



# MMWR<sup>TM</sup>

## Morbidity and Mortality Weekly Report

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### American Diabetes Month – November 2009

November is American Diabetes Month. In 2007, nearly 24 million persons in the United States had diabetes, a leading cause of blindness, kidney failure, and nontraumatic amputations (1). Persons who are obese are at increased risk for developing type 2 diabetes (2). However, weight loss and physical activity can prevent or delay the onset of type 2 diabetes among adults at risk (3), and persons with diabetes can reduce their risk for complications by controlling their blood glucose, blood pressure, and cholesterol, and by receiving other preventive care in a timely manner (1).

The National Diabetes Education Program (NDEP) has added new material to its “Managing diabetes – it’s not easy, but it’s worth it” campaign to help persons with diabetes prevent or delay complications. Those and other resources are available at <http://www.yourdiabetesinfo.org> or by calling 888-693-6337. More information about diabetes, including guidance on diabetes and influenza and county-level data on the estimated prevalence of diabetes and obesity, also are available from CDC at <http://www.cdc.gov/diabetes>.

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### Estimated County-Level Prevalence of Diabetes and Obesity – United States, 2007

Comprehensive disease surveillance systems are important for developing preventive health policies and tracking their impact in populations at high risk. Although existing chronic disease surveillance systems function well at the national or state level, few provide data at the local level, where many policies and interventions ultimately are implemented. To overcome this limitation, Bayesian multilevel models have been applied to reliably estimate disease prevalence at the local level (1). CDC adapted this methodology to estimate diabetes and obesity prevalence in all 3,141 U.S. counties in 2007 (2–4). This report provides an overview of the methodology used and a descriptive analysis of the resulting estimates. The results indicated distinct geographic patterns in diabetes and obesity prevalence in the United States, including high prevalence rates for diabetes ( $\geq 10.6\%$ ) and obesity ( $\geq 30.9\%$ ) in West Virginia, the Appalachian counties of Tennessee and Kentucky, much of the Mississippi Delta, and a southern belt extending across Louisiana, Mississippi, middle Alabama, south Georgia, and the coastal regions of the Carolinas. Isolated counties, including tribal lands in the western United States, also had high prevalence of diabetes and obesity. This report demonstrates how model-based estimates can identify areas with populations at high risk, providing local public health officials with

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important data to assist them in developing targeted programs to reduce diabetes and obesity.

## Existing Surveillance for Chronic Disease

Type 2 diabetes and obesity are major public health priorities because of their high prevalence and incidence nationwide and their long-term health implications for the U.S. population (5–6). Diabetes and obesity are thought to coexist in specific geographic patterns because of a convergence of prevailing social norms, community and environmental factors, socioeconomic status, and genetic risk factors among ethnically similar groups (7). Current surveillance systems (e.g. the National Health Interview Survey and the Behavioral Risk Factor Surveillance System [BRFSS]) have characterized these conditions at the national and state level (5,6) but cannot provide data at local levels, where many policies and interventions ultimately are designed and implemented. Researchers seek better understanding of the distribution of diabetes and obesity in smaller areas for various reasons. First, each condition might emanate from behavioral, environmental, and socioeconomic conditions that are rooted in cultural and geographic patterns (7). A better understanding of the modifiable correlates of these conditions at the local level might enable more efficient prevention policies. Second, evidence-based interventions, particularly for diabetes prevention and control, often depend on efficient referral to local community programs\* and support groups (8). Finally, recent natural disasters (e.g., Hurricane Katrina) have highlighted the vulnerability of persons with diabetes and their sometimes urgent need for essential medications.

BRFSS is an ongoing, state-based, random-digit-dialed telephone survey designed to represent the noninstitutionalized population of adults in each of the 50 states, the District of Columbia, and three U.S. territories (5,9). Although BRFSS now samples from virtually all counties (5,9) and permits direct estimates from selected metropolitan/micropolitan statistical areas, small sample sizes prevent direct calculation of reliable county-specific estimates from more than 90% of U.S. counties (9). However, advances in statistical methodology, including Bayesian multilevel modeling, have enabled use of state-level BRFSS data to produce valid county-level estimates (2–4). The Bayesian multilevel model treats available BRFSS data as observed data collected from a larger set of complete U.S. Census data (3). A probability model is then built for the unobserved data. This model borrows information across years and counties and estimates prevalence for all 3,141 counties, including those for which direct estimates ordinarily are not reliable. The model-based estimates are validated against

\* Additional information available at <http://www.thecommunityguide.org/diabetes/index.html>.

direct estimates obtained from 298 large counties. To do this, 95% confidence intervals for the differences between the two estimates are calculated for each county; if the interval does not contain zero, the estimates are considered to be in disagreement.

## Use of BRFSS Data for Model-Based Estimates

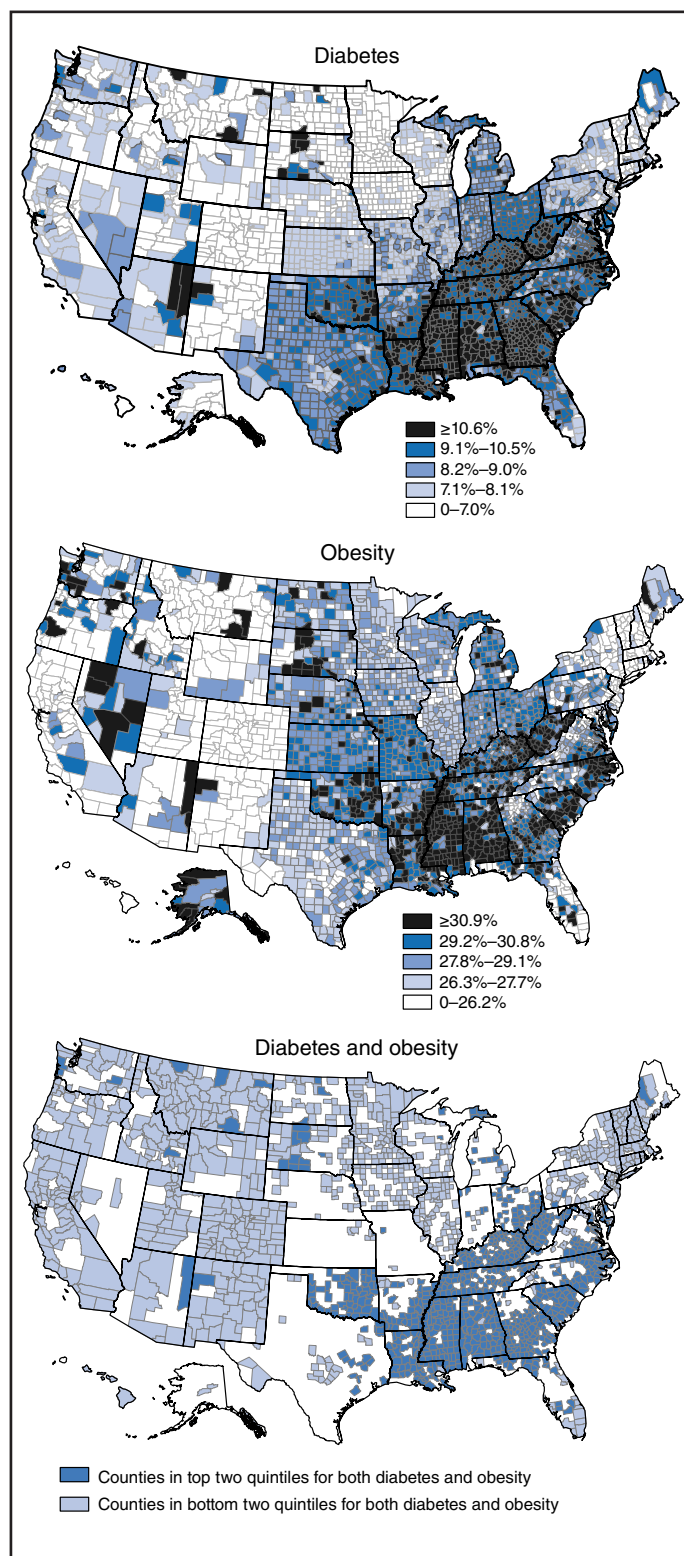
To illustrate the use of model-based estimates, CDC characterized diabetes and obesity prevalence in all 3,141 U.S. counties in 2007. Data from BRFSS for 2006, 2007, and 2008 and from the U.S. Census were used to estimate the number and prevalence of cases of diabetes and obesity among adults aged  $\geq 20$  years for all 3,141 counties in the United States. Validation studies revealed disagreement in 6% of diabetes estimates and 4% of obesity estimates for the 298 large counties (2–4). The total number of BRFSS respondents during 2006–2008 was approximately 1.2 million. The median response rate among all states and territories, based on Council of American Survey and Research Organizations (CASRO) guidelines, was 51% to 53% during 2006–2008 and ranged from 27% to 85% among states. BRFSS determined diabetes status by asking, “Has a doctor ever told you that you have diabetes?” Women with gestational diabetes were excluded. To calculate body mass index (BMI), a measure of overweight and obesity, participants were asked to report their height and weight. Obesity was defined as a BMI  $\geq 30$  kg / m<sup>2</sup>. Data from the 2000 U.S. Census were used to age-adjust the results by population.

Counties were divided into quintiles, based on age-adjusted estimated prevalence of diabetes and obesity. The top (i.e., highest prevalence) quintiles included those counties with prevalences of  $\geq 10.6\%$  for diabetes and  $\geq 30.9\%$  for obesity; counties in the top two quintiles and bottom two quintiles for both diabetes ( $\geq 9.1\%$  versus  $\leq 7.1\%$ ) and obesity ( $\geq 29.2\%$  versus  $\leq 26.3\%$ ) also were identified. A regression model was used to estimate the correlation between diabetes and obesity prevalence estimates. Appropriate statistical software was used for descriptive analyses, data management, and the Bayesian regression model (10).

## County Diabetes and Obesity Prevalence Estimates

Specific totals, prevalence estimates, and 95% confidence intervals for all 3,141 counties are available online (4). Age-adjusted estimates of diabetes prevalence in the U.S. counties ranged from 3.7% to 15.3%, with a median of 8.4%. Counties in the top quintile (i.e., with diabetes prevalence  $\geq 10.6\%$ ) were located primarily in a belt extending from the Mississippi River to the coastal Carolinas and the Appalachians (Figure).

**FIGURE. Age-adjusted percentages of persons aged  $\geq 20$  years with diabetes and obesity, by county — United States, 2007**



Among counties in Alabama, Georgia, Louisiana, Mississippi, and South Carolina, 73% were in the top quintile for diabetes prevalence. Similarly, 62% of counties in West Virginia and Tennessee combined were in the top quintile. Isolated top-quintile counties also were evident in tribal lands in Montana, the Dakotas, the Southwest, and eastern Oklahoma.

Age-adjusted estimates of obesity prevalence ranged from 12.4% to 43.7%, with a median of 28.4%. Counties with the highest obesity prevalence largely were in the South, western Appalachians, and coastal Carolinas (Figure). In Alabama, Kentucky, Louisiana, Mississippi, South Carolina, and West Virginia, 70% of counties had obesity prevalence in the top quintile ( $\geq 30.9\%$ ).

County-level obesity prevalence was highly correlated with diabetes prevalence ( $r = 0.72$ ). A county with obesity prevalence five percentage points higher than another county had diabetes prevalence that was, on average, 1.4 percentage points higher (95% confidence interval = 1.3–1.5). Counties in the top two quintiles in both obesity and diabetes prevalence were concentrated in the South and Appalachian region, and counties with low diabetes and obesity prevalence largely were in the West, Northern Plains, and New England (Figure). Among counties in Alabama, Georgia, Louisiana, Mississippi, and South Carolina, 77% were in the top two quintiles for both diabetes and obesity prevalence; among counties in Kentucky, Tennessee, and West Virginia, 81% were in the top two quintiles for both conditions.

## Uses of County-Level Prevalence Estimates

The county prevalence estimates in this study generally were consistent with state and metropolitan area estimates from other methods (5,9). Both methods highlight geographic patterns of high prevalence of diabetes or obesity in specific areas of the South, Appalachia, Mississippi Delta, and western tribal lands.

Better local estimates of diabetes and obesity prevalence might influence public health efforts in various ways. First, awareness of the size and scope of the problems is important for local policy makers to identify the necessary community and clinical services to prevent and control the conditions. For example, lifestyle programs for diabetes prevention and community support groups for diabetes self-management have been shown effective when they are linked to a referring clinical center (8). Second, population-targeted interventions (e.g., changes in health-care access, preventive care, food taxation, or food labeling) might affect specific areas, populations segments, or high-risk populations in ways that are not detectable via broad, population-based surveys. More sensitive

### What is already known on this topic?

Current surveillance methods are not able to provide reliable local estimates of chronic disease prevalence because of sample size limitations.

### What is added by this report?

Using Bayesian modeling, estimates of diabetes and obesity prevalence identified regional belts in the southern United States and isolated areas (e.g., tribal lands) in western states with high prevalence of diabetes and obesity.

### What are the implications for public health practice?

These findings of wide county-level variation in diabetes and obesity prevalence provide important data for consideration by local public health officials when developing programs to reduce the prevalence and complications of diabetes and obesity.

local area surveillance can provide a better means of tracking such effects.

The findings in this report are subject to at least five limitations. First, data regarding diabetes and obesity are obtained by self-report; diabetes prevalence excludes persons with undiagnosed diabetes, and obesity prevalence often is underestimated because respondents tend to underestimate body weight and overestimate height. The accuracy of self-reporting might vary by region, and thus affect these estimates. Second, BRFSS only samples households with landline telephones; wireless-only households tend to have younger occupants and lower incomes, and tend to be members of minority populations. Third, because of statistical interdependence, any inferences regarding statistical differences among counties should be based only on the data and 95% confidence intervals provided online (4). Fourth, low BRFSS response rates for some states might indicate response bias, although BRFSS weighting procedures partially correct for nonresponse. Finally, although estimates in this report are age adjusted, they are not adjusted for factors such as race/ethnicity and income, which also might be related to geographic area. These data can be merged with county-level datasets, including U.S. Census data, for broader analyses (4).

The growing obesity and diabetes burden in the United States has generated interest in population-targeted prevention measures, ranging from health-system support for preventive lifestyle interventions to increased legislation of the food environment, to enhanced social marketing to reduce risk factors for obesity and diabetes (7,8). Improved surveillance systems will be crucial to target interventions toward areas with populations at high risk and track the impact of those interventions at the local level.

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## West Nile Virus Transmission via Organ Transplantation and Blood Transfusion — Louisiana, 2008

Three years after the introduction and spread of West Nile virus (WNV) in the United States, transmission through blood transfusion and solid organ transplantation was documented in 2002 (1–3). Within a year, these findings led to nationwide screening of blood donors for WNV. Although screening is extremely sensitive, current methods still do not detect all WNV-infected blood donations, and organ donors are not screened routinely. In October 2008, the Louisiana Department of Health (LDH) was notified of a heart transplant recipient with suspected West Nile neuroinvasive disease (WNND). LDH launched an investigation to confirm the diagnosis and determine whether the organ recipient's infection was derived from the organ donor or blood products the donor received before organ donation. The investigation concluded that two cases of probable transfusion-transmitted WNV resulted from a common blood donor; one infection resulted in WNND via an organ donor, and the other resulted

in asymptomatic WNV infection via blood transfusion directly. This investigation also found that criteria used by the blood-screening laboratory to screen the implicated blood donation for WNV were less stringent than criteria used by other blood collection centers in the area. Use of the more stringent screening criteria might have detected the WNV and prevented the blood donation from being used. To increase the likelihood of detecting WNV-positive donations, blood centers should use the most sensitive screening criteria feasible and communicate frequently with nearby blood centers on screening results during times of high WNV activity in their geographic area. In addition, health-care providers should consider WNND as a possible cause of neurologic complications in patients after blood transfusion or organ transplantation.

## Organ Transplant

On October 23, 2008, LDH was notified of a transplant recipient with suspected WNND (Table). The patient, a man aged 62 years, had undergone a heart transplant on September 23, 2008, because of hypertrophic cardiomyopathy and congestive heart failure. The patient had an uneventful postoperative course until the eighth day after his transplantation, when he had tonic-clonic seizures requiring intubation and transfer to the intensive-care unit (ICU). In the ICU, the patient was febrile (101°F [38°C]) with a normal peripheral white blood cell (WBC) count ( $8.33 \times 10^9/L$ ) and blood chemistries. He was treated empirically with a combination of piperacillin and tazobactam for possible bacterial infection. He was extubated the next day, but his mental status continued to deteriorate. Because neurologic complications occurring in patients after transfusion or organ transplantation can result from donor-related WNV transmission,\* specimens from the patient were tested for WNV infection.† Serum and cerebrospinal fluid (CSF) obtained 22 days (October 15) and 31 days (October 24) posttransplantation, respectively, were positive for WNV

\* Although most WNV infections are asymptomatic, approximately 20% of infected persons develop a self-limited febrile illness after an incubation of 3–6 days. Incubation periods up to 1 month have been documented after blood transfusion and organ transplantation (2,3). Less than 1% of infected immunocompetent persons will develop more severe neuroinvasive disease (e.g., encephalitis, meningoencephalitis, meningitis, or poliomyelitis-like acute flaccid paralysis). However, as many as 40%–60% of immunocompromised persons infected as a result of receiving a WNV-infected organ develop neuroinvasive disease.

† WNV infections typically are diagnosed based on serologic testing and detection of WNV immunoglobulin M (IgM) and neutralizing antibodies in serum or cerebrospinal fluid. WNV IgM antibodies are normally detected within 8 days of illness onset in immunocompetent persons. Nucleic acid-amplification testing (NAT) detects the presence of WNV before development of WNV IgM antibodies and is used by blood centers to screen for WNV in donated blood. WNV screening by blood centers is performed on pooled samples (i.e., minipool NAT [MP-NAT]). Individual blood centers have differing criteria for switching to individual sample testing (ID-NAT) when a positive MP-NAT is detected.

**TABLE. Timeline for transmission of West Nile virus (WNV) via organ transplant and blood transfusion, and laboratory confirmation — Louisiana, 2008**

Date	Blood donor	Organ donor	Organ recipient	Blood recipient
Sep 15	Blood donated at blood center A			
Sep 19				Received packed red blood cells from blood donor
Sep 21		Received fresh plasma from blood donor		
Sep 23		Declared brain dead; serum negative for WNV immunoglobulin M (IgM) and G (IgG) antibodies and WNV RNA	Received heart transplant	
Sep 24	Had febrile illness			
Oct 1			Mental status changed	
Oct 15			Serum positive for WNV IgM antibodies; West Nile neuroinvasive disease (WNND) suspected	
Oct 23			Louisiana Department of Health notified of suspected WNND	
Oct 24			Cerebrospinal fluid positive for WNV IgM antibodies	
Nov 5			WNND confirmed by CDC	
Nov 15	Serum positive for WNV IgM and IgG antibodies			
Dec 1				Serum positive for WNV IgM antibodies

immunoglobulin M (IgM) antibodies by enzyme-linked immunosorbent assay (ELISA) performed at a commercial laboratory. Testing at CDC on a serum specimen obtained 43 days posttransplantation showed WNV-specific neutralizing antibodies with a titer of 20,480 (positive titer  $\geq 10$ ), confirming the WNND diagnosis.

A pretransplant serum specimen tested negative for WNV RNA by reverse transcription–polymerase chain reaction and negative for WNV IgM and immunoglobulin (IgG) antibodies, suggesting the patient's infection occurred around the time of the transplantation. At discharge on December 17, 2008, he was unable to walk without assistance and was transferred to a skilled nursing facility for rehabilitation; he was discharged from that facility on January 9, 2009, to continue physical therapy as an outpatient.

The recipient reported that, before his heart transplantation, he went outside his home infrequently and applied mosquito repellent when going outside. He did not recall any mosquito bites before his hospitalization. Perioperatively, he received 10 blood products from 16 donors while on cardiopulmonary bypass pump. Blood from these donations was not available for testing. Eight of the 16 donors were contacted successfully and voluntarily agreed to testing; all eight were WNV IgM negative by ELISA.

The heart donor, a man aged 18 years, was admitted to the hospital with a gunshot wound to the head on September 21, 2008. He received 10 blood products before being declared brain dead on September 23. His heart was the only organ or tissue procured. After potential donor-related WNV

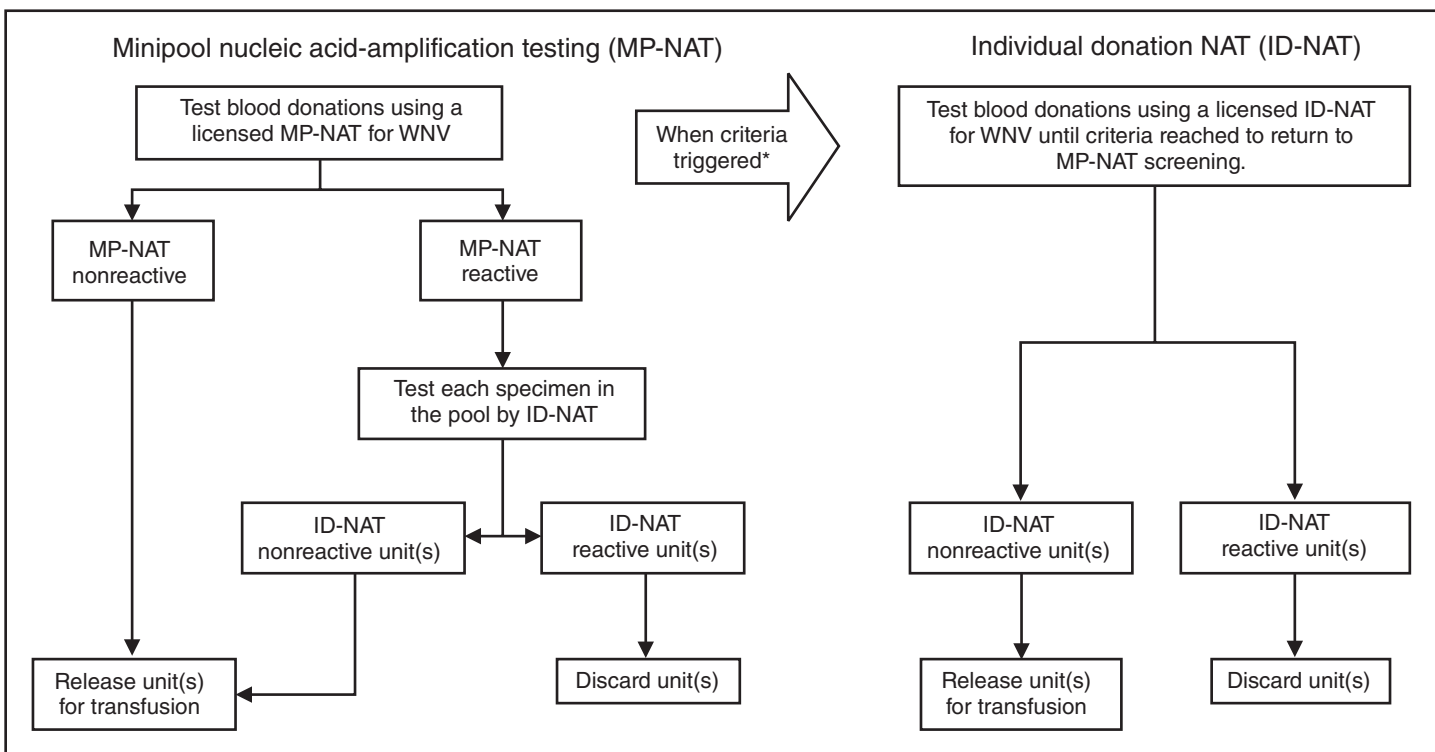
transmission was recognized on October 15, donor serum collected at the time of heart donation and after receipt of blood products was tested by both a commercial laboratory and CDC, and was negative for WNV RNA and WNV IgM and IgG antibodies. All blood donations received by the heart donor were tested by the blood screening laboratory used by blood center A and were negative by WNV minipool nucleic acid-amplification testing (MP-NAT) on pools of 16 samples. The blood screening laboratory used by blood center A at the time of these donations had not met its criteria for switching from MP-NAT to individual donation NAT (ID-NAT)<sup>§</sup> (Figure). All blood donors were contacted and returned for WNV IgM screening; nine tested negative for WNV IgM and IgG at a reference laboratory. One blood donor's serum collected 8 weeks after donation tested positive at CDC for WNV IgM antibodies and WNV-specific neutralization antibodies with a titer of 1:640, indicating recent WNV infection.

### Blood Transfusion

The blood donation from the WNV-positive donor occurred on September 15, 2008. The blood donor lived in a parish with little WNV activity but had spent time outdoors near the time of donation. The donor recalled having a self-limited illness characterized by weakness, body aches, and fever on September 24. Fresh frozen plasma and packed red blood cells were derived from this donation. The fresh frozen plasma was

<sup>§</sup> Two MP-NAT positive donations from the same postal code area within a 7-day period.

FIGURE. Strategies used by laboratories to screen donated blood for West Nile virus (WNV) — Louisiana, 2008



\* Blood centers generally pool blood samples for screening until WNV is identified in one or more samples. Established criteria for switching from MP-NAT to ID-NAT can vary greatly between blood centers. Some centers transition from MP-NAT to ID-NAT after identification of two MP-NAT positive donations from donors living in the same postal code area within a 7-day period. Other centers transition to ID-NAT if one donation is identified as positive by MP-NAT at any blood center within their collection area. When the established criteria are met, all donations then are screened by ID-NAT until no positive donations are detected for a predetermined period (usually 7 days); then they transition back to MP-NAT.

given to the heart donor and the packed red blood cells to a woman nursing home resident aged 76 years. The woman was admitted to a local hospital for atrial fibrillation with rapid ventricular response on September 19 and received the unit of packed red blood cells for anemia. Although the woman reportedly never developed a febrile illness, serum obtained as part of the investigation on December 1, 2008, tested positive for WNV-specific IgM and neutralizing antibodies at a titer of 1:1280.

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**Editorial Note:** This report describes two cases of probable transfusion-transmitted WNV from a common blood donor. One infection resulted in WNND via an organ donor, and the other resulted in asymptomatic WNV infection via blood transfusion directly. The source of infection cannot be proved definitively because blood samples or other components from the implicated donation were unavailable for testing. However, evidence of WNV infection in the two patients linked to blood

products from a common donor, along with serologic evidence of recent infection and a febrile illness in the donor shortly after blood donation, make these probable cases of transfusion-transmitted WNV (4).

After heart transplantation, the organ recipient described in this report was immunosuppressed when he had onset of WNND. This patient likely was infected with WNV after receipt of the transplant heart from a donor who received multiple blood transfusions, at least one of which was suspected to contain WNV. If exposed to WNV, transplant recipients are at high risk for WNND; however, organ donors are not routinely screened for WNV. Both organ donors and transplant recipients often receive multiple transfusions. Early recognition and notification of a potential donor-related transmitted disease could result in earlier WNV infection diagnosis and initiation of supportive care in organ transplant recipients who received organs from the same donor. Health-care providers should consider WNND when neurologic complications occur in patients after transfusion or organ transplantation. In addition, timely recognition of potential contamination with WNV or other transfusion-transmitted pathogens could

lead to removal of potentially infectious blood products from the blood supply.

Screening blood or organ and tissue donors based on clinical symptoms is ineffective at preventing donor-related WNV infections (5). The Food and Drug Administration (FDA) provides guidance to blood centers for donor screening to reduce the risk for transfusion-transmitted disease. FDA recommends screening year-round for WNV using a licensed NAT (MP-NAT or ID-NAT) on donor samples of whole blood and blood components (6). Because of the dilution effect inherent in screening by MP-NAT, this method is less sensitive than ID-NAT. FDA further recommends that blood centers using MP-NAT screening establish criteria to switch to ID-NAT during periods of high WNV activity in their geographic area of collection. No cases of transfusion-related transmission have been reported when using ID-NAT to screen for WNV. However, routine ID-NAT screening is not feasible for many blood centers because of the resulting logistic and financial burdens. Therefore, most blood centers use WNV MP-NAT screening until a trigger threshold of one or more positive MP-NAT results is reached over a specific period and then switch to ID-NAT. Each blood center has its own triggering threshold, developed within the constraints of FDA guidance and standards of AABB (formerly known as the American Association of Blood Banks) (7).<sup>‡</sup>

The WNV screening policy at the laboratory used by blood center A, where the presumed WNV-contaminated donation was collected, set the trigger to switch from MP-NAT to ID-NAT as identification of two MP-NAT positive donations from the same postal code area within a 7-day period. Blood center A had collected an MP-NAT-positive donation on September 11, and collected the implicated blood donation on September 15. Blood center B, another blood center collecting in the same region, had a policy of transitioning from MP-NAT to ID-NAT after identification of one MP-NAT positive donation within its blood collection area, including those identified by other blood centers in the region. Screening data from September indicated that blood center B transitioned to ID-NAT during the period the implicated donation was collected by blood center A, based on the positive MP-NAT collected on September 11 by another blood center, which collects blood in a region that overlaps that of blood center A. Use of triggering criteria, at a minimum, as sensitive as that

#### What is already known on this topic?

Despite sensitive screening assays for West Nile virus (WNV) in blood donations, risks remain for WNV transmission through blood transfusion and organ transplant.

#### What is added by this report?

This report found that blood screening using a less sensitive protocol failed to detect WNV in donated blood, leading to probable transmission to two persons, one directly through blood transfusion and the other by organ transplant through a transfused organ donor.

#### What are the implications for public health practice?

To further decrease the incidence of WNV transfusion- and transplant-related disease transmission, blood centers should adopt the most sensitive triggering strategies feasible during periods of high WNV activity, by optimizing the transition from pooled blood sample testing to individual sample screening through standard protocols and communication.

used by blood center B could have resulted in the implicated donation being tested by ID-NAT, found reactive, and removed from the blood supply.

Adoption of a single standard for all triggering criteria would be desirable; however, differences exist between blood centers because of geographic variability of WNV activity, amplifying logistical concerns. Although universal ID-NAT screening is the more conservative option, MP-NAT can be a highly effective screening strategy if coupled with an appropriate strategy for triggering ID-NAT testing. Recent modeling has suggested that initiation of ID-NAT in a previously defined geographic region or zone should be based on one MP-NAT-reactive donation (8). A second model examining 27 triggering strategies suggested that effectiveness increased when triggering was based on one positive MP-NAT rather than two during a 7-day period (9). Further simulations based on data from a 2006 transfusion-transmitted WNV investigation, in which the positive donation went undetected by minipool testing (10), suggest that triggering based on one MP-NAT might have resulted in detection of the WNV positive unit (CDC, unpublished data, 2008). Similarly, the triggering data described in this report suggest that the WNV-contaminated donation might have been detected before use by triggering to ID-NAT on one MP-NAT positive donation. In regions served by more than one blood center, close communication between blood centers locally is critical. Blood centers can increase the likelihood of detecting WNV in donated blood by using screening strategies that trigger the most timely use of ID-NAT, selection of geographic areas larger than a single postal code area, and ongoing communication of screening results between all facilities that collect blood in a geographic area.

<sup>‡</sup> After reviewing comments and announcing the availability of guidance on use of NATs for screening for blood WNV transmission, FDA noted, "At this time, there is insufficient data to recommend uniform threshold criteria for switching from MP-NAT screening to ID-NAT screening. Until we have sufficient data to support the development of suitable uniform threshold criteria, we consider it appropriate for each blood establishment to define its own threshold criteria for switching from MP-NAT to ID-NAT screening and for reverting to MP-NAT screening." Federal Register 2009;74:57685-6.



### Acknowledgments

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## Outbreak of *Rickettsia typhi* Infection — Austin, Texas, 2008

Murine typhus is a fleaborne rickettsial disease caused by the organism *Rickettsia typhi*. Symptoms include fever, headache, chills, vomiting, nausea, myalgia, and rash. Although murine typhus is endemic in southern Texas, only two cases had been reported during the past 10 years from Austin, located in central Texas (Figure 1). On August 8, 2008, the Austin/Travis County Department of Health and Human Services (ATCDHHS) contacted the Texas Department of State Health Services (TDSHS) concerning a cluster of 14 illnesses with serologic findings indicative of murine typhus. On August 12, 2008, TDSHS initiated an investigation with assistance from CDC to characterize the magnitude of the outbreak and assess potential animal reservoirs and peridomestic factors that might have contributed to disease. This report summarizes the clinical

and environmental findings of that investigation. Thirty-three confirmed cases involved illness comparable to that associated with previous outbreaks of murine typhus. Illness ranged from mild to severe, with 73% of patients requiring hospitalization. Delayed diagnosis and administration of no or inappropriate antibiotics might have contributed to illness severity. Environmental investigation suggested that opossums and domestic animals likely played a role in the maintenance and spread of *R. typhi*; however, their precise role in the outbreak has not been determined. These findings underscore the need to increase awareness of murine typhus and communicate appropriate treatment and prevention measures through the distribution of typhus alerts before and throughout the peak vector season of March–November.

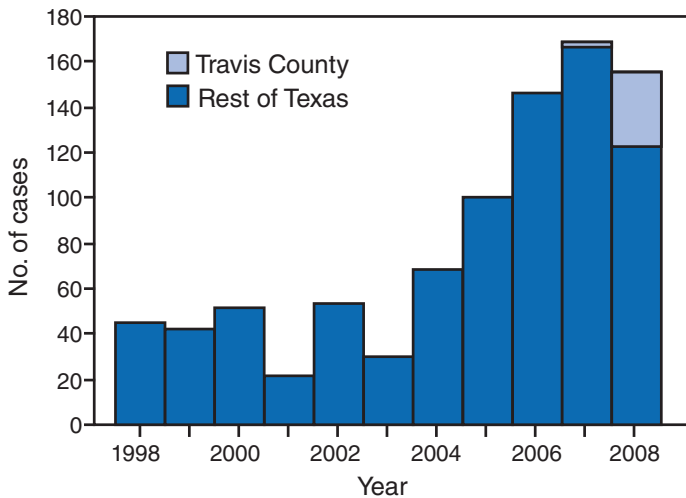
Murine typhus is a reportable condition in Texas, and health-care providers are required to report any suspected cases to the local health department through the National Electronic Disease Surveillance System within 1 week of detection. The first two case reports associated with this outbreak were received in April 2008. Fourteen more reports were received in May and June. Receipt of eight additional case reports in July prompted ATCDHHS to seek assistance from TDSHS. On August 8, CDC was requested to assist in the investigation. An additional 29 cases were reported during the course of the investigation, which concluded on December 1.

A suspected case was defined as illness with fever ( $\geq 100.4^{\circ}\text{F}$  [ $\geq 38^{\circ}\text{C}$ ]) and one or more of the following: headache, rash, or myalgia. A confirmed case included 1) a fourfold or greater rise in antibody titer to *R. typhi* antigens between paired serum specimens taken  $\geq 3$  weeks apart, or 2) detection of *R. typhi* DNA in a clinical specimen by polymerase chain reaction (PCR). The clinical and laboratory investigation included reviewing outpatient medical records, hospital charts, and laboratory results, in addition to interviewing all patients with suspected cases. All medical record reviews and interviews were conducted by CDC and ATCDHHS.

### Clinical and Laboratory Investigation

Of the 53 cases reported during 2008, 33 (62%) were laboratory confirmed. *R. typhi* infection was confirmed by PCR and sequence analysis of DNA for one patient. Illness onset dates for confirmed cases ranged from March to November, with the highest number of cases occurring in June ( $n = 7$ ; 21%). Most confirmed cases occurred during May–August (70%). The median age of patients was 37 years (range: 7–64 years). More males (55%) than females (45%) had confirmed illness. Patients were predominantly white (97%); 3% were black. Because data on ethnicity were not consistently available in the patient charts, ethnicity was not included in the analyses. The

**FIGURE 1. Number of confirmed murine typhus cases,\* by year — Travis County and rest of Texas, 1998–2008**



\* Defined as illness with fever ( $\geq 100.4^{\circ}\text{F}$  [ $\geq 38^{\circ}\text{C}$ ]) and one or more of the following: headache, rash, or myalgias, plus laboratory confirmation via 1) a fourfold or greater rise in antibody titer to *Rickettsia typhi* antigens between paired serum specimens taken  $\geq 3$  weeks apart, or 2) detection of *R. typhi* DNA in a clinical specimen by polymerase chain reaction.

most commonly reported symptoms in confirmed cases were fever (100%), malaise (76%), headache (73%), chills (61%), myalgia (61%), anorexia (58%), nausea (52%), rash (46%), vomiting (42%), and diarrhea (36%).

No deaths were attributed to murine typhus; however, 73% of the confirmed patients were hospitalized, and 27% were admitted to intensive-care units. Only 51% ( $n = 17$ ) of confirmed patients were prescribed antibiotics. Fifteen (88%) patients who received antibiotics received the recommended treatment with doxycycline; two received an antibiotic other than doxycycline. The median time from symptom onset to prescription of antibiotics was 8 days (range: 1–19 days).

Blood chemistry results revealed that 70% of confirmed patients experienced impaired liver function, as indicated by elevated aspartate aminotransferase, alanine transaminase, alkaline phosphate, bilirubin, and/or lactate dehydrogenase levels. Elevated creatinine and/or decreased albumin or serum protein levels indicated impaired kidney function in 21% of patients. Among the 33 patients 24% had low platelet counts, and 24% had anemia. Leukocytosis and leukopenia were each observed in 6% of patients.

Among the 12 confirmed patients whose discharge/outpatient follow-up laboratory results were available during the clinical investigation (August 12–December 1), most laboratory values were normal for leukocytes (80%), bilirubin (77%), and creatinine (92%). However, low albumin and serum protein levels persisted in 58% of cases, and impaired liver function persisted in most cases; aspartate aminotransferase levels

remained elevated in 83% of cases, and alanine transaminase levels remained elevated in 92%. No additional follow-up by TDSHS or CDC is anticipated.

Confirmed patients were clustered in central Austin (Figure 2). Two patients resided north of Austin but worked or engaged in recreational activities in central Austin. Among the 33 confirmed cases, only two patients (6%) noted flea bites or flea exposure during the 2 weeks before illness onset. Recent close exposure to opossums or rats was reported by 18% and 15% of patients, respectively.

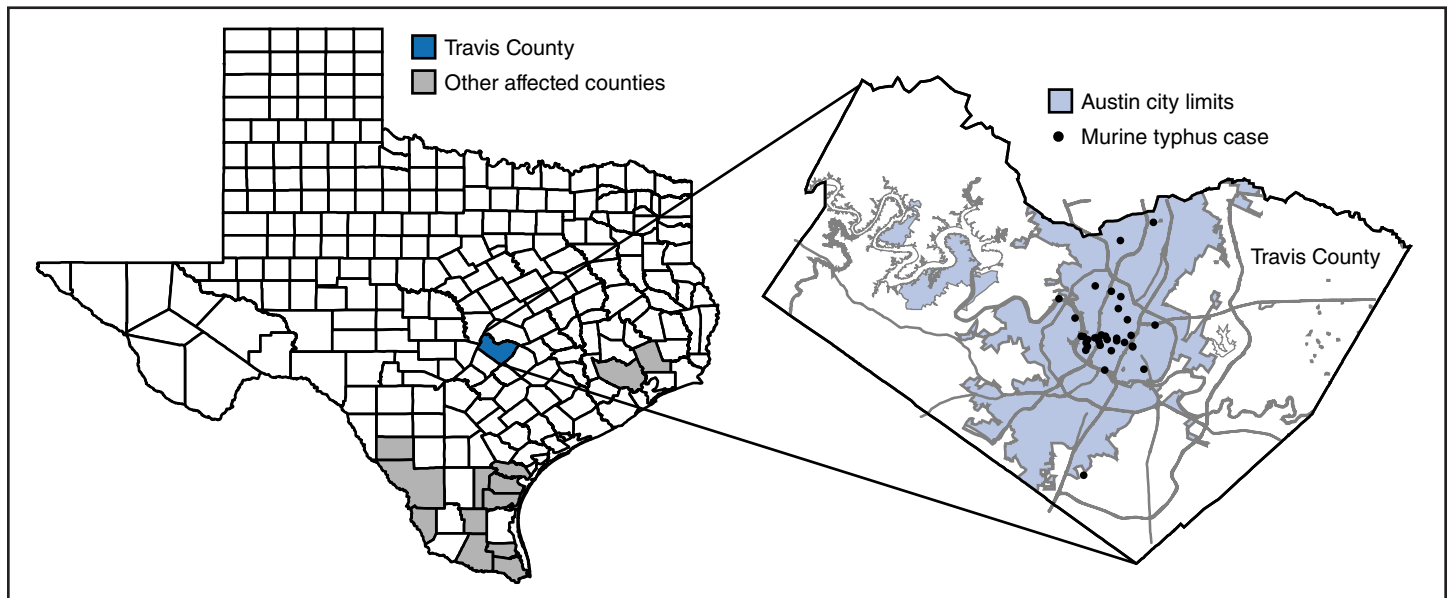
## Environmental Investigation

During August 12–19, CDC conducted an environmental investigation with assistance from ATCDHHS. Environmental site assessments were conducted at the homes of 20 patients with confirmed cases. Blood and arthropod specimens were collected from 26 domestic pets (cats and dogs), and postmortem blood and tissue specimens were collected from 31 wild animals trapped at patients' home sites. Separate blood samples were obtained from each animal for serologic and PCR testing. On average, five fleas were collected from each opossum, and one or two from each raccoon, cat, and dog. All animal and arthropod specimens were tested for evidence of *R. typhi* and *Rickettsia felis* DNA by PCR and for seroreactive antibodies to *R. typhi* antigen using immunofluorescence assay.

Most patients with confirmed cases ( $n = 27$ ; 82%) resided in homes with yards bordered by thick vegetation; 79% owned a dog or cat, but only 42% ( $n = 14$ ) reported regularly administering flea or tick preventatives. Nineteen (95%) of the 20 households assessed had obvious evidence of wildlife or wildlife attractants on the property (e.g., pet food or water dishes outside the home or unsealed outdoor garbage containers). Among the 57 animals assessed, only 33% ( $n = 19$ ) had evidence of active murine typhus infection by serology, as determined using a 1:32 titer threshold. Antibodies (immunoglobulin G [IgG]) to *R. typhi* were detected in three feral cats, four domestic dogs, and 12 opossums; none of four wild rats or nine raccoons tested positive (Table). None of the animal tissue ( $n = 57$ ) or flea specimens ( $n = 139$ ) tested positive for *R. typhi* or *R. felis* DNA by PCR. Seropositive animals were from five different postal code areas. Most seropositive animals (68%) were found in the two contiguous postal code areas where the most human cases (36%) were reported.

In response to this outbreak, ATCDHHS increased public awareness of fleaborne rickettsiosis via alerts posted on its Internet website. The alerts included a definition of murine typhus and its symptoms in addition to descriptions of how the disease is transmitted, treated, and prevented. Recommended prevention and control measures included using dog and cat

FIGURE 2. Geographic location of confirmed murine typhus cases,\* by county — Texas, 2008



\* Defined as illness with fever ( $\geq 100.4^{\circ}\text{F}$  [ $\geq 38^{\circ}\text{C}$ ]) and one or more of the following: headache, rash, or myalgias, plus laboratory confirmation via 1) a fourfold or greater rise in antibody titer to *Rickettsia typhi* antigens between paired serum specimens taken  $\geq 3$  weeks apart, or 2) detection of *R. typhi* DNA in a clinical specimen by polymerase chain reaction.

TABLE. Number of animals with titers of immunoglobulin G (IgG) antibody to *Rickettsia typhi*,\* among animals tested as part of a murine typhus outbreak investigation, by titer and type of animal — Austin, Travis County, Texas, 2008

Type	No. tested	Positive serology ( $\geq 1:32$ )		Titer of IgG antibody to <i>R. typhi</i>								
		No.	(%)	<1:32	1:32	1:64	1:128	1:256	1:512	1:1024	1:2048	$\geq 1:4096$
Cat	17	3	(18)	14	0	0	0	0	1	0	0	2
Dog	9	4	(44)	5	0	0	0	0	1	2	1	0
Opossum	18	12	(67)	6	4	3	1	3	1	0	0	0
Raccoon	9	0	(0)	9	0	0	0	0	0	0	0	0
Rat	4	0	(0)	4	0	0	0	0	0	0	0	0
<b>Total</b>	<b>57</b>	<b>19</b>	<b>(33)</b>	<b>38</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>

\* Detected by immunofluorescence assay.

flea preventatives, exterminating household rodents, eliminating rodent habitats in or near homes, using pesticides to limit flea infestations, avoiding wild animals (including feral cats and opossums), and using insect repellents containing DEET.

**Reported by:** J Campbell, Austin/Travis County Dept of Health and Human Svcs, Texas. ME Eremeeva, PhD, WL Nicholson, PhD, J McQuiston, DVM, National Center for Zoonotic, Vector-Borne, and Enteric Diseases; S Parks, PhD, J Adjemian, PhD, K McElroy, DVM, EIS officers, CDC.

**Editorial Note:** Contemporary reports of murine typhus in the United States are sporadic and usually limited to southern Texas, southern California, and Hawaii, where enzootic foci remain and where the disease is reportable. This cluster of *R. typhi* cases in Austin during 2008 might represent the emergence of murine typhus in a new area. Alternatively, *R. typhi* might have been present in this area in reservoir species

but at levels below a threshold for transmission and detection. In addition, recent changes in local ecology or transmission dynamics might have caused the emergence of clinical human cases. The low prevalence of active murine typhus infection among the animals assessed versus that in previous studies (33% versus 63%–94%) (1) precludes making conclusions about the reservoir species associated with this outbreak.

Rats are the primary animal reservoir of *R. typhi* (1); however, other mammals (including opossums and domestic dogs and cats) can maintain the disease, as was observed in this outbreak. Few rats were sampled and evidence of active infection was not found; however, the 67% prevalence of seropositivity among opossums points to their possible role in propagation. Domestic animals also were found to be seropositive; however, further studies would be needed to ascertain whether they played a role in propagation of the outbreak. Although fleas

#### What is already known on this topic?

Although murine typhus, a fleaborne disease often transmitted to humans through contact with rats, is endemic in southern Texas, only two cases had been reported in central Texas during the past 10 years.

#### What is added by this report?

Illness associated with this central Texas outbreak of 33 confirmed cases (73% in patients who were subsequently hospitalized) was comparable to previous outbreaks of murine typhus; however, the suspected vector (cat flea) and reservoir (opossum) were atypical for a suburban setting.

#### What are the implications for public health practice?

Health-care providers and the public should be aware of the symptoms, appropriate treatment and prevention measures, and the importance of promptly notifying local or state health officials of suspected cases of murine typhus.

on opossums and cats can be infected with *R. typhi*, they are more often infected with the related organism *Rickettsia felis* (2). However, only one case of *R. felis* has been reported in the United States since 1994 (4). Furthermore, PCR and serologic evidence, in addition to the moderate to severe clinical course for most cases, suggest that *R. typhi* was the cause of this outbreak. Thus, this outbreak provides documentation of an atypical reservoir and vector in a suburban murine typhus cycle.

Based on patient symptoms and laboratory findings, the severity of illness associated with this outbreak appears comparable to previous murine typhus outbreaks in other areas (5–8). Illness severity ranged from mild to severe, with complications that required hospitalization. The patients described in this report experienced substantial delays in diagnosis, antibiotic initiation (on average 8 days after symptom onset), or lack of antibiotic therapy, which likely contributed to the high rate of hospitalizations and might have contributed to illness severity. Delays in murine typhus treatment can increase duration of symptoms and risk for complications (e.g., seizures, respiratory failure, and persistent frontal and temporal lobe dysfunction) or death (5,6). Elevated liver enzymes and decreased platelet counts in a patient with rash illness should be evaluated for rickettsiosis (5–7). All suspected murine typhus patients should be treated with doxycycline, with a minimum recommended course of 7–10 days or  $\geq 3$  days after resolution of fever (9). Health-care providers in emerging or established areas where murine typhus occurs should initiate treatment for suspected murine typhus cases on clinical and epidemiologic considerations without waiting for laboratory confirmation of the diagnosis (9).

Murine typhus might now be established in the Austin and Travis County area and should be considered an ongoing public health threat. As of September 14, 2009, a total of 24 new suspected cases had been reported to ATCDHHS. Illness onsets ranged from April 29 to July 29. The median age of patients (37 years; range: 3–67 years) and symptom profile has been similar to 2008 cases. The rate of hospitalization (54%) has been lower, which might be attributable to increased knowledge of the presentation and appropriate treatment of the disease as a result of notices from Texas Medical Society and ATCDHHS public health education web-based campaigns. Health-care providers should be aware of the potential for travel-associated exposures among visitors to Austin or other endemic areas and notify their local or state health officials of suspected cases of murine typhus.

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## Mumps Outbreak – New York, New Jersey, Quebec, 2009

On November 12, 2009, this report was posted as an MMWR Dispatch on the MMWR website (<http://www.cdc.gov/mmwr>).

Mumps is a vaccine-preventable viral infection characterized by fever and inflammation of the salivary glands and whose complications include orchitis, deafness, and meningo-encephalitis (1). In August 2009, CDC was notified of the onset of an outbreak of mumps in a summer camp in Sullivan County, New York. The outbreak has spread and gradually increased in size and is now the largest U.S. mumps outbreak since 2006, when the United States experienced a resurgence of mumps

with 6,584 reported cases (2). On August 18, public health departments in Sullivan County, New York state, and CDC began an investigation into the mumps outbreak, later joined by departments in New York City and other locales. As of October 30, a total of 179 confirmed or probable cases had been identified from multiple locations in New York and New Jersey (Figure), and an additional 15 cases had been reported from Canada. The outbreak primarily has affected members of a tradition-observant religious community; median age of the patients is 14 years, and 83% are male. Three persons have been hospitalized. Although little transmission has occurred outside the Jewish community, mumps can spread rapidly in congregate settings such as colleges and schools; therefore, public health officials and clinicians should heighten surveillance for mumps and ensure that children and adults are appropriately vaccinated.

Mumps cases in the United States have been classified according to the 2008 case definition of the Council of State and Territorial Epidemiologists,\* and cases in Canada have been classified in accordance with Case Definitions for Diseases Under National Surveillance.† Patients in the United States are considered to have age-appropriate vaccinations for mumps if they are aged 1–6 years and have received 1 dose of a mumps-containing vaccine, aged 7–18 years and have received 2 doses of vaccine, or aged 19–52 years and have received 1 dose of vaccine (3,4). Patients aged 7–18 years who have received 1 dose are considered to have received a partially age-appropriate vaccination.

## Outbreak Reports

**Sullivan County, New York.** On August 18, 2009, the New York State Department of Health was notified of mumps cases in a summer camp serving approximately 400 boys from the tradition-observant religious community. The index patient was a boy aged 11 years who had returned on June 17 from the United Kingdom, where a mumps outbreak is ongoing with approximately 4,000 cases, primarily in unvaccinated young adults in the general population.§ The boy became symptomatic at camp on June 28. A total of 25 cases were reported among camp attendees and staff members. The median age of patients was 12 years (range: 9–30 years), and all were male. Of the 24 patients for whom vaccination status was reported, 20 (83%) had received age-appropriate vaccination with 2 doses, one (4%) had received partial age-appropriate vaccination with

1 dose, and three (13%) were unvaccinated. The attack rate in this camp was approximately 6% (25 of 400).

**Brooklyn, New York.** The majority of campers were residents of the Borough Park neighborhood of Brooklyn, where mumps transmission began after their return home from camp. Although returning campers were implicated in most of the initial exposures, no predominant focus of spread was identified. By October 30, 79 additional persons from Brooklyn or other boroughs who were linked to the outbreak had been reported, exclusive of returning campers. The median age of these patients was 14 years (range: 8 months–84 years), and 81% were male. Of the 61 patients (77%) for whom vaccine is recommended and vaccination status and age were reported, 47 (77%) had received age-appropriate vaccination, six (10%) had received partial age-appropriate vaccination, and eight (13%) were unvaccinated.

**Ocean County, New Jersey.** On September 26, the New Jersey Department of Health and Senior Services was informed of eight suspected mumps cases in two Ocean County private schools for boys with both boarder and commuter students from the same religious community. The index patient, who became symptomatic at one of the boarding schools on September 6, was aged 20 years and a resident of the Borough Park neighborhood of Brooklyn, New York. Transmission was initially limited to the schools but subsequently was observed in households and the community. By October 30, a total of 40 cases had been reported. The median age of patients was 19.5 years (range: 1–65 years), and 83% were male. Mumps vaccination status was reported for 29 (73%) patients, of whom 28 (97%) had received age-appropriate vaccination.

**Rockland County, New York.** Four of the patients who had attended the Sullivan County summer camp resided in Rockland County, New York. By October 30, an additional 27 cases (exclusive of returning campers) had been reported among members of the same religious community, with transmission occurring in a variety of settings, including a school for boys. The median age of patients was 12 years (range: 1–62 years), and 23 (85%) were male. Mumps vaccination status was reported for 19 (70%), of whom 11 had received age-appropriate vaccination, and two had received partial age-appropriate vaccination.

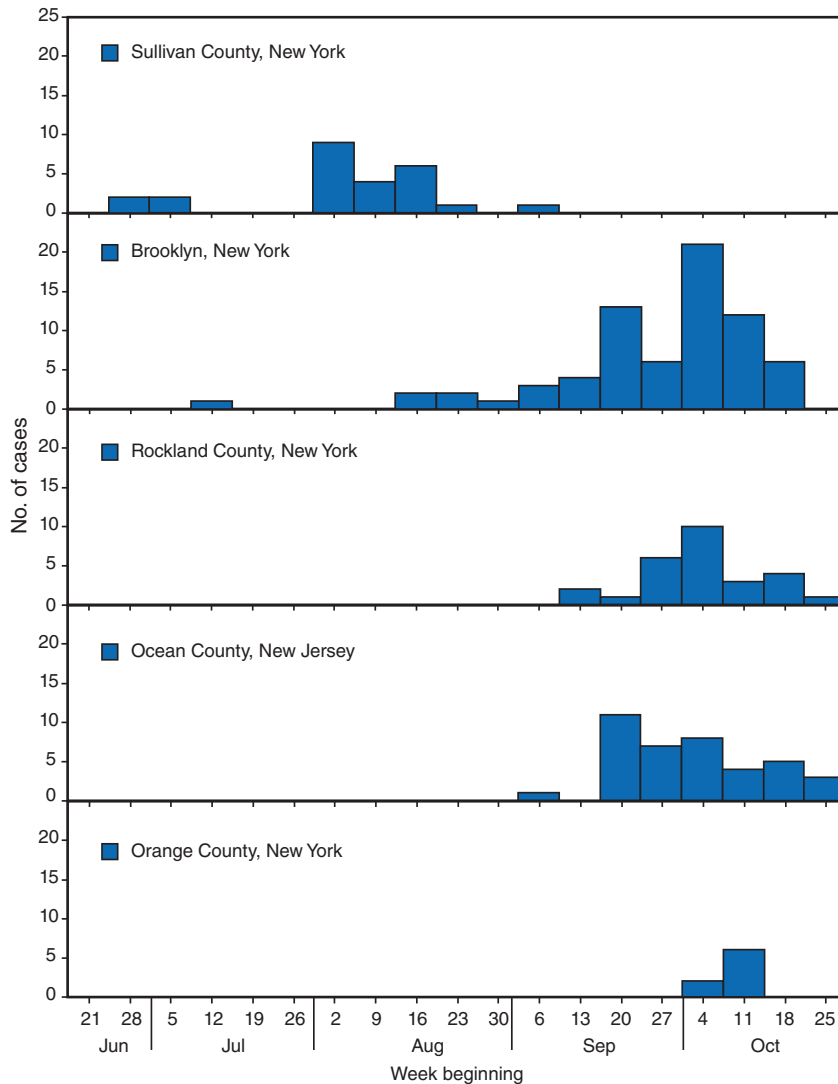
**Orange County, New York.** In September, members of the same religious community in Orange County visited a synagogue in Brooklyn. During October 8–14, eight cases occurred among the travelers. The median age of patients was 18 years (range: 11–23 years), and five were male. Seven patients had received age-appropriate vaccination with 2 doses, and one was unvaccinated.

\* Available at <http://www.cdc.gov/vaccines/vpd-vac/mumps/outbreak/case-def.htm>.

† Available at <http://www.phac-aspc.gc.ca/publicat/cdr-rmtc/00pdf/cdr26s3e.pdf>.

§ Information available at [http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1195733790975](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1195733790975).

FIGURE. Number (N = 179) of reported confirmed or probable mumps cases,\* by week — New York and New Jersey, June–October, 2009†



\* Definitions available at <http://www.cdc.gov/vaccines/vpd-vac/mumps/outbreak/case-def.htm>.

† Case total as of October 30, 2009. Included are three cases from Brooklyn that have not been epidemiologically linked to the outbreak. Excluded are 15 cases reported in Quebec, Canada.

**Quebec, Canada.** Members of affected New York and New Jersey communities traveled to the province of Quebec to attend religious gatherings during September 19–October 11. By October 30, 15 cases (patient age range: 8–47 years) from Montreal and the Laurentian region of the province had been reported to the Public Health Agency of Canada. All patients were male, and 11 had documented vaccination with at least 1 dose of mumps-containing vaccine.

## Transmission Outside the Religious Community

During June 28–October 30, five cases outside the affected religious community were reported. Two cases occurred in New York City, and three occurred in Ocean County, New Jersey. The two New York City patients were a man aged 40 years who had probable worksite exposures to members of the affected community and a boy aged 4 years who had no identified exposure. The three New Jersey cases were patients aged 17, 29, and 66 years who had no identified exposures. Two of the five patients had received 2 documented doses of mumps-containing vaccine, one had received 2 undocumented doses, and two had unknown vaccination status.

## Laboratory Testing

Of the 179 cases reported as of October 30 in the United States, 85 (47%) have been laboratory-confirmed, and the remaining 94 cases (53%) have met the clinical case definition. Laboratory tests used to confirm cases of mumps included detection of mumps immunoglobulin M antibodies by various methods, detection of mumps RNA by real-time reverse transcription–polymerase chain reaction (5), and isolation of mumps virus in cell culture. These tests were conducted by CDC and state and commercial laboratories. Mumps virus classified as genotype G was identified from multiple specimens sent to CDC, consistent with the probable importation of mumps into Sullivan County from the ongoing mumps outbreak in the United Kingdom (6).

## Epidemiologic Summary

Of the 178 (99%) patients whose sex is known, 149 (84%) are male. The median age of the 178 patients for whom age is known is 14 years (range: 8 months–84 years). Of the 141 patients (79%) for whom vaccine is recommended and vaccination status and age were reported, 113 (80%) had received age-appropriate vaccination, nine (6%) had received partial age-appropriate vaccination, and 19 (13%) were unvaccinated (Table). Of the 141 patients, 102 (72%) had received 2 doses, 20 (14%) 1 dose, and 19 (13%) zero doses (Table). Complications have occurred in 16 (9%) cases, including

**TABLE. Number of reported patients with mumps (n = 178\*) by age group—appropriate vaccination status† — New York and New Jersey, June–October 2009§**

Age group (yrs)	Vaccination not recommended	Received age-appropriate vaccination	Received partial age-appropriate vaccination	Unvaccinated, although recommended	Vaccination status unknown	Total
<1	2	—¶	—	—	—	2
1–6	—	7	—	5	0	12
7–18	—	84	9	10	12	115
19–52	—	22	—	4	20	46
≥53	3	—	—	—	—	3
<b>Total</b>	<b>5 (3%)</b>	<b>113 (63%)</b>	<b>9 (5%)</b>	<b>19 (11%)</b>	<b>32 (18%)</b>	<b>178 (100%)</b>

\* One patient with unknown age was excluded.

† By age group, the criteria for age-appropriate vaccination status are as follows: <1 year, vaccination is not recommended; 1–6 years, 1 dose; 7–18 years, 2 doses; 19–52 years, 1 dose; ≥53 years, vaccination is not recommended routinely. In addition, persons at greater risk, such as university students, health-care personnel, and persons with potential mumps outbreak exposure, should have documentation of 2 doses of mumps vaccine or other proof of immunity to mumps. CDC. Updated recommendations of the Advisory Committee on Immunization Practices (ACIP) for the control and elimination of mumps. *MMWR* 2006;55:629–30.

§ Case total as of October 30, 2009. Included are three cases from Brooklyn that have not been epidemiologically linked to the outbreak. Excluded are 15 cases reported in Quebec, Canada.

¶ Not applicable.

orchitis (15 cases) and temporary deafness (1 case). Three hospitalizations for orchitis have been reported. No deaths have occurred.

## Response Measures

Health officials issued alerts in New Jersey, New York City, and elsewhere in New York state to health-care providers, urging them to increase active surveillance for mumps, to consider mumps diagnoses even if patients had documented vaccinations and, when indicated, to perform appropriate diagnostic testing. Isolation and quarantine procedures were reviewed, and health-care providers were urged to ensure that all children and adults were appropriately vaccinated.

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**Editorial Note:** Before routine mumps vaccination was initiated, most persons acquired infection during childhood. In 1967, a live, attenuated mumps virus vaccine was licensed in the United States, and by 2005 high coverage with 2 doses among children had reduced the incidence of mumps by 99% (2). In 2006, a resurgence occurred in the United States, with the highest attack rate among persons aged 18–24 years; 57% of patients had previously received 2 doses of vaccine (2).

In 2007 and 2008, incidence declined to 800 and 454 cases, and outbreaks involved fewer than 20 cases.

The ongoing mumps outbreak is the largest since 2006 and primarily has affected a tradition-observant religious community. Mumps outbreaks perpetuated by community transmission outside of congregate settings (e.g., camps, schools, and colleges) are unusual in highly-vaccinated populations (2). In this outbreak, the limited transmission of mumps into the general population might be attributable to generally high vaccination levels and little interaction between members of the affected religious community and persons in surrounding communities. Vaccination rates in the religious community in this outbreak have not been measured, but according to the 2008 National Immunization Survey, overall age-appropriate mumps vaccination rates for children in New York City, New York state, and New Jersey were high: ≥90% for receipt of 1 dose among children aged 19–35 months and ≥90% for receipt of 2 doses among adolescents aged 13–17 years.¶ However, mumps incidence commonly peaks in the winter (2), and vaccine-preventable diseases have spread from religious communities to the general population during the peak transmission season (7).

Of those patients in this outbreak whose vaccination status was known, 72% had received 2 doses of mumps-containing vaccine, compared with 57% in the 2006 outbreak. Mumps vaccine effectiveness has been estimated at 73%–91% for 1 dose and 76%–95% for 2 doses (8,9). Studies during the 2006 U.S. mumps resurgence suggested that outbreaks could occur among highly-vaccinated populations such as college students, where frequent close contact occurs and where >10 years have passed since most of the population received a second dose (9). However, even in such settings, attack rates were <8% in

¶ Information available at <http://www.cdc.gov/vaccines/stats-surv/imz-coverage.htm>.

#### What is already known on this topic?

High 2-dose vaccination coverage reduced by 99% the incidence of mumps in the United States, but a major resurgence occurred in 2006 among vaccinated college students.

#### What is added by this report?

An outbreak of mumps began in June 2009 in a religious community and is ongoing, with 179 cases (113 in persons with age-appropriate mumps vaccinations) reported as of October 30, 2009; however, limited spread has occurred outside the affected community.

#### What are the implications for public health practice?

Public health officials and clinicians should be aware that a mumps outbreak is ongoing, consider the diagnosis of mumps in patients with symptoms consistent with the disease, and ensure that children and adults (particularly in congregate settings such as universities and hospitals) have received an appropriate number of MMR vaccine doses.

2006 for those with 2 doses, suggesting that the vaccine was highly effective in preventing disease for the vast majority of those exposed (9). In the current outbreak, the attack rate at the summer camp was approximately 6%.

Because 43% of the world's nations have no mumps vaccination program (10), and certain nations with mumps vaccination programs, such as the United Kingdom, have experienced large-scale outbreaks, the risk for mumps exposure is increased with foreign travel. When importations occur, congregate settings in the United States, such as colleges and schools, have been foci of indigenous mumps transmission (2).

When possible, persons with suspected mumps should be isolated for 5 days after onset of parotitis and, if they visit a health-care setting, droplet precautions should be initiated immediately. Clinical specimens (both serum and buccal swabs) should be collected from persons with suspected mumps as soon as possible after symptom onset. Adults and children should receive age-appropriate vaccination. University students, health-care personnel, and persons with potential mumps outbreak exposure should have documentation of 2 doses of mumps vaccine or other proof of immunity to mumps. Although vaccination is not considered effective postexposure prophylaxis for mumps, nonimmune contacts should be vaccinated with measles, mumps, rubella (MMR) vaccine to prevent risk from subsequent exposures. Any suspected mumps case should be reported to the health department in the area where the patient resides. Additional information regarding mumps vaccination is available at <http://www.cdc.gov/vaccines/vpd-vac/mumps/default.htm#recs>.

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#### Announcement

### Journal Supplement on Developing the Public Health Workforce

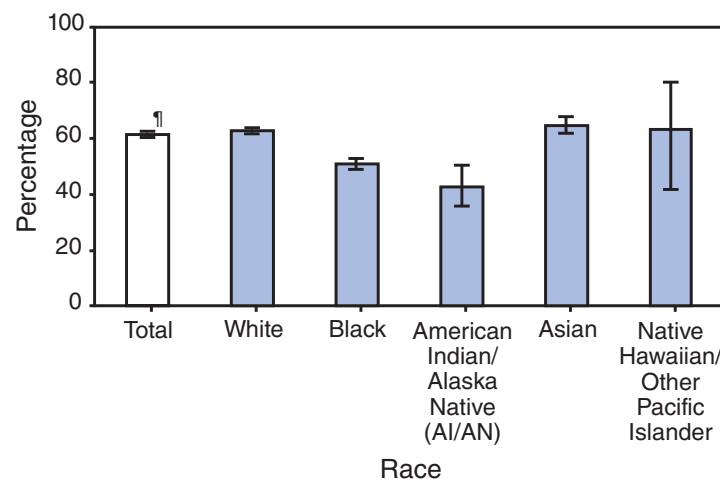
A new supplement of the *Journal of Public Health Management and Practice*, developed and sponsored by CDC's Office of Workforce and Career Development (OWCD), calls attention to the need for a larger and more capable public health workforce in the United States. The 23 reports in the issue are authored by leaders in public health-related academics and research, including staff members from CDC's Office of the Director and OWCD. The authors present solutions to training and development, discuss problems limiting the growth of the public health workforce, offer methods for improving research, and provide new strategies for recruiting and inspiring youths to seek careers in health and science. The supplement is available online at <http://journals.lww.com/jphmp/toc/2009/11001>.



# QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

## Percentage of Adults Aged $\geq 18$ Years Reported to Have Excellent or Very Good Health,\* by Race<sup>†</sup> — National Health Interview Survey, United States, 2008<sup>§</sup>



\* In response to the question, "Would you say [subject's] health in general was excellent, very good, good, fair, or poor?" Health status data were obtained by asking respondents to assess their own health and that of other family members living in the same household.

<sup>†</sup> Limited to persons who indicated only a single race.

<sup>§</sup> Estimates are based on household interviews of a sample of the civilian, noninstitutionalized U.S. population and are derived from the National Health Interview Survey sample adult component. Estimates were age adjusted using the projected 2000 U.S. population as the standard population and the following age groups: 18–44 years, 45–64 years, 65–74 years, and  $\geq 75$  years.

<sup>¶</sup> 95% confidence interval.

In 2008, 61.5% of U.S. adults had excellent or very good health. The percentage of adults who had excellent or very good health ranged from 42.8% for AI/AN adults to 64.8% for Asian adults. Asian and white adults had higher percentages of excellent or very good health compared with black and AI/AN adults.

**SOURCE:** Pleis JR, Lucas JW, Ward BW. Summary health statistics for U.S. adults: National Health Interview Survey, 2008. Provisional report. *Vital Health Stat* 2009;10(242). Available at [http://www.cdc.gov/nchs/data/series/sr\\_10/sr10\\_242.pdf](http://www.cdc.gov/nchs/data/series/sr_10/sr10_242.pdf).

**TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending November 14, 2009 (45th week)\***

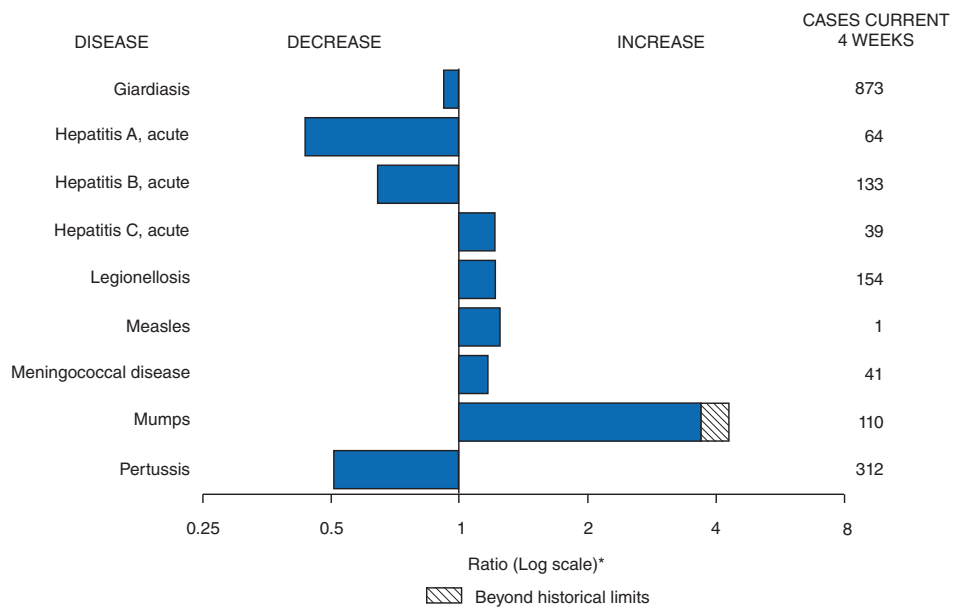
Disease	Current week	Cum 2009	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2008	2007	2006	2005	2004	
Anthrax	—	—	—	—	1	1	—	—	
Botulism:									
foodborne	—	12	0	17	32	20	19	16	
infant	1	46	1	109	85	97	85	87	OH (1)
other (wound and unspecified)	—	19	1	19	27	48	31	30	
Brucellosis	2	87	2	80	131	121	120	114	FL (2)
Chancroid	—	21	1	25	23	33	17	30	
Cholera	—	8	0	5	7	9	8	6	
Cyclosporiasis§	1	115	1	139	93	137	543	160	FL (1)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup	—	36	0	62	55	67	80	112	
eastern equine	—	4	0	4	4	8	21	6	
Powassan	—	1	0	2	7	1	1	1	
St. Louis	—	9	0	13	9	10	13	12	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§, **:									
<i>Ehrlichia chaffeensis</i>	7	697	11	1,137	828	578	506	338	NY (3), VA (1), NC (1), GA (1), TN (1)
<i>Ehrlichia ewingii</i>	—	6	0	9	—	—	—	—	
<i>Anaplasma phagocytophilum</i>	2	567	15	1,026	834	646	786	537	NY (2)
undetermined	—	105	2	180	337	231	112	59	
<i>Haemophilus influenzae</i> ††									
invasive disease (age <5 yrs):									
serotype b	—	24	0	30	22	29	9	19	
nonserotype b	—	157	3	244	199	175	135	135	
unknown serotype	2	198	3	163	180	179	217	177	NY (1), ID (1)
Hansen disease§	3	54	2	80	101	66	87	105	CA (2), HI (1)
Hantavirus pulmonary syndrome§	—	10	1	18	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal§	1	173	4	330	292	288	221	200	CT (1)
Hepatitis C viral, acute	10	1,699	15	878	845	766	652	720	NY (2), PA (1), OH (1), FL (2), TN (1), TX (2), CA (1)
HIV infection, pediatric (age <13 years)§§	—	—	4	—	—	—	380	436	
Influenza-associated pediatric mortality§,¶¶	21	266	0	90	77	43	45	—	AZ (2), CO (3), GA (2), LA (2), MN (1), MS (1), NY (1), NYC (1), OH (1), OK (1), OR (2), TX (1), VA (1), WA (1), WI (1)
Listeriosis	9	646	17	759	808	884	896	753	NY (4), PA (2), VA (1), NC (1), WA (1)
Measles***	1	60	0	140	43	55	66	37	FL (1)
Meningococcal disease, invasive†††:									
A, C, Y, and W-135	4	220	4	330	325	318	297	—	CT (1), FL (1), TX (2)
serogroup B	—	116	3	188	167	193	156	—	
other serogroup	—	22	1	38	35	32	27	—	
unknown serogroup	13	395	10	616	550	651	765	—	NY (1), PA (1), OH (2), GA (1), FL (2), TN (2), AL (1), AR (1), WY (1), CA (1)
Mumps	34	473	13	454	800	6,584	314	258	NY (8), NYC (25), PA (1)
Novel influenza A virus infections	—	§§§	0	2	4	N	N	N	
Plague	—	7	0	3	7	17	8	3	
Poliomyelitis, paralytic	—	—	—	—	—	—	1	—	
Polio virus infection, nonparalytic§	—	—	—	—	—	N	N	N	
Psittacosis§	—	8	0	8	12	21	16	12	
Q fever total§,¶¶¶:									
acute	—	73	2	124	171	169	136	70	
chronic	—	62	1	110	—	—	—	—	
Rabies, human	—	11	0	14	—	—	—	—	
Rubella****	—	1	0	2	1	3	2	7	
Rubella, congenital syndrome	—	4	0	16	12	11	11	10	
SARS-CoV§,††††	—	1	—	—	—	1	1	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	1	118	1	157	132	125	129	132	CT (1)
Syphilis, congenital (age <1 yr)	—	203	7	434	430	349	329	353	
Tetanus	—	10	0	19	28	41	27	34	
Toxic-shock syndrome (staphylococcal)§	1	73	1	71	92	101	90	95	NE (1)
Trichinellosis	—	12	0	39	5	15	16	5	
Tularemia	—	72	1	123	137	95	154	134	
Typhoid fever	1	299	4	449	434	353	324	322	OH (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> §	—	63	1	63	37	6	2	—	
Vancomycin-resistant <i>Staphylococcus aureus</i> §	—	—	0	—	2	1	3	1	
Vibriosis (noncholera <i>Vibrio</i> species infections)§	8	535	6	492	549	N	N	N	FL (5), WA (1), CA (2)
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 November 14, 2009 (45th week)\***

—: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts.  
 \* Incidence data for reporting year 2009 is provisional, whereas data for 2004 through 2008 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. Since April 26, 2009, a total of 171 influenza-associated pediatric deaths associated with 2009 pandemic influenza A (H1N1) virus infection have been reported. Since August 30, 2009, a total of 138 influenza-associated pediatric deaths occurring during the 2009–10 influenza season have been reported. A total of 127 influenza-associated pediatric death occurring during the 2008–09 influenza season have been reported.  
 \*\*\* The one measles case reported for the current week was indigenous.  
 ††† Data for meningococcal disease (all serogroups) are available in Table II.  
 §§§ CDC discontinued reporting of individual confirmed and probable cases of novel influenza A (H1N1) viruses infections on July 24, 2009. CDC will report the total number of novel influenza A (H1N1) hospitalizations and deaths weekly on the CDC H1N1 influenza website (<http://www.cdc.gov/h1n1flu>).  
 ¶¶¶ 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 November 14, 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**  
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 Lenee Blanton

**TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending November 14, 2009, and November 8, 2008 (45th week)\***

Reporting area	Chlamydia <sup>†</sup>					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 week		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
<b>United States</b>	10,101	22,271	25,700	960,093	1,028,949	24	168	472	9,149	5,657	70	123	369	5,976	7,842
<b>New England</b>	1,052	747	1,655	34,609	32,412	—	0	1	1	1	—	6	43	372	363
Connecticut	226	222	1,306	10,069	9,905	N	0	0	N	N	—	0	36	36	41
Maine <sup>§</sup>	57	47	76	2,115	2,224	N	0	0	N	N	—	0	4	39	43
Massachusetts	680	350	944	16,782	14,934	N	0	0	N	N	—	2	15	150	160
New Hampshire	2	35	61	1,372	1,796	—	0	1	1	1	—	1	5	64	55
Rhode Island <sup>§</sup>	71	68	244	3,243	2,539	—	0	0	—	—	—	0	8	16	7
Vermont <sup>§</sup>	16	23	63	1,028	1,014	N	0	0	N	N	—	1	7	67	57
<b>Mid. Atlantic</b>	2,410	3,037	6,734	135,894	125,920	—	0	0	—	—	5	13	35	698	667
New Jersey	326	425	838	19,568	19,409	N	0	0	N	N	—	0	4	26	38
New York (Upstate)	515	589	4,563	27,603	23,905	N	0	0	N	N	3	3	12	198	238
New York City	1,132	1,156	3,130	51,905	46,630	N	0	0	N	N	—	1	8	66	100
Pennsylvania	437	827	1,001	36,818	35,976	N	0	0	N	N	2	8	19	408	291
<b>E.N. Central</b>	1,108	3,408	4,099	147,041	167,283	—	1	4	32	38	8	26	54	1,303	1,984
Illinois	—	1,084	1,376	44,395	51,285	N	0	0	N	N	—	2	8	123	196
Indiana	160	413	695	19,102	18,808	N	0	0	N	N	—	4	17	179	172
Michigan	688	869	1,332	39,434	38,970	—	0	3	18	29	2	5	11	236	240
Ohio	29	772	1,177	29,053	39,890	—	0	2	14	9	5	7	16	342	643
Wisconsin	231	337	494	15,057	18,330	N	0	0	N	N	1	8	24	423	733
<b>W.N. Central</b>	151	1,327	1,688	57,099	58,407	—	0	1	9	2	24	17	62	937	905
Iowa	—	178	256	8,118	7,964	N	0	0	N	N	—	3	13	183	268
Kansas	2	152	561	7,862	7,967	N	0	0	N	N	—	1	6	61	77
Minnesota	—	253	342	10,728	12,442	—	0	0	—	—	19	5	34	320	204
Missouri	129	509	638	22,302	21,348	—	0	1	9	2	1	3	12	161	167
Nebraska <sup>§</sup>	20	101	219	4,552	4,621	N	0	0	N	N	4	2	9	106	106
North Dakota	—	31	77	1,386	1,549	N	0	0	N	N	—	0	10	11	6
South Dakota	—	56	80	2,151	2,516	N	0	0	N	N	—	2	10	95	77
<b>S. Atlantic</b>	2,051	3,881	5,448	170,223	211,664	—	0	1	5	4	8	21	45	940	910
Delaware	68	87	180	4,109	3,218	—	0	1	1	1	—	0	2	8	11
District of Columbia	—	124	226	5,440	5,992	—	0	0	—	—	—	0	1	2	14
Florida	462	1,421	1,671	63,148	61,650	N	0	0	N	N	7	8	24	406	413
Georgia	—	726	1,909	26,894	36,243	N	0	0	N	N	—	6	23	302	223
Maryland <sup>§</sup>	427	423	772	18,142	20,305	—	0	1	4	3	1	1	5	36	42
North Carolina	—	0	1,193	—	31,061	N	0	0	N	N	—	0	9	58	62
South Carolina <sup>§</sup>	447	536	1,421	21,839	23,234	N	0	0	N	N	—	1	7	47	46
Virginia <sup>§</sup>	584	602	926	27,445	27,146	N	0	0	N	N	—	1	7	66	75
West Virginia	63	70	135	3,206	2,815	N	0	0	N	N	—	0	2	15	24
<b>E.S. Central</b>	1,144	1,736	2,208	78,649	74,423	—	0	0	—	—	2	3	10	194	158
Alabama <sup>§</sup>	—	453	625	19,940	21,617	N	0	0	N	N	—	1	5	53	68
Kentucky	642	245	582	11,857	10,481	N	0	0	N	N	1	1	4	58	32
Mississippi	—	457	840	20,537	18,016	N	0	0	N	N	—	0	3	12	17
Tennessee <sup>§</sup>	502	573	809	26,315	24,309	N	0	0	N	N	1	1	5	71	41
<b>W.S. Central</b>	279	2,818	5,454	120,058	130,190	—	0	1	1	3	7	10	271	447	1,938
Arkansas <sup>§</sup>	178	270	417	12,141	12,514	N	0	0	N	N	1	1	5	48	83
Louisiana	71	388	1,134	16,338	19,412	—	0	1	1	3	—	0	6	29	58
Oklahoma	30	176	2,728	11,725	11,463	N	0	0	N	N	6	2	11	116	120
Texas <sup>§</sup>	—	1,954	2,522	79,854	86,801	N	0	0	N	N	—	6	258	254	1,677
<b>Mountain</b>	192	1,382	2,145	59,987	64,453	1	133	369	7,043	3,754	3	9	26	476	541
Arizona	108	458	736	18,633	21,420	1	131	365	6,955	3,665	1	0	3	29	84
Colorado	—	341	727	14,305	15,429	N	0	0	N	N	1	2	10	124	103
Idaho <sup>§</sup>	—	68	245	3,027	3,328	N	0	0	N	N	1	1	7	81	62
Montana <sup>§</sup>	38	56	87	2,607	2,646	N	0	0	N	N	—	1	4	50	42
Nevada <sup>§</sup>	46	169	477	8,353	8,311	—	1	4	51	46	—	0	2	23	16
New Mexico <sup>§</sup>	—	181	540	7,670	6,763	—	0	2	9	31	—	2	7	118	168
Utah	—	88	176	3,666	5,199	—	0	2	27	10	—	0	3	31	43
Wyoming <sup>§</sup>	—	34	97	1,726	1,357	—	0	1	1	2	—	0	2	20	23
<b>Pacific</b>	1,714	3,546	4,682	156,533	164,197	23	42	172	2,058	1,855	13	13	25	609	376
Alaska	—	93	199	3,291	4,074	N	0	0	N	N	—	0	1	6	3
California	1,310	2,701	3,592	122,041	127,806	23	42	172	2,058	1,855	10	7	20	366	225
Hawaii	—	120	147	4,981	5,123	N	0	0	N	N	—	0	1	1	2
Oregon <sup>§</sup>	148	200	631	8,437	8,630	N	0	0	N	N	2	3	8	158	60
Washington	256	396	571	17,783	18,564	N	0	0	N	N	1	1	8	78	86
American Samoa	—	0	0	—	73	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	1	8	—	115	—	0	0	—	—	—	0	0	—	—
Puerto Rico	185	132	331	6,385	6,228	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	8	17	369	558	—	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 2009 is provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.

<sup>†</sup> Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.

<sup>§</sup> Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 14, 2009, and November 8, 2008 (45th week)\*

Reporting area	Giardiasis					Gonorrhea					<i>Haemophilus influenzae</i> , 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>	174	323	499	15,227	16,132	2,261	5,319	6,918	227,868	289,377	21	60	124	2,496	2,347
<b>New England</b>	1	28	64	1,387	1,470	170	93	301	4,349	4,577	1	3	16	165	144
Connecticut	—	6	15	247	298	76	46	275	2,084	2,261	1	0	12	49	33
Maine§	1	3	13	183	159	3	2	9	119	81	—	0	2	17	17
Massachusetts	—	11	36	580	606	82	38	112	1,720	1,832	—	2	5	78	69
New Hampshire	—	3	11	157	144	3	2	6	94	91	—	0	2	11	9
Rhode Island§	—	1	6	45	81	5	6	19	292	284	—	0	7	6	8
Vermont§	—	3	14	175	182	1	1	4	40	28	—	0	1	4	8
<b>Mid. Atlantic</b>	37	63	104	2,802	3,001	499	592	1,138	27,564	28,102	6	11	25	519	440
New Jersey	—	6	17	215	453	84	94	122	4,078	4,587	—	2	7	104	77
New York (Upstate)	30	24	81	1,168	1,044	92	109	664	5,165	5,310	3	3	20	132	129
New York City	1	15	25	697	748	239	215	577	9,762	8,648	—	2	11	86	75
Pennsylvania	6	15	34	722	756	84	189	253	8,559	9,557	3	4	10	197	159
<b>E.N. Central</b>	11	45	70	2,033	2,411	243	1,075	1,436	45,462	59,670	—	12	28	513	386
Illinois	—	9	18	395	633	—	324	451	13,608	17,824	—	3	9	127	126
Indiana	N	0	11	N	N	30	141	223	6,116	7,566	—	1	22	60	65
Michigan	2	12	23	550	540	135	278	498	12,773	14,701	—	0	3	20	21
Ohio	8	15	28	711	778	20	254	431	9,178	14,212	—	2	6	87	118
Wisconsin	1	9	19	377	460	58	86	142	3,787	5,367	—	3	20	219	56
<b>W.N. Central</b>	10	24	141	1,389	1,767	42	274	373	12,211	14,673	2	3	15	141	176
Iowa	1	6	15	264	288	—	33	53	1,348	1,404	—	0	0	—	2
Kansas	—	2	11	96	148	8	44	83	1,971	1,967	—	0	2	13	19
Minnesota	—	0	104	343	590	—	40	64	1,760	2,674	2	0	10	50	54
Missouri	7	8	30	443	418	25	126	173	5,601	6,983	—	1	4	49	64
Nebraska§	2	3	9	156	180	9	25	55	1,186	1,236	—	0	4	23	26
North Dakota	—	0	16	22	15	—	2	14	87	111	—	0	4	6	11
South Dakota	—	1	5	65	128	—	6	20	258	298	—	0	0	—	—
<b>S. Atlantic</b>	40	70	109	3,219	2,582	630	1,147	1,956	49,218	73,946	5	14	31	616	594
Delaware	—	0	3	22	40	19	18	37	844	908	—	0	1	3	7
District of Columbia	—	0	5	22	59	—	49	88	2,153	2,260	—	0	1	2	8
Florida	34	38	59	1,691	1,105	158	410	486	18,219	20,398	3	4	10	199	156
Georgia	—	11	67	750	602	—	243	876	9,106	13,565	—	3	9	136	122
Maryland§	3	5	11	235	243	110	114	197	4,961	5,477	1	1	6	80	83
North Carolina	N	0	0	N	N	—	0	470	—	13,448	1	0	17	62	65
South Carolina§	—	2	8	91	113	134	165	412	6,921	8,394	—	1	5	57	52
Virginia§	2	8	31	365	353	202	147	308	6,582	8,843	—	1	6	50	79
West Virginia	1	1	5	43	67	7	10	20	432	653	—	0	3	27	22
<b>E.S. Central</b>	2	8	22	343	447	312	501	687	22,617	26,714	1	3	9	134	119
Alabama§	—	3	11	157	254	—	137	178	5,735	8,534	—	1	4	33	20
Kentucky	N	0	0	N	N	156	72	136	3,424	4,003	—	0	5	19	6
Mississippi	N	0	0	N	N	—	143	252	6,393	6,427	—	0	1	4	13
Tennessee§	2	4	18	186	193	156	156	230	7,065	7,750	1	2	6	78	80
<b>W.S. Central</b>	5	8	22	377	393	94	834	1,423	34,960	44,399	3	2	22	100	104
Arkansas§	—	2	9	134	128	67	82	134	3,737	4,072	—	0	3	16	13
Louisiana	—	2	8	96	129	13	128	420	5,216	8,243	—	0	1	12	10
Oklahoma	5	3	18	147	136	14	66	612	3,966	4,184	3	1	20	68	71
Texas§	N	0	0	N	N	—	552	696	22,041	27,900	—	0	1	4	10
<b>Mountain</b>	23	27	61	1,364	1,429	29	169	234	6,979	10,141	3	5	11	204	255
Arizona	—	3	9	164	122	19	53	88	2,207	2,975	—	1	7	67	94
Colorado	19	8	26	430	503	—	48	106	1,978	3,269	—	1	6	62	48
Idaho§	2	3	10	181	174	—	2	13	84	149	1	0	1	4	12
Montana§	—	2	11	119	81	1	1	5	69	109	—	0	1	1	4
Nevada§	1	2	11	96	108	9	28	93	1,463	1,906	2	0	2	18	16
New Mexico§	—	2	8	97	97	—	23	52	955	1,184	—	0	3	22	43
Utah	—	6	12	222	305	—	3	11	158	436	—	1	2	27	35
Wyoming§	1	1	4	55	39	—	1	5	65	113	—	0	1	3	3
<b>Pacific</b>	45	50	130	2,313	2,632	242	540	764	24,508	27,155	—	2	8	104	129
Alaska	—	2	7	100	93	—	15	24	564	476	—	0	3	16	19
California	33	34	55	1,503	1,726	206	447	657	20,688	22,315	—	0	4	25	41
Hawaii	—	0	2	15	40	—	11	24	536	544	—	0	3	24	17
Oregon§	8	7	18	351	407	8	20	42	841	1,055	—	1	3	36	50
Washington	4	7	74	344	366	28	41	71	1,879	2,765	—	0	2	3	2
American Samoa	—	0	0	—	—	—	0	0	—	3	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	—	72	—	0	0	—	—
Puerto Rico	—	2	10	101	196	4	4	24	206	249	—	0	1	3	1
U.S. Virgin Islands	—	0	0	—	—	—	2	7	93	108	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 2009 is 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 November 14, 2009, and November 8, 2008 (45th week)\***

Reporting area	Hepatitis (viral, acute), by type <sup>†</sup>										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>	9	36	89	1,615	2,272	28	63	197	2,663	3,285	25	54	150	2,684	2,725
<b>New England</b>	—	2	5	82	120	—	1	4	36	71	—	3	16	143	185
Connecticut	—	0	2	18	26	—	0	3	12	25	—	1	5	48	37
Maine <sup>§</sup>	—	0	2	1	15	—	0	2	13	10	—	0	3	8	10
Massachusetts	—	1	4	47	54	—	0	1	8	21	—	1	9	59	77
New Hampshire	—	0	1	7	11	—	0	1	3	8	—	0	2	9	25
Rhode Island <sup>§</sup>	—	0	1	7	12	—	0	0	—	4	—	0	12	12	31
Vermont <sup>§</sup>	—	0	1	2	2	—	0	0	—	3	—	0	1	7	5
<b>Mid. Atlantic</b>	1	5	11	221	282	1	5	17	259	386	4	15	68	997	923
New Jersey	—	1	5	48	69	—	1	6	63	106	—	2	13	143	132
New York (Upstate)	—	1	3	44	58	—	1	11	47	56	3	5	29	316	308
New York City	1	2	5	70	98	—	1	4	56	89	—	3	20	200	122
Pennsylvania	—	1	6	59	57	1	2	7	93	135	1	6	25	338	361
<b>E.N. Central</b>	—	4	18	220	305	1	7	21	326	453	2	9	33	509	604
Illinois	—	1	12	95	100	—	1	6	69	167	—	1	10	78	108
Indiana	—	0	4	15	19	—	1	18	51	40	—	1	4	32	50
Michigan	—	1	4	60	111	—	2	8	104	125	—	2	11	129	163
Ohio	—	0	3	35	45	1	1	13	76	106	2	4	17	260	246
Wisconsin	—	0	4	15	30	—	0	4	26	15	—	0	2	10	37
<b>W.N. Central</b>	—	2	16	108	230	—	3	16	150	73	—	2	7	89	130
Iowa	—	0	3	32	105	—	0	3	27	20	—	0	2	19	20
Kansas	—	0	1	7	15	—	0	2	5	7	—	0	1	3	2
Minnesota	—	0	12	18	36	—	0	11	26	10	—	0	4	12	19
Missouri	—	0	3	28	30	—	1	5	71	29	—	1	5	42	66
Nebraska <sup>§</sup>	—	0	3	20	40	—	0	2	19	6	—	0	2	11	20
North Dakota	—	0	2	—	—	—	0	1	—	1	—	0	3	1	—
South Dakota	—	0	1	3	4	—	0	1	2	—	—	0	1	1	3
<b>S. Atlantic</b>	2	7	14	361	352	10	17	32	788	813	5	10	19	462	427
Delaware	—	0	1	3	7	U	0	1	U	U	1	0	5	18	11
District of Columbia	U	0	0	U	U	U	0	0	U	U	—	0	2	9	15
Florida	1	4	9	163	131	5	6	11	256	285	2	3	10	162	124
Georgia	—	1	3	49	51	1	3	9	129	157	—	1	5	46	36
Maryland <sup>§</sup>	—	0	4	36	41	2	1	5	63	75	2	2	11	119	120
North Carolina	—	0	3	25	58	—	2	19	148	71	—	0	6	39	33
South Carolina <sup>§</sup>	—	1	4	48	16	1	1	4	47	59	—	0	1	8	11
Virginia <sup>§</sup>	—	1	3	33	43	1	2	10	84	93	—	1	5	53	50
West Virginia	1	0	1	4	5	—	0	19	61	73	—	0	2	8	27
<b>E.S. Central</b>	1	1	4	38	75	5	7	11	278	346	1	2	12	121	104
Alabama <sup>§</sup>	1	0	2	10	12	—	2	7	74	93	—	0	2	15	16
Kentucky	—	0	1	8	29	4	2	7	74	80	1	1	3	46	49
Mississippi	—	0	2	11	4	—	1	2	30	43	—	0	2	4	1
Tennessee <sup>§</sup>	—	0	2	9	30	1	2	6	100	130	—	1	9	56	38
<b>W.S. Central</b>	2	3	43	154	214	5	10	99	421	627	1	2	21	79	85
Arkansas <sup>§</sup>	—	0	1	8	8	—	1	5	46	58	—	0	1	7	13
Louisiana	—	0	1	3	11	—	1	4	33	80	—	0	2	4	9
Oklahoma	—	0	6	3	7	3	2	17	88	94	—	0	2	6	10
Texas <sup>§</sup>	2	3	37	140	188	2	6	76	254	395	1	1	19	62	53
<b>Mountain</b>	1	3	8	138	196	—	2	6	112	184	—	2	8	106	78
Arizona	—	1	6	64	99	—	1	3	39	71	—	0	4	40	18
Colorado	1	0	5	42	35	—	0	2	20	32	—	0	2	11	12
Idaho <sup>§</sup>	—	0	1	3	17	—	0	2	11	8	—	0	2	5	3
Montana <sup>§</sup>	—	0	1	6	1	—	0	0	—	2	—	0	2	6	4
Nevada <sup>§</sup>	—	0	2	10	11	—	0	3	28	42	—	0	2	12	9
New Mexico <sup>§</sup>	—	0	1	6	17	—	0	2	5	10	—	0	2	8	9
Utah	—	0	1	5	13	—	0	1	5	13	—	0	4	20	23
Wyoming <sup>§</sup>	—	0	1	2	3	—	0	2	4	6	—	0	2	4	—
<b>Pacific</b>	2	6	17	293	498	6	6	36	293	332	12	4	12	178	189
Alaska	—	0	1	3	5	—	0	1	2	10	—	0	1	1	1
California	—	5	16	233	405	3	4	28	211	234	12	3	9	140	148
Hawaii	—	0	1	5	17	—	0	1	5	7	—	0	1	1	8
Oregon <sup>§</sup>	—	0	2	15	25	2	1	4	37	39	—	0	2	13	16
Washington	2	0	4	37	46	1	1	8	38	42	—	0	4	23	16
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	18	22	—	0	5	20	46	—	0	1	1	—
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 2009 is provisional.  
<sup>†</sup> Data for acute hepatitis C, viral are available in Table I.  
<sup>§</sup> Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 14, 2009, and November 8, 2008 (45th week)\*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All groups				
	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>	230	441	1,863	26,350	29,964	2	22	44	1,003	1,073	17	16	48	753	1,015
<b>New England</b>	18	63	419	5,054	10,840	—	1	5	38	51	1	0	4	27	31
Connecticut	—	0	50	—	3,677	—	0	4	5	10	1	0	1	3	1
Maine§	17	9	76	805	782	—	0	1	2	1	—	0	1	4	6
Massachusetts	—	22	282	2,789	4,381	—	0	3	22	30	—	0	3	12	19
New Hampshire	—	10	84	930	1,516	—	0	1	3	4	—	0	1	3	4
Rhode Island§	—	0	78	188	121	—	0	1	4	2	—	0	1	4	1
Vermont§	1	5	38	342	363	—	0	1	2	4	—	0	1	1	—
<b>Mid. Atlantic</b>	168	248	1,401	15,345	11,888	1	5	13	254	292	2	2	6	82	111
New Jersey	—	37	373	3,961	3,285	—	0	1	1	63	—	0	2	8	14
New York (Upstate)	87	73	1,368	3,774	4,308	—	1	10	43	28	1	0	2	19	28
New York City	—	2	23	194	746	—	3	11	163	163	—	0	2	15	24
Pennsylvania	81	56	630	7,416	3,549	1	1	4	47	38	1	1	4	40	45
<b>E.N. Central</b>	1	16	208	2,058	2,229	—	3	10	132	139	2	3	9	125	181
Illinois	—	1	11	116	105	—	1	4	52	71	—	1	6	30	70
Indiana	—	1	6	57	40	—	0	3	15	5	—	0	3	30	23
Michigan	1	1	10	104	81	—	0	3	25	16	—	0	5	18	32
Ohio	—	0	5	49	45	—	1	6	33	28	2	1	3	37	36
Wisconsin	—	14	190	1,732	1,958	—	0	1	7	19	—	0	2	10	20
<b>W.N. Central</b>	5	4	336	225	867	—	1	8	58	65	—	1	9	60	89
Iowa	—	1	14	88	105	—	0	1	10	11	—	0	1	8	18
Kansas	—	0	2	14	15	—	0	1	4	9	—	0	2	8	6
Minnesota	4	0	326	94	727	—	0	8	24	24	—	0	4	11	22
Missouri	—	0	2	10	6	—	0	2	12	13	—	0	3	22	25
Nebraska§	1	0	3	18	11	—	0	1	7	8	—	0	1	8	12
North Dakota	—	0	10	—	—	—	0	0	—	—	—	0	3	1	3
South Dakota	—	0	1	1	3	—	0	1	1	—	—	0	1	2	3
<b>S. Atlantic</b>	32	61	230	3,360	3,826	—	6	17	291	258	4	2	9	137	141
Delaware	1	12	64	886	707	—	0	1	5	2	—	0	1	4	2
District of Columbia	—	0	5	19	67	—	0	2	6	4	—	0	0	—	—
Florida	3	1	12	105	74	—	2	7	82	49	3	1	4	48	48
Georgia	1	0	6	47	34	—	1	5	63	51	1	0	2	29	16
Maryland§	25	25	120	1,569	1,995	—	1	5	58	74	—	0	1	9	16
North Carolina	—	0	14	58	35	—	0	5	21	26	—	0	5	19	12
South Carolina§	—	0	3	30	25	—	0	1	4	9	—	0	1	11	20
Virginia§	2	11	61	492	763	—	1	5	50	41	—	0	2	12	22
West Virginia	—	0	33	154	126	—	0	1	2	2	—	0	2	5	5
<b>E.S. Central</b>	—	0	2	28	43	—	0	3	27	19	3	0	3	29	50
Alabama§	—	0	1	2	9	—	0	3	8	4	1	0	1	8	10
Kentucky	—	0	1	1	5	—	0	2	9	5	—	0	1	4	8
Mississippi	—	0	0	—	1	—	0	1	1	1	—	0	1	3	11
Tennessee§	—	0	2	25	28	—	0	3	9	9	2	0	1	14	21
<b>W.S. Central</b>	—	1	21	40	110	—	1	10	41	74	3	1	12	75	106
Arkansas§	—	0	0	—	—	—	0	1	4	1	1	0	2	9	13
Louisiana	—	0	0	—	3	—	0	1	3	3	—	0	3	11	23
Oklahoma	—	0	2	—	—	—	0	2	1	2	—	0	3	12	14
Texas§	—	1	21	40	107	—	0	9	33	68	2	1	9	43	56
<b>Mountain</b>	1	1	13	50	48	—	0	5	26	32	1	1	4	56	55
Arizona	—	0	2	6	8	—	0	2	8	14	—	0	2	13	9
Colorado	—	0	1	6	3	—	0	3	8	4	—	0	2	18	12
Idaho§	1	0	2	12	9	—	0	1	1	3	—	0	1	7	5
Montana§	—	0	13	3	4	—	0	3	5	—	—	0	2	4	4
Nevada§	—	0	2	12	11	—	0	1	—	4	—	0	2	4	7
New Mexico§	—	0	1	5	8	—	0	0	—	3	—	0	1	3	8
Utah	—	0	1	4	3	—	0	2	4	4	—	0	1	2	8
Wyoming§	—	0	1	2	2	—	0	0	—	—	1	0	2	5	2
<b>Pacific</b>	5	3	13	190	113	1	3	9	136	143	1	3	14	162	251
Alaska	—	0	1	2	6	—	0	1	2	6	—	0	2	6	8
California	2	2	10	143	64	1	2	6	101	105	1	2	8	104	181
Hawaii	N	0	0	N	N	—	0	1	1	3	—	0	1	4	5
Oregon§	—	0	4	32	33	—	0	2	11	4	—	0	6	35	33
Washington	3	0	12	13	10	—	0	3	21	25	—	0	6	13	24
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	3	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	3	2	—	0	0	—	3
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 2009 is 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 November 14, 2009, and November 8, 2008 (45th 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>	108	278	1,697	11,927	8,883	16	64	140	3,247	3,791	7	25	179	1,289	2,144
<b>New England</b>	—	12	27	522	889	2	6	24	303	373	—	0	2	10	6
Connecticut	—	0	4	37	51	—	2	22	132	183	—	0	0	—	—
Maine†	—	1	10	74	37	—	1	4	48	51	—	0	2	5	1
Massachusetts	—	7	19	307	684	—	0	0	—	—	—	0	1	4	1
New Hampshire	—	1	7	66	31	—	0	7	28	44	—	0	0	—	1
Rhode Island†	—	0	7	28	74	—	1	6	42	31	—	0	0	—	3
Vermont†	—	0	1	10	12	2	1	4	53	64	—	0	1	1	—
<b>Mid. Atlantic</b>	22	22	64	979	999	6	11	23	539	837	—	1	29	64	119
New Jersey	—	3	12	151	189	—	0	0	—	—	—	0	2	—	79
New York (Upstate)	10	5	41	210	378	6	7	22	400	455	—	0	29	12	14
New York City	3	0	21	79	65	—	0	3	21	18	—	0	4	30	11
Pennsylvania	9	12	33	539	367	—	0	17	118	364	—	0	2	22	15
<b>E.N. Central</b>	12	61	238	2,591	1,471	—	2	19	214	249	1	1	6	86	144
Illinois	—	13	45	545	360	—	1	9	86	103	—	1	6	48	106
Indiana	—	5	158	257	87	—	0	6	21	10	—	0	3	13	6
Michigan	2	11	39	691	239	—	1	6	62	76	—	0	2	6	3
Ohio	9	21	57	968	631	—	0	5	45	60	1	0	4	18	29
Wisconsin	1	3	12	130	154	N	0	0	N	N	—	0	1	1	—
<b>W.N. Central</b>	11	34	872	1,502	1,007	3	6	18	317	284	—	3	27	313	426
Iowa	—	5	14	175	178	—	0	3	24	27	—	0	2	5	8
Kansas	—	4	9	142	66	—	1	6	60	59	—	0	1	2	—
Minnesota	—	0	808	165	217	3	0	11	60	60	—	0	1	2	—
Missouri	1	20	51	829	320	—	1	5	65	60	—	3	26	292	395
Nebraska†	1	3	24	135	162	—	1	6	77	32	—	0	2	12	20
North Dakota	9	0	24	26	1	—	0	9	4	25	—	0	1	—	—
South Dakota	—	0	6	30	63	—	0	4	27	21	—	0	0	—	3
<b>S. Atlantic</b>	15	32	71	1,435	823	1	24	111	1,422	1,500	4	9	40	422	820
Delaware	—	0	2	13	16	—	0	0	—	—	—	0	3	16	31
District of Columbia	—	0	2	3	4	—	0	0	—	—	—	0	0	—	6
Florida	7	10	32	485	248	—	0	95	143	138	1	0	2	8	13
Georgia	—	3	11	180	91	—	0	72	346	347	—	0	7	43	77
Maryland†	—	2	8	110	133	—	7	15	342	389	—	1	3	34	82
North Carolina	—	0	65	223	79	N	2	4	N	N	3	4	36	249	414
South Carolina†	3	4	18	221	107	—	0	0	—	—	—	0	5	18	52
Virginia†	5	3	24	172	134	—	10	26	485	554	—	1	8	50	137
West Virginia	—	0	5	28	11	1	3	6	106	72	—	0	1	4	8
<b>E.S. Central</b>	6	14	33	669	337	—	1	6	83	171	1	4	16	246	321
Alabama†	1	4	19	258	48	—	0	0	—	—	—	1	7	59	88
Kentucky	1	4	15	201	112	—	1	4	45	43	—	0	1	1	1
Mississippi	—	1	4	50	95	—	0	1	4	7	—	0	1	7	10
Tennessee†	4	3	14	160	82	—	0	4	34	121	1	3	14	179	222
<b>W.S. Central</b>	36	64	389	2,581	1,416	—	0	13	66	82	1	1	161	126	262
Arkansas†	—	6	38	251	100	—	0	10	33	44	—	0	61	58	50
Louisiana	—	2	8	90	77	—	0	0	—	—	—	0	1	2	6
Oklahoma	32	0	45	74	32	—	0	13	32	36	1	0	98	53	158
Texas†	4	52	304	2,166	1,207	—	0	1	1	2	—	0	6	13	48
<b>Mountain</b>	5	18	32	763	732	1	1	6	83	101	—	0	3	21	43
Arizona	—	3	10	173	204	N	0	0	N	N	—	0	1	5	16
Colorado	5	5	12	220	131	—	0	0	—	—	—	0	1	1	1
Idaho†	—	1	5	65	28	—	0	0	—	11	—	0	1	1	1
Montana†	—	0	6	52	78	—	0	4	25	12	—	0	2	8	3
Nevada†	—	0	6	24	26	—	0	1	6	12	—	0	1	1	3
New Mexico†	—	1	10	55	60	1	0	2	22	28	—	0	1	1	4
Utah	—	4	19	154	188	—	0	1	9	14	—	0	1	1	5
Wyoming†	—	0	5	20	17	—	0	4	21	24	—	0	1	3	10
<b>Pacific</b>	1	23	67	885	1,209	3	4	12	220	194	—	0	1	1	3
Alaska	—	1	21	37	205	—	0	2	11	13	N	0	0	N	N
California	—	7	22	351	466	3	4	12	194	169	—	0	1	1	—
Hawaii	—	0	3	25	13	—	0	0	—	—	N	0	0	N	N
Oregon†	1	3	17	228	158	—	0	3	15	12	—	0	0	—	3
Washington	—	6	58	244	367	—	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	3	38	55	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 2009 is 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 November 14, 2009, and November 8, 2008 (45th 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>	619	873	2,323	38,816	42,241	32	84	255	3,779	4,518	157	298	1,268	12,753	17,806
<b>New England</b>	—	30	399	1,822	2,029	—	3	67	218	234	—	4	40	294	208
Connecticut	—	0	374	374	491	—	0	67	67	47	—	0	35	35	40
Maine§	—	2	7	112	137	—	0	3	16	22	—	0	2	5	20
Massachusetts	—	21	48	942	1,086	—	1	6	75	102	—	3	26	210	129
New Hampshire	—	3	42	228	132	—	1	3	35	25	—	0	4	17	5
Rhode Island§	—	2	11	110	96	—	0	1	1	8	—	0	7	22	11
Vermont§	—	1	5	56	87	—	0	3	24	30	—	0	2	5	3
<b>Mid. Atlantic</b>	30	91	163	4,255	5,144	3	6	21	315	422	13	57	85	2,418	2,163
New Jersey	—	13	30	530	1,163	—	1	4	32	124	—	12	27	501	787
New York (Upstate)	19	23	66	1,162	1,245	3	3	9	134	157	5	4	23	191	528
New York City	1	21	43	1,041	1,164	—	1	5	54	50	2	9	17	396	660
Pennsylvania	10	29	64	1,522	1,572	—	1	8	95	91	6	27	63	1,330	188
<b>E.N. Central</b>	23	91	151	4,133	4,561	2	14	27	630	797	10	52	132	2,101	3,506
Illinois	—	24	50	1,121	1,343	—	2	10	127	130	—	10	25	443	880
Indiana	—	6	50	334	551	—	1	7	66	82	—	1	21	54	551
Michigan	2	18	34	825	840	—	3	8	139	198	—	5	24	191	141
Ohio	21	28	52	1,289	1,147	1	3	11	121	179	10	25	80	1,017	1,424
Wisconsin	—	12	29	564	680	1	3	12	177	208	—	7	25	396	510
<b>W.N. Central</b>	27	48	109	2,269	2,506	3	11	37	646	745	33	19	48	909	793
Iowa	1	8	16	349	377	—	2	14	142	196	—	1	12	50	148
Kansas	—	6	18	269	425	—	0	4	33	48	—	3	11	159	53
Minnesota	9	11	51	521	636	1	2	19	206	172	3	2	10	76	274
Missouri	9	12	34	588	680	2	2	10	118	141	29	8	40	588	198
Nebraska§	8	5	41	321	212	—	2	6	81	140	1	0	3	27	11
North Dakota	—	0	30	65	40	—	0	28	6	2	—	0	9	5	33
South Dakota	—	2	22	156	136	—	0	12	60	46	—	0	1	4	76
<b>S. Atlantic</b>	294	262	445	11,497	10,847	7	13	30	563	727	38	45	85	2,020	2,760
Delaware	1	2	9	123	140	—	0	2	12	11	8	2	8	123	7
District of Columbia	—	0	5	23	56	—	0	1	1	6	—	0	2	6	18
Florida	205	115	279	5,622	4,451	6	3	7	154	132	11	9	24	409	718
Georgia	15	39	97	2,109	2,062	—	1	4	62	81	6	13	29	575	999
Maryland§	17	15	29	676	753	—	2	5	83	120	3	6	19	338	93
North Carolina	37	18	92	961	1,220	—	2	21	82	93	10	5	27	285	199
South Carolina§	12	16	61	903	1,044	—	0	3	26	40	—	3	9	102	511
Virginia§	7	20	88	886	942	1	3	16	117	212	—	5	59	174	184
West Virginia	—	4	23	194	179	—	0	5	26	32	—	0	3	8	31
<b>E.S. Central</b>	22	54	113	2,594	3,148	—	4	12	190	259	10	14	47	702	1,715
Alabama§	4	16	32	683	898	—	1	4	41	60	1	3	11	117	369
Kentucky	5	9	18	409	421	—	1	4	62	94	4	2	25	193	248
Mississippi	—	14	45	783	982	—	0	1	6	4	—	1	4	43	290
Tennessee§	13	15	33	719	847	—	2	10	81	101	5	7	36	349	808
<b>W.S. Central</b>	86	103	1,333	4,241	6,173	7	5	139	227	332	33	52	967	2,223	4,052
Arkansas§	6	12	25	558	713	4	1	4	40	52	3	7	16	278	502
Louisiana	—	10	43	599	1,024	—	0	1	—	8	—	2	12	108	592
Oklahoma	18	13	102	571	726	—	0	82	28	45	2	5	61	252	152
Texas§	62	57	1,204	2,513	3,710	3	4	55	159	227	28	34	889	1,585	2,806
<b>Mountain</b>	14	54	132	2,521	2,956	3	10	26	492	570	2	22	48	1,000	1,036
Arizona	1	19	49	866	991	—	1	4	58	57	—	16	41	720	512
Colorado	9	12	33	553	624	1	2	13	145	192	2	2	11	92	110
Idaho§	—	3	10	155	166	2	2	7	88	133	—	0	2	9	13
Montana§	—	2	7	96	107	—	0	7	33	32	—	0	5	13	8
Nevada§	3	4	13	223	209	—	0	4	32	16	—	1	7	65	217
New Mexico§	—	5	28	286	482	—	1	3	31	48	—	1	11	83	136
Utah	—	6	15	263	306	—	1	10	92	79	—	0	3	16	35
Wyoming§	1	1	8	79	71	—	0	2	13	13	—	0	1	2	5
<b>Pacific</b>	123	125	537	5,484	4,877	7	10	31	498	432	18	25	66	1,086	1,573
Alaska	—	1	7	63	49	—	0	0	—	6	—	0	1	2	1
California	82	95	516	4,167	3,543	1	5	15	231	203	14	20	65	882	1,351
Hawaii	2	5	13	215	232	—	0	2	8	13	—	0	4	34	40
Oregon§	5	8	17	363	384	—	1	11	72	61	—	1	3	33	91
Washington	34	11	85	676	669	6	2	17	187	149	4	2	11	135	90
American Samoa	—	0	1	—	2	—	0	0	—	—	—	1	2	3	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	13	—	0	0	—	—	—	0	1	—	14
Puerto Rico	—	8	40	363	665	—	0	0	—	—	1	0	2	10	30
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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

\* Incidence data for reporting year 2009 is 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 November 14, 2009, and November 8, 2008 (45th week)\*

Reporting area	Streptococcal diseases, invasive, group A				<i>Streptococcus pneumoniae</i> , invasive disease, nondrug resistant† Age <5 years					
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max		
<b>United States</b>	32	102	239	4,383	4,752	29	33	122	1,468	1,555
<b>New England</b>	4	5	28	259	335	—	1	12	51	77
Connecticut	4	0	21	72	91	—	0	11	—	—
Maine§	—	0	2	17	26	—	0	1	5	2
Massachusetts	—	2	10	107	157	—	0	4	30	54
New Hampshire	—	0	4	34	24	—	0	2	11	11
Rhode Island§	—	0	2	11	24	—	0	1	1	10
Vermont§	—	0	3	18	13	—	0	1	4	—
<b>Mid. Atlantic</b>	6	20	43	879	947	6	4	33	212	191
New Jersey	—	3	7	124	170	—	1	4	38	63
New York (Upstate)	3	7	25	286	294	4	2	17	105	85
New York City	—	4	12	165	177	2	0	31	69	43
Pennsylvania	3	6	18	304	306	N	0	2	N	N
<b>E.N. Central</b>	1	17	42	786	873	2	5	18	222	287
Illinois	—	5	12	221	231	—	0	5	23	83
Indiana	—	2	23	124	116	—	0	13	32	30
Michigan	—	3	11	125	160	—	1	5	57	70
Ohio	1	4	13	192	237	2	1	6	65	55
Wisconsin	—	2	11	124	129	—	1	3	45	49
<b>W.N. Central</b>	2	6	37	354	343	5	2	11	134	88
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	5	37	36	N	0	1	N	N
Minnesota	—	0	34	161	154	5	0	10	79	28
Missouri	2	1	8	80	84	—	0	4	32	33
Nebraska§	—	1	3	40	37	—	0	1	11	8
North Dakota	—	0	4	15	10	—	0	3	5	9
South Dakota	—	0	3	21	22	—	0	2	7	10
<b>S. Atlantic</b>	10	22	49	1,007	991	4	7	18	277	301
Delaware	—	0	1	10	8	—	0	0	—	—
District of Columbia	—	0	3	12	14	N	0	0	N	N
Florida	2	6	12	247	231	1	1	6	61	57
Georgia	1	5	13	241	222	2	2	6	75	85
Maryland§	3	3	12	169	171	1	1	7	66	49
North Carolina	—	2	12	86	125	N	0	0	N	N
South Carolina§	—	1	5	63	65	—	1	6	40	59
Virginia§	4	3	9	143	120	—	0	4	23	41
West Virginia	—	1	4	36	35	—	0	3	12	10
<b>E.S. Central</b>	5	3	10	172	168	1	2	7	85	82
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	5	33	36	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	2	18	9
Tennessee§	5	3	9	139	132	1	1	6	67	73
<b>W.S. Central</b>	3	8	79	391	442	6	5	46	257	252
Arkansas§	—	0	3	17	11	—	0	4	24	12
Louisiana	—	0	3	11	17	—	0	3	13	13
Oklahoma	—	3	20	123	99	—	1	7	52	60
Texas§	3	5	59	240	315	6	3	34	168	167
<b>Mountain</b>	1	10	22	389	505	4	4	16	200	234
Arizona	—	3	7	128	178	—	2	10	97	103
Colorado	1	3	7	121	127	3	0	4	43	53
Idaho§	—	0	2	10	16	1	0	2	8	5
Montana§	N	0	0	N	N	N	0	0	N	N
Nevada§	—	0	1	5	12	—	0	1	—	3
New Mexico§	—	2	7	72	117	—	0	4	22	33
Utah	—	1	6	52	49	—	0	5	30	35
Wyoming§	—	0	1	1	6	—	0	0	—	2
<b>Pacific</b>	—	3	9	146	148	1	0	4	30	43
Alaska	—	1	4	31	34	—	0	3	22	26
California	N	0	0	N	N	N	0	0	N	N
Hawaii	—	2	8	115	114	1	0	2	8	17
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 2009 is provisional.

† Includes cases of invasive pneumococcal disease, in children aged <5 years, caused by *S. pneumoniae*, which is susceptible or for which susceptibility testing is not available (NNDSS event code 11717).

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 14, 2009, and November 8, 2008 (45th week)\*

Reporting area	<i>Streptococcus pneumoniae</i> , invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages				Aged <5 years										
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
	Med	Max				Med	Max				Med	Max			
<b>United States</b>	23	59	276	2,347	2,619	6	8	21	374	431	66	260	452	11,027	11,263
<b>New England</b>	—	1	48	49	59	—	0	5	3	10	7	5	15	277	277
Connecticut	—	0	48	—	7	—	0	5	—	—	—	1	5	49	29
Maine§	—	0	2	16	17	—	0	1	1	2	—	0	1	2	10
Massachusetts	—	0	1	3	—	—	0	1	2	—	7	4	10	200	194
New Hampshire	—	0	3	5	—	—	0	0	—	—	—	0	2	13	19
Rhode Island§	—	0	6	13	21	—	0	1	—	6	—	0	5	13	17
Vermont§	—	0	2	12	14	—	0	0	—	2	—	0	2	—	8
<b>Mid. Atlantic</b>	3	3	14	154	269	1	0	3	23	25	19	35	50	1,577	1,467
New Jersey	—	0	0	—	—	—	0	0	—	—	1	4	13	192	193
New York (Upstate)	2	1	10	69	60	1	0	2	12	7	2	2	8	101	119
New York City	—	0	4	6	110	—	0	2	—	2	9	22	40	968	924
Pennsylvania	1	1	8	79	99	—	0	2	11	16	7	7	13	316	231
<b>E.N. Central</b>	5	11	41	525	539	3	1	7	75	74	2	22	43	952	1,092
Illinois	N	0	0	N	N	N	0	0	N	N	—	7	31	318	456
Indiana	—	3	32	176	183	—	0	6	25	23	—	2	10	131	115
Michigan	—	0	2	23	19	—	0	1	3	2	2	3	18	205	167
Ohio	5	7	18	326	337	3	1	4	47	49	—	6	19	266	298
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	4	32	56
<b>W.N. Central</b>	—	2	161	105	184	—	0	3	21	37	—	6	11	264	362
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	18	15
Kansas	—	0	5	38	72	—	0	2	13	6	—	0	3	26	26
Minnesota	—	0	156	—	25	—	0	3	—	25	—	1	4	63	100
Missouri	—	1	5	53	77	—	0	1	6	3	—	3	7	136	208
Nebraska§	—	0	1	2	—	—	0	0	—	—	—	0	3	16	13
North Dakota	—	0	3	10	2	—	0	0	—	—	—	0	1	4	—
South Dakota	—	0	2	2	8	—	0	2	2	3	—	0	1	1	—
<b>S. Atlantic</b>	8	26	53	1,122	1,095	2	4	14	184	202	18	64	262	2,764	2,466
Delaware	—	0	2	18	3	—	0	2	3	—	2	0	3	27	14
District of Columbia	N	0	0	N	N	N	0	0	N	N	—	3	8	144	125
Florida	7	15	36	658	613	2	2	13	110	120	1	19	32	852	903
Georgia	1	8	25	349	378	—	1	5	63	69	—	14	227	660	583
Maryland§	—	0	1	4	4	—	0	0	—	1	7	6	16	253	289
North Carolina	N	0	0	N	N	N	0	0	N	N	7	9	21	457	243
South Carolina§	—	0	0	—	—	—	0	0	—	—	1	2	6	101	77
Virginia§	N	0	0	N	N	N	0	0	N	N	—	7	15	266	221
West Virginia	—	2	13	93	97	—	0	2	8	12	—	0	2	4	11
<b>E.S. Central</b>	4	4	25	217	278	—	0	3	31	54	8	22	36	984	975
Alabama§	N	0	0	N	N	N	0	0	N	N	—	8	18	371	389
Kentucky	3	1	5	66	67	—	0	2	8	11	4	1	10	59	76
Mississippi	—	0	3	4	35	—	0	1	3	12	—	4	16	188	148
Tennessee§	1	2	23	147	176	—	0	3	20	31	4	8	15	366	362
<b>W.S. Central</b>	2	1	6	80	82	—	0	3	16	12	8	46	80	1,915	1,991
Arkansas§	2	1	5	48	14	—	0	3	11	3	7	4	35	227	150
Louisiana	—	1	5	32	68	—	0	1	5	9	1	6	40	305	591
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	7	55	70
Texas§	—	0	0	—	—	—	0	0	—	—	—	31	51	1,328	1,180
<b>Mountain</b>	1	2	7	92	111	—	0	2	19	15	—	8	18	353	532
Arizona	—	0	0	—	—	—	0	0	—	—	—	3	9	145	275
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	4	70	122
Idaho§	N	0	1	N	N	N	0	1	N	N	—	0	1	3	7
Montana§	—	0	1	—	—	—	0	0	—	—	—	0	7	1	—
Nevada§	—	1	4	35	51	—	0	2	7	5	—	1	10	87	70
New Mexico§	—	0	1	1	—	—	0	0	—	—	—	1	5	44	35
Utah	—	1	5	45	59	—	0	2	10	10	—	0	2	—	20
Wyoming§	1	0	2	11	1	—	0	1	2	—	—	0	1	3	3
<b>Pacific</b>	—	0	1	3	2	—	0	1	2	2	4	44	68	1,941	2,101
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	0	—	1
California	N	0	0	N	N	N	0	0	N	N	2	40	61	1,760	1,894
Hawaii	—	0	1	3	2	—	0	1	2	2	—	0	3	27	23
Oregon§	N	0	0	N	N	N	0	0	N	N	1	0	4	35	22
Washington	N	0	0	N	N	N	0	0	N	N	1	2	7	119	161
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	—	—	2	3	17	195	138
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 2009 is provisional.

† Includes cases of invasive pneumococcal disease caused by drug-resistant *S. pneumoniae* (DRSP) (NNDSS event code 11720).

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending November 14, 2009, and November 8, 2008 (45th week)\*

Reporting area	West Nile virus disease†														
	Varicella (chickenpox)					Neuroinvasive					Nonneuroinvasive§				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
	Med	Max				Med	Max				Med	Max			
<b>United States</b>	109	415	1,035	15,046	25,443	—	1	42	329	685	—	0	39	274	665
<b>New England</b>	—	8	45	296	1,478	—	0	0	—	7	—	0	0	—	3
Connecticut	—	0	21	—	756	—	0	0	—	5	—	0	0	—	3
Maine¶	—	0	12	69	233	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	2	2	—	—	0	0	—	1	—	0	0	—	—
New Hampshire	—	4	11	178	224	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	1	4	—	—	0	0	—	1	—	0	0	—	—
Vermont¶	—	0	16	43	265	—	0	0	—	—	—	0	0	—	—
<b>Mid. Atlantic</b>	12	35	57	1,363	2,088	—	0	2	7	49	—	0	1	1	20
New Jersey	N	0	0	N	N	—	0	1	2	5	—	0	0	—	4
New York (Upstate)	N	0	0	N	N	—	0	1	3	24	—	0	1	1	7
New York City	—	0	0	—	—	—	0	1	2	8	—	0	0	—	7
Pennsylvania	12	35	57	1,363	2,088	—	0	0	—	12	—	0	0	—	2
<b>E.N. Central</b>	70	152	254	5,503	6,494	—	0	2	5	44	—	0	2	2	20
Illinois	5	32	73	1,355	1,187	—	0	2	4	12	—	0	0	—	8
Indiana	—	5	30	348	—	—	0	0	—	3	—	0	0	—	1
Michigan	21	44	87	1,637	2,621	—	0	0	—	11	—	0	0	—	6
Ohio	43	40	91	1,730	1,948	—	0	0	—	14	—	0	2	2	1
Wisconsin	1	10	55	433	738	—	0	1	1	4	—	0	0	—	4
<b>W.N. Central</b>	1	15	114	772	1,071	—	0	5	24	51	—	0	8	60	133
Iowa	N	0	0	N	N	—	0	0	—	3	—	0	1	5	3
Kansas	—	3	22	183	385	—	0	1	4	14	—	0	2	6	17
Minnesota	—	0	0	—	—	—	0	1	1	2	—	0	1	3	8
Missouri	1	9	51	515	635	—	0	2	3	12	—	0	0	—	3
Nebraska¶	N	0	0	N	N	—	0	2	10	7	—	0	6	31	39
North Dakota	—	0	108	57	—	—	0	0	—	2	—	0	1	1	35
South Dakota	—	0	2	17	51	—	0	3	6	11	—	0	2	14	28
<b>S. Atlantic</b>	17	37	146	1,722	4,148	—	0	3	9	20	—	0	1	3	20
Delaware	1	0	2	12	44	—	0	0	—	—	—	0	0	—	1
District of Columbia	—	0	3	12	21	—	0	0	—	4	—	0	0	—	4
Florida	9	23	67	1,060	1,422	—	0	1	2	3	—	0	1	1	—
Georgia	N	0	0	N	N	—	0	1	4	4	—	0	0	—	4
Maryland¶	N	0	0	N	N	—	0	0	—	6	—	0	1	2	8
North Carolina	N	0	0	N	N	—	0	0	—	2	—	0	0	—	1
South Carolina¶	—	0	54	154	773	—	0	2	3	—	—	0	0	—	1
Virginia¶	—	0	119	28	1,282	—	0	0	—	—	—	0	0	—	1
West Virginia	7	10	32	456	606	—	0	0	—	1	—	0	0	—	—
<b>E.S. Central</b>	—	8	28	377	1,025	—	0	6	35	48	—	0	4	25	57
Alabama¶	—	8	28	372	1,012	—	0	0	—	11	—	0	0	—	7
Kentucky	N	0	0	N	N	—	0	1	3	3	—	0	0	—	—
Mississippi	—	0	2	5	13	—	0	5	29	22	—	0	4	21	43
Tennessee¶	N	0	0	N	N	—	0	1	3	12	—	0	1	4	7
<b>W.S. Central</b>	—	88	747	3,822	7,133	—	0	16	99	68	—	0	6	29	62
Arkansas¶	—	1	30	115	663	—	0	1	4	7	—	0	0	—	2
Louisiana	—	1	7	76	69	—	0	2	7	17	—	0	4	6	31
Oklahoma	N	0	0	N	N	—	0	2	6	4	—	0	2	2	5
Texas¶	—	85	721	3,631	6,401	—	0	13	82	40	—	0	4	21	24
<b>Mountain</b>	9	26	71	1,103	1,887	—	0	10	68	102	—	0	15	94	184
Arizona	—	0	0	—	—	—	0	4	12	61	—	0	2	6	52
Colorado	9	11	33	466	769	—	0	7	35	17	—	0	14	64	54
Idaho¶	N	0	0	N	N	—	0	1	2	4	—	0	2	6	35
Montana¶	—	0	20	105	273	—	0	1	2	—	—	0	1	3	5
Nevada¶	N	0	0	N	N	—	0	2	7	9	—	0	1	5	7
New Mexico¶	—	1	20	134	200	—	0	2	6	5	—	0	1	2	3
Utah	—	9	32	398	635	—	0	0	—	6	—	0	0	—	20
Wyoming¶	—	0	1	—	10	—	0	1	4	—	—	0	2	8	8
<b>Pacific</b>	—	2	7	88	119	—	0	11	82	296	—	0	11	60	166
Alaska	—	1	6	53	60	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	7	56	291	—	0	6	43	152
Hawaii	—	1	4	35	59	—	0	0	—	—	—	0	0	—	—
Oregon¶	N	0	0	N	N	—	0	1	1	3	—	0	3	6	13
Washington	N	0	0	N	N	—	0	6	25	2	—	0	3	11	1
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	—	62	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	8	26	401	515	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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

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

\* Incidence data for reporting year 2009 is provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.

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

§ Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.

¶ Not 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/pbs/infdis.htm>.

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

TABLE III. Deaths in 122 U.S. cities,\* week ending November 14, 2009 (45th 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&I† Total		All Ages	≥65	45-64	25-44	1-24	<1	P&I† Total
<b>New England</b>	494	342	102	31	7	12	43	<b>S. Atlantic</b>	1,098	702	282	68	27	19	65
Boston, MA	136	90	27	12	3	4	12	Atlanta, GA	131	77	36	14	2	2	—
Bridgeport, CT	25	18	6	—	1	—	1	Baltimore, MD	136	67	42	13	11	3	16
Cambridge, MA	16	12	3	1	—	—	—	Charlotte, NC	96	69	20	5	1	1	11
Fall River, MA	30	23	5	2	—	—	4	Jacksonville, FL	152	91	45	8	6	2	8
Hartford, CT	U	U	U	U	U	U	U	Miami, FL	114	83	24	5	1	1	4
Lowell, MA	16	12	3	1	—	—	3	Norfolk, VA	13	7	3	2	—	1	—
Lynn, MA	10	8	1	—	1	—	—	Richmond, VA	60	38	16	1	1	4	5
New Bedford, MA	21	18	2	1	—	—	2	Savannah, GA	58	45	11	2	—	—	8
New Haven, CT	28	17	8	1	—	2	2	St. Petersburg, FL	53	38	10	3	1	1	2
Providence, RI	75	54	12	7	1	1	—	Tampa, FL	181	120	48	10	2	1	9
Somerville, MA	2	1	1	—	—	—	—	Washington, D.C.	92	60	22	5	2	3	2
Springfield, MA	44	24	13	2	1	4	6	Wilmington, DE	12	7	5	—	—	—	—
Waterbury, CT	32	19	13	—	—	—	3	<b>E.S. Central</b>	742	460	209	42	16	14	68
Worcester, MA	59	46	8	4	—	1	10	Birmingham, AL	134	90	31	6	2	4	11
<b>Mid. Atlantic</b>	1,824	1,309	375	89	33	18	91	Chattanooga, TN	64	37	21	5	—	1	7
Albany, NY	39	23	10	6	—	—	5	Knoxville, TN	113	75	27	7	1	3	9
Allentown, PA	26	21	4	1	—	—	1	Lexington, KY	65	37	20	5	2	1	4
Buffalo, NY	79	58	19	2	—	—	11	Memphis, TN	148	91	44	5	4	4	19
Camden, NJ	34	21	6	4	1	2	—	Mobile, AL	31	20	9	2	—	—	4
Elizabeth, NJ	21	14	5	—	2	—	—	Montgomery, AL	35	24	8	3	—	—	3
Erie, PA	48	35	11	2	—	—	3	Nashville, TN	152	86	49	9	7	1	11
Jersey City, NJ	37	26	8	3	—	—	2	<b>W.S. Central</b>	1,449	868	362	147	31	41	103
New York City, NY	999	715	208	44	21	11	43	Austin, TX	93	52	27	8	1	5	10
Newark, NJ	37	20	9	6	2	—	1	Baton Rouge, LA	83	46	19	10	3	5	2
Paterson, NJ	4	2	2	—	—	—	—	Corpus Christi, TX	58	36	18	3	—	1	4
Philadelphia, PA	133	86	34	9	3	1	2	Dallas, TX	189	118	42	14	6	9	15
Pittsburgh, PA§	25	16	6	1	—	2	1	El Paso, TX	68	44	11	11	1	1	5
Reading, PA	30	25	4	1	—	—	4	Fort Worth, TX	U	U	U	U	U	U	U
Rochester, NY	130	100	22	6	—	2	5	Houston, TX	544	309	146	64	14	11	39
Schenectady, NY	17	14	3	—	—	—	1	Little Rock, AR	87	47	28	8	2	2	7
Scranton, PA	29	19	9	—	1	—	—	New Orleans, LA	U	U	U	U	U	U	U
Syracuse, NY	73	63	6	2	2	—	5	San Antonio, TX	206	133	45	20	2	6	11
Trenton, NJ	18	15	3	—	—	—	1	Shreveport, LA	12	10	1	1	—	—	—
Utica, NY	22	16	4	2	—	—	5	Tulsa, OK	109	73	25	8	2	1	10
Yonkers, NY	23	20	2	—	1	—	1	<b>Mountain</b>	1,048	707	227	62	23	22	70
<b>E.N. Central</b>	1,596	1,063	380	92	24	37	127	Albuquerque, NM	110	75	26	5	2	2	10
Akron, OH	53	30	17	3	1	2	12	Boise, ID	64	42	15	5	1	1	7
Canton, OH	35	24	8	2	—	1	4	Colorado Springs, CO	53	43	5	4	—	—	4
Chicago, IL	U	U	U	U	U	U	U	Denver, CO	90	53	21	8	3	5	8
Cincinnati, OH	U	U	U	U	U	U	U	Las Vegas, NV	189	125	47	11	4	2	9
Cleveland, OH	278	187	70	13	4	4	25	Ogden, UT	39	30	7	2	—	—	—
Columbus, OH	178	115	39	17	2	5	14	Phoenix, AZ	167	92	49	11	6	6	13
Dayton, OH	145	104	31	9	—	1	8	Pueblo, CO	34	28	4	2	—	—	1
Detroit, MI	152	88	44	12	3	5	6	Salt Lake City, UT	126	87	26	7	4	2	10
Evansville, IN	48	39	8	1	—	—	3	Tucson, AZ	176	132	27	7	3	4	8
Fort Wayne, IN	56	38	14	2	2	—	6	<b>Pacific</b>	1,419	953	332	73	45	16	155
Gary, IN	15	7	6	1	—	1	—	Berkeley, CA	9	5	3	—	—	1	—
Grand Rapids, MI	64	42	13	3	1	5	7	Fresno, CA	U	U	U	U	U	U	U
Indianapolis, IN	187	119	47	11	3	7	10	Glendale, CA	36	34	2	—	—	—	8
Lansing, MI	40	35	4	1	—	—	—	Honolulu, HI	53	36	12	3	1	1	3
Milwaukee, WI	75	49	14	5	4	3	5	Long Beach, CA	67	44	17	1	3	2	8
Peoria, IL	49	34	11	2	1	1	5	Los Angeles, CA	237	139	59	22	14	3	35
Rockford, IL	60	43	14	1	1	1	3	Pasadena, CA	U	U	U	U	U	U	U
South Bend, IN	33	22	8	2	1	—	3	Portland, OR	113	68	33	1	10	1	10
Toledo, OH	63	43	12	7	1	—	7	Sacramento, CA	177	122	41	11	3	—	27
Youngstown, OH	65	44	20	—	—	1	9	San Diego, CA	152	110	31	7	3	1	17
<b>W.N. Central</b>	696	454	161	49	18	13	51	San Francisco, CA	101	68	25	7	1	—	11
Des Moines, IA	139	97	28	10	2	2	18	San Jose, CA	174	128	34	6	5	1	10
Duluth, MN	33	21	11	1	—	—	2	Santa Cruz, CA	31	22	6	2	1	—	2
Kansas City, KS	16	6	7	3	—	—	1	Seattle, WA	89	48	25	7	4	5	8
Kansas City, MO	92	61	22	6	3	—	4	Spokane, WA	78	61	14	3	—	—	11
Lincoln, NE	33	23	8	1	—	1	1	Tacoma, WA	102	68	30	3	—	1	5
Minneapolis, MN	89	57	23	5	1	3	7	<b>Total¶</b>	<b>10,366</b>	<b>6,858</b>	<b>2,430</b>	<b>653</b>	<b>224</b>	<b>192</b>	<b>773</b>
Omaha, NE	87	62	16	6	1	2	7								
St. Louis, MO	89	40	25	11	7	5	4								
St. Paul, MN	56	43	11	1	1	—	4								
Wichita, KS	62	44	10	5	3	—	3								

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.





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