	4	10	27	—	0	1	2	74
<b>S. Atlantic</b>	281	238	457	4,986	4,872	14	13	48	317	342	32	48	85	1,219	1,815
Delaware	1	2	9	38	70	—	0	2	8	7	—	0	8	45	7
District of Columbia	—	0	2	—	39	—	0	1	—	4	—	0	2	—	9
Florida	181	100	174	2,178	2,078	4	2	10	85	79	8	10	26	225	500
Georgia	19	39	96	874	906	1	1	8	35	40	7	13	30	337	721
Maryland§	10	16	35	358	385	1	2	11	42	50	8	5	12	192	36
North Carolina	27	27	106	722	442	3	2	21	70	36	4	6	27	239	57
South Carolina§	13	16	57	305	415	3	0	3	13	23	—	4	17	69	374
Virginia§	30	20	88	406	428	2	3	27	53	78	5	4	59	107	91
West Virginia	—	4	23	105	109	—	0	3	11	25	—	0	3	5	20
<b>E.S. Central</b>	25	51	140	1,087	1,312	4	5	12	108	129	2	22	58	503	1,131
Alabama§	5	15	49	297	346	—	1	4	23	39	—	4	12	87	267
Kentucky	4	10	18	226	213	2	2	7	35	30	2	2	25	130	196
Mississippi	2	12	57	238	406	—	0	1	6	3	—	1	6	16	246
Tennessee§	14	14	62	326	347	2	2	6	44	57	—	13	48	270	422
<b>W.S. Central</b>	43	86	1,334	1,470	2,597	3	4	139	63	165	35	83	967	1,448	2,050
Arkansas§	18	12	39	265	263	3	1	5	17	27	10	10	25	192	242
Louisiana	7	15	54	296	439	—	0	1	—	5	2	5	26	81	365
Oklahoma	18	14	102	276	297	—	0	82	10	16	10	5	61	126	54
Texas§	—	48	1,205	633	1,598	—	3	55	36	117	13	57	889	1,049	1,389
<b>Mountain</b>	12	56	106	1,324	1,624	4	9	40	205	226	15	28	54	581	378
Arizona	4	19	43	459	449	1	1	4	25	34	14	17	35	433	170
Colorado	—	12	23	301	404	—	3	18	78	66	—	2	11	45	43
Idaho§	2	3	9	84	91	3	2	15	33	46	—	0	2	4	5
Montana§	—	2	7	60	55	—	0	3	9	20	—	0	5	13	3
Nevada§	2	4	10	122	124	—	0	3	13	10	1	2	13	34	111
New Mexico§	—	6	22	128	305	—	1	4	17	23	—	3	12	46	31
Utah	—	6	19	129	157	—	2	9	27	20	—	0	3	6	12
Wyoming§	4	1	6	41	39	—	0	2	3	7	—	0	1	—	3
<b>Pacific</b>	179	123	537	3,001	2,411	12	9	31	173	146	27	29	82	585	677
Alaska	—	1	4	25	24	—	0	1	—	3	—	0	1	2	—
California	143	94	516	2,315	1,750	6	5	15	103	79	20	25	75	468	586
Hawaii	6	5	13	127	126	—	0	2	2	7	1	0	3	14	23
Oregon§	—	8	20	209	222	—	1	7	14	20	—	1	10	19	32
Washington	30	11	85	325	289	6	3	16	54	37	6	3	12	82	36
American Samoa	—	0	1	—	1	—	0	0	—	—	—	0	2	3	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	—	8	—	0	0	—	—	—	0	1	—	14
Puerto Rico	—	13	40	185	327	—	0	0	—	—	—	0	4	5	11
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 reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting year 2008 and 2009 are provisional.

† Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped.

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 18, 2009, and July 12, 2008 (28th week)\*

Reporting area	Streptococcal diseases, invasive, group A				<i>Streptococcus pneumoniae</i> , invasive disease, nondrug resistant†					
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max		
<b>United States</b>	31	99	239	3,196	3,561	8	33	122	972	1,085
<b>New England</b>	—	5	28	173	261	—	1	12	24	53
Connecticut	—	0	21	49	72	—	0	11	—	—
Maine§	—	0	3	12	17	—	0	1	2	1
Massachusetts	—	2	10	60	125	—	1	2	15	41
New Hampshire	—	1	4	30	16	—	0	1	5	7
Rhode Island§	—	0	2	9	20	—	0	2	—	4
Vermont§	—	0	3	13	11	—	0	1	2	—
<b>Mid. Atlantic</b>	2	18	38	611	742	—	4	33	143	142
New Jersey	—	1	5	5	136	—	0	4	14	41
New York (Upstate)	—	7	25	231	232	—	2	17	72	64
New York City	—	4	12	132	137	—	0	31	57	37
Pennsylvania	2	6	18	243	237	N	0	2	N	N
<b>E.N. Central</b>	1	16	42	632	713	2	5	18	148	200
Illinois	—	4	12	163	192	—	1	5	19	58
Indiana	—	3	23	107	91	—	0	13	20	20
Michigan	—	3	11	106	120	—	1	5	44	54
Ohio	1	4	13	162	199	2	1	6	46	36
Wisconsin	—	2	10	94	111	—	1	4	19	32
<b>W.N. Central</b>	2	6	37	276	266	—	2	11	80	52
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	1	5	37	29	N	0	1	N	N
Minnesota	—	0	34	118	127	—	0	10	41	12
Missouri	—	2	8	61	62	—	0	4	26	24
Nebraska§	2	1	3	32	25	—	0	1	5	6
North Dakota	—	0	4	11	8	—	0	3	4	5
South Dakota	—	0	3	17	15	—	0	2	4	5
<b>S. Atlantic</b>	12	22	47	729	701	5	6	16	202	209
Delaware	—	0	1	9	6	—	0	0	—	—
District of Columbia	—	0	2	—	8	N	0	0	N	N
Florida	3	6	12	170	155	1	1	6	47	39
Georgia	2	5	13	169	158	—	2	6	49	55
Maryland§	3	3	10	116	130	4	1	3	44	41
North Carolina	—	2	12	76	89	N	0	0	N	N
South Carolina§	2	1	5	47	41	—	1	6	33	34
Virginia§	2	3	9	113	87	—	0	4	18	35
West Virginia	—	1	4	29	27	—	0	3	11	5
<b>E.S. Central</b>	3	4	10	129	120	—	1	6	37	57
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	5	23	27	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	2	—	8
Tennessee§	3	3	9	106	93	—	1	6	37	49
<b>W.S. Central</b>	9	9	79	282	298	1	6	46	175	164
Arkansas§	—	0	2	12	7	1	0	4	18	10
Louisiana	—	0	3	9	12	—	0	3	13	9
Oklahoma	3	3	20	98	70	—	1	7	33	47
Texas§	6	6	59	163	209	—	4	34	111	98
<b>Mountain</b>	1	9	22	282	379	—	4	16	145	176
Arizona	1	3	7	96	132	—	2	10	80	82
Colorado	—	3	9	97	96	—	1	4	30	40
Idaho§	—	0	2	4	12	—	0	2	6	3
Montana§	N	0	0	N	N	N	0	0	N	N
Nevada§	—	0	1	5	6	—	0	1	—	2
New Mexico§	—	2	7	52	93	—	0	4	15	25
Utah	—	1	6	27	34	—	0	4	14	23
Wyoming§	—	0	1	1	6	—	0	1	—	1
<b>Pacific</b>	1	3	9	82	81	—	0	3	18	32
Alaska	—	0	4	10	17	—	0	2	13	21
California	N	0	0	N	N	N	0	0	N	N
Hawaii	1	3	8	72	64	—	0	2	5	11
Oregon§	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	—	0	0	—	30	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 reportable. 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 (NNDS event code 11717).

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 18, 2009, and July 12, 2008 (28th week)\*

Reporting area	Streptococcus pneumoniae, 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			
<b>United States</b>	17	58	276	1,770	2,015	3	9	21	271	298	101	265	452	6,678	6,587
<b>New England</b>	—	1	48	30	43	—	0	5	1	5	7	5	15	170	166
Connecticut	—	0	48	—	—	—	0	5	—	—	2	1	5	34	11
Maine§	—	0	2	8	14	—	0	1	—	—	—	0	1	1	8
Massachusetts	—	0	1	1	—	—	0	1	1	—	5	4	11	121	127
New Hampshire	—	0	3	5	—	—	0	0	—	—	—	0	2	10	9
Rhode Island§	—	0	6	7	16	—	0	1	—	3	—	0	5	4	6
Vermont§	—	0	1	9	13	—	0	0	—	—	—	0	2	—	5
<b>Mid. Atlantic</b>	—	4	14	106	205	—	0	3	19	16	34	33	51	964	897
New Jersey	—	0	0	—	—	—	0	0	—	—	—	4	13	101	112
New York (Upstate)	—	1	10	46	41	—	0	2	10	5	8	2	8	64	80
New York City	—	0	4	2	86	—	0	2	—	—	23	22	36	610	550
Pennsylvania	—	1	8	58	78	—	0	2	9	11	3	6	12	189	155
<b>E.N. Central</b>	6	10	41	394	440	1	1	7	56	61	12	24	44	511	597
Illinois	N	0	0	N	N	N	0	0	N	N	—	8	19	126	230
Indiana	—	2	32	123	152	—	0	6	18	19	3	2	10	81	71
Michigan	—	0	2	18	15	—	0	1	2	2	7	3	18	132	113
Ohio	6	7	18	253	273	1	1	4	36	40	2	6	15	148	155
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	4	24	28
<b>W.N. Central</b>	2	2	161	89	145	—	1	3	20	28	1	6	14	160	223
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	12	12
Kansas	—	1	5	38	57	—	0	2	13	3	—	0	3	13	17
Minnesota	—	0	156	—	20	—	0	3	—	20	—	2	6	37	55
Missouri	2	1	5	39	63	—	0	1	5	2	—	3	10	76	132
Nebraska§	—	0	0	—	—	—	0	0	—	—	1	0	3	18	7
North Dakota	—	0	3	10	2	—	0	0	—	—	—	0	1	3	—
South Dakota	—	0	2	2	3	—	0	2	2	3	—	0	1	1	—
<b>S. Atlantic</b>	6	25	53	844	802	—	4	14	123	123	29	63	262	1,632	1,425
Delaware	—	0	2	12	3	—	0	0	—	—	2	0	3	22	8
District of Columbia	N	0	0	N	N	N	0	0	N	N	4	3	9	96	74
Florida	6	15	36	504	440	—	3	13	79	77	—	19	31	511	545
Georgia	—	8	25	246	275	—	1	5	37	38	2	14	227	338	284
Maryland§	—	0	1	4	4	—	0	0	—	1	—	6	16	150	179
North Carolina	N	0	0	N	N	N	0	0	N	N	7	8	19	287	145
South Carolina§	—	0	0	—	—	—	0	0	—	—	—	2	6	58	47
Virginia§	N	0	0	N	N	N	0	0	N	N	14	5	16	166	138
West Virginia	—	2	13	78	80	—	0	3	7	7	—	0	2	4	5
<b>E.S. Central</b>	—	5	25	182	225	—	1	3	27	42	9	22	36	600	557
Alabama§	N	0	0	N	N	N	0	0	N	N	—	8	16	235	238
Kentucky	—	1	5	51	55	—	0	2	7	9	1	1	10	29	48
Mississippi	—	0	3	—	26	—	0	1	—	8	—	3	18	103	75
Tennessee§	—	3	22	131	144	—	0	3	20	25	8	8	19	233	196
<b>W.S. Central</b>	3	1	6	63	71	2	0	3	13	12	—	51	80	1,304	1,085
Arkansas§	3	0	5	37	13	2	0	3	9	3	—	4	35	107	82
Louisiana	—	1	5	26	58	—	0	1	4	9	—	14	40	297	266
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	7	29	45
Texas§	—	0	0	—	—	—	0	0	—	—	—	31	46	871	692
<b>Mountain</b>	—	2	7	60	83	—	0	3	11	10	2	8	18	159	351
Arizona	—	0	0	—	—	—	0	0	—	—	—	3	11	21	178
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	5	50	94
Idaho§	N	0	1	N	N	N	0	1	N	N	—	0	2	3	2
Montana§	—	0	1	—	—	—	0	0	—	—	—	0	7	—	—
Nevada§	—	1	4	27	40	—	0	2	6	4	2	1	7	58	42
New Mexico§	—	0	0	—	—	—	0	0	—	—	—	1	5	25	18
Utah	—	1	6	24	43	—	0	3	4	6	—	0	2	—	15
Wyoming§	—	0	2	9	—	—	0	1	1	—	—	0	1	2	2
<b>Pacific</b>	—	0	1	2	1	—	0	1	1	1	7	46	67	1,178	1,286
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
California	N	0	0	N	N	N	0	0	N	N	5	42	59	1,081	1,165
Hawaii	—	0	1	2	1	—	0	1	1	1	—	0	3	16	14
Oregon§	N	0	0	N	N	N	0	0	N	N	1	1	4	24	7
Washington	N	0	0	N	N	N	0	0	N	N	1	2	9	57	100
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	—	—	1	3	11	112	88
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 reportable. 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 III. Deaths in 122 U.S. cities,\* week ending July 18, 2009 (28th week)

Reporting area	All causes, by age (years)							Reporting area	All causes, by age (years)						
	All Ages	≥65	45–64	25–44	1–24	<1	P&† Total		All Ages	≥65	45–64	25–44	1–24	<1	P&† Total
<b>New England</b>	509	357	113	20	11	8	57	<b>S. Atlantic</b>	1,191	744	308	87	35	15	77
Boston, MA	139	88	38	5	3	5	12	Atlanta, GA	170	90	61	15	4	—	6
Bridgeport, CT	23	19	1	1	2	—	6	Baltimore, MD	144	76	52	11	4	1	22
Cambridge, MA	13	10	3	—	—	—	1	Charlotte, NC	101	69	24	6	2	—	7
Fall River, MA	23	17	5	1	—	—	2	Jacksonville, FL	177	109	41	16	7	4	19
Hartford, CT	55	37	15	3	—	—	8	Miami, FL	95	58	23	10	4	—	1
Lowell, MA	24	17	7	—	—	—	—	Norfolk, VA	50	34	11	1	2	2	1
Lynn, MA	6	5	—	1	—	—	1	Knoxville, VA	46	28	11	5	2	—	1
New Bedford, MA	27	23	3	1	—	—	1	Savannah, GA	72	48	17	2	4	1	5
New Haven, CT	31	20	8	1	1	1	2	St. Petersburg, FL	60	43	11	5	1	—	6
Providence, RI	53	41	9	—	3	—	6	Tampa, FL	201	135	43	12	5	5	7
Somerville, MA	1	—	—	1	—	—	—	Washington, D.C.	69	52	12	2	—	2	1
Springfield, MA	25	15	7	2	1	—	3	Wilmington, DE	6	2	2	2	—	—	1
Waterbury, CT	29	20	7	2	—	—	2	<b>E.S. Central</b>	986	641	251	52	27	15	71
Worcester, MA	60	45	10	2	1	2	13	Birmingham, AL	190	124	55	7	3	1	14
<b>Mid. Atlantic</b>	1,896	1,302	424	108	29	33	116	Chattanooga, TN	71	49	18	3	—	1	6
Albany, NY	45	33	7	4	—	1	5	Chattanooga, TN	128	84	32	9	2	1	13
Allentown, PA	27	20	1	4	1	1	2	Lexington, KY	74	51	17	3	1	2	3
Buffalo, NY	76	52	16	4	2	2	9	Memphis, TN	185	114	46	10	8	7	15
Camden, NJ	24	15	7	1	—	1	2	Mobile, AL	123	86	22	12	3	—	2
Elizabeth, NJ	11	7	3	1	—	—	—	Montgomery, AL	63	40	17	3	3	—	1
Erie, PA	42	36	3	1	2	—	6	Nashville, TN	152	93	44	5	7	3	17
Jersey City, NJ	15	6	7	1	—	1	1	<b>W.S. Central</b>	1,279	747	364	83	54	31	53
New York City, NY	1,073	741	248	52	17	15	42	Austin, TX	86	53	23	7	3	—	2
Newark, NJ	28	8	14	4	1	1	1	Baton Rouge, LA	61	32	13	4	10	2	—
Paterson, NJ	16	7	5	1	—	3	3	Corpus Christi, TX	61	44	9	5	3	—	2
Philadelphia, PA	135	79	38	14	2	2	9	Dallas, TX	204	109	68	14	7	6	6
Pittsburgh, PA§	35	23	10	—	1	1	1	El Paso, TX	89	55	20	5	3	6	2
Reading, PA	36	28	8	—	—	1	1	Fort Worth, TX	U	U	U	U	U	U	U
Rochester, NY	113	84	23	3	—	3	11	Houston, TX	312	156	102	30	18	6	13
Schenectady, NY	21	15	5	1	—	—	2	Little Rock, AR	64	36	18	6	3	1	3
Scranton, PA	22	15	6	1	—	—	3	New Orleans, LA	U	U	U	U	U	U	U
Syracuse, NY	119	89	17	9	2	2	12	San Antonio, TX	220	145	54	8	5	8	14
Trenton, NJ	24	19	2	3	—	—	2	Shreveport, LA	66	43	20	1	1	1	6
Utica, NY	13	11	1	1	—	—	3	Tulsa, OK	116	74	37	3	1	1	5
Yonkers, NY	21	14	3	3	1	—	1	<b>Mountain</b>	964	615	242	68	19	18	63
<b>E.N. Central</b>	1,835	1,216	424	121	37	37	109	Albuquerque, NM	93	59	25	5	3	1	1
Akron, OH	45	28	9	4	1	3	3	Boise, ID	56	38	15	1	1	1	6
Canton, OH	38	25	10	2	—	1	—	Colorado Springs, CO	52	40	9	3	—	—	—
Chicago, IL	268	163	60	28	14	3	20	Denver, CO	68	44	14	7	—	3	8
Cincinnati, OH	89	53	20	8	—	8	12	Las Vegas, NV	276	172	77	21	4	2	24
Cleveland, OH	216	152	56	8	—	—	9	Ogden, UT	28	19	7	2	—	—	2
Columbus, OH	245	141	75	21	2	6	16	Phoenix, AZ	190	111	54	13	4	6	7
Dayton, OH	137	101	22	9	3	2	11	Pueblo, CO	29	19	6	2	1	1	2
Detroit, MI	U	U	U	U	U	U	U	Salt Lake City, UT	125	75	27	13	6	4	9
Evansville, IN	49	36	8	3	2	—	3	Tucson, AZ	47	38	8	1	—	—	4
Fort Wayne, IN	67	49	9	6	1	2	2	<b>Pacific</b>	1,640	1,055	405	96	41	43	145
Gary, IN	13	6	4	3	—	—	—	Berkeley, CA	28	18	8	1	—	1	3
Grand Rapids, MI	51	34	13	1	1	2	3	Fresno, CA	113	77	26	6	3	1	13
Indianapolis, IN	207	129	59	10	3	6	17	Glendale, CA	24	19	5	—	—	—	6
Lansing, MI	41	30	4	4	3	—	—	Honolulu, HI	87	58	21	6	1	1	9
Milwaukee, WI	97	65	24	6	2	—	3	Long Beach, CA	54	31	15	1	3	4	7
Peoria, IL	38	22	11	3	1	1	1	Los Angeles, CA	275	151	74	27	13	10	26
Rockford, IL	58	43	13	2	—	—	3	Pasadena, CA	22	18	2	1	—	1	2
South Bend, IN	28	24	—	1	3	—	—	Portland, OR	122	78	31	10	1	2	9
Toledo, OH	88	66	18	2	—	2	5	Sacramento, CA	188	129	45	6	3	5	16
Youngstown, OH	60	49	9	—	1	1	1	San Diego, CA	154	96	38	10	3	7	9
<b>W.N. Central</b>	524	338	120	36	12	18	35	San Francisco, CA	101	62	31	5	—	3	10
Des Moines, IA	U	U	U	U	U	U	U	San Jose, CA	183	128	38	11	4	2	24
Duluth, MN	24	18	6	—	—	—	2	Santa Cruz, CA	32	23	8	—	1	—	7
Kansas City, KS	18	10	7	—	1	—	—	Seattle, WA	99	59	25	8	4	3	2
Kansas City, MO	92	64	17	6	1	4	11	Spokane, WA	59	37	18	2	1	1	1
Lincoln, NE	33	23	7	2	—	1	2	Tacoma, WA	99	71	20	2	4	2	1
Minneapolis, MN	76	42	24	4	3	3	7	<b>Total¶</b>	<b>10,824</b>	<b>7,015</b>	<b>2,651</b>	<b>671</b>	<b>265</b>	<b>218</b>	<b>726</b>
Omaha, NE	85	55	20	5	—	5	8								
St. Louis, MO	83	46	17	13	4	3	2								
St. Paul, MN	58	45	9	1	3	—	3								
Wichita, KS	55	35	13	5	—	2	—								

U: Unavailable. —:No reported cases.

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

† Pneumonia and influenza.

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

¶ Total includes unknown ages.



The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format. To receive an electronic copy each week, visit *MMWR's* free subscription page at <http://www.cdc.gov/mmwr/mmwrsubscribe.html>. Paper copy subscriptions are available through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone 202-512-1800.

Data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the following Friday. Data are compiled in the National Center for Public Health Informatics, Division of Integrated Surveillance Systems and Services. Address all inquiries about the *MMWR* Series, including material to be considered for publication, to Editor, *MMWR* Series, Mailstop E-90, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30333 or to [mmwrq@cdc.gov](mailto:mmwrq@cdc.gov).

All material in the *MMWR* Series is in the public domain and may be used and reprinted without permission; citation as to source, however, is appreciated.

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

References to non-CDC sites on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of these sites. URL addresses listed in *MMWR* were current as of the date of publication.