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Assessment of Epidemiology Capacity in State Health Departments — United States, 2009

Since 2001, the Council of State and Territorial Epidemiologists (CSTE) periodically has conducted a standardized national assessment of state health departments' core epidemiology capacity (*1–3*). During April–June 2009, CSTE sent a web-based questionnaire to the state epidemiologist in each of the 50 states and the District of Columbia. The assessment inquired into workforce capacity and technological advancements to support surveillance. Measures of capacity included total number of epidemiologists and self-assessment of the state's ability to carry out four essential services of public health (ESPH). This report summarizes the results of the assessment, which determined that in 2009, 10% fewer epidemiologists were working in state health departments than in 2006. Compared with 2006, the percentage of state health departments with substantial-to-full (>50%) epidemiology capacity decreased in three ESPH, including 1) capacities to monitor and detect health problems, 2) investigate them, and 3) evaluate the effectiveness of population-based services. The percentage of departments with substantial-to-full epidemiology capacity for bioterrorism/emergency response decreased slightly, from 76% in 2006 to 73% in 2009. More than 30% of states reported minimal-to-no (<25%) capacity to evaluate and conduct research and for five of nine epidemiology program areas, including environmental health, injury, occupational health, oral health, and substance abuse. Working together, federal, state, and local agencies should develop a strategy to address downward trends and major gaps in epidemiology capacity.

The main objectives of the periodic CSTE Epidemiology Capacity Assessment (ECA) are to count and characterize the state-employed epidemiologist workforce and measure current core epidemiology capacity. Standardized assessments began in 2001 (*1*) and were conducted in 2004, 2006, and 2009 (*2,3*). Some of the information sought by the assessments relate to the four most epidemiology-related ESPH.* These include 1) monitoring health status to identify and solve community health problems; 2) diagnosing and investigating health problems and health hazards in the community; 3) evaluating effectiveness, accessibility, and quality of personal and population-based health services; and 4) conducting and evaluating research for new insights and innovative solutions to health problems. The assessments also evaluate capacity in nine program areas: infectious diseases, bioterrorism/emergency response, chronic disease, maternal and child health, environmental health, injury, occupational health, oral health, and substance abuse. In 2009, questions were added to assess implementation of selected technological advancements to support surveillance.†

After pilot testing, CSTE made the 2009 ECA questionnaire available on-line to all states from April 1 through June 30, 2009. The state epidemiologist in each state was the designated key informant, and lead epidemiologists added

* Additional information about the 10 essential services of public health is available at http://www.cdc.gov/od/ocphp/nphpsp/essentialphservices.htm.

† The questions included, "Do your reports enter into a National Electronic Disease Surveillance System compatible database? Does your state: have fully functional automated electronic laboratory (ELR) reporting?; have a formal web-based provider disease reporting system?; routinely use automated cluster detection software on reportable disease and laboratory finding case report data to look for disease clusters?; routinely geocode all births?, deaths?, reportable disease data?"

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information for program-specific questions. The state epidemiologist also distributed a worksheet on training experience and program areas of work to each enumerated epidemiologist. As follow-up, CSTE contacted each state epidemiologist to ensure the total number of epidemiologists reported on the ECA was correct. All 50 states and the District of Columbia participated. For this survey and past CSTE assessments, an epidemiologist was defined as any person who, regardless of job title, performed functions consistent with the definition of epidemiologist[§] in *A Dictionary of Epidemiology* (*4*). Part-time positions and full-time positions in which epidemiologists did only part-time epidemiology work were reported as fractions of full-time equivalents. For each of the four ESPH, the state epidemiologist was asked whether the state health department had adequate epidemiology capacity to provide the services and to estimate the extent to which their department met the activity, knowledge, or resources for the ESPH.[¶] Estimates were categorized as follows: full capacity = 100% of the activity, knowledge, or resources described within the question are met; almost full = 75%–99%; substantial = 50%–74%; partial = 25%–49%; minimal = some, but <25%; and none = 0. For each program area, the extent of epidemiology and surveillance capacity was assessed using the same scale.[**] For each program area, the state epidemiologist also was asked to provide the ideal number of epidemiologists needed to fully meet epidemiology and surveillance capacity. Population estimates from the U.S. Census for 2008 were used as denominators.

In 2009, a total of 2,193 epidemiologists worked for the 51 jurisdictions, for a rate of 0.72 epidemiologists per 100,000 population (state median: 0.77 per 100,000; range: 0.19–4.05), a 12% decrease from the 2,498 epidemiologists enumerated in 2004 and a 10% decrease from the 2,436 reported in 2006. Among respondents, 33 (65%) reported substantial-to-full capacity to monitor health status and solve community health problems, and 32 (63%) reported the same capacity to diagnose and investigate health problems and hazards in the community. In contrast, only seven (14%) reported substantial-to-full capacity to evaluate effectiveness, accessibility, and quality of personal and population-based health services, and nine (18%) to conduct research for new insights and innovative solutions to health problems (Figure 1).

§ "An investigator who studies the occurrence of disease or other health-related conditions or events in defined populations. The control of disease in populations is often also considered to be a task for the epidemiologist, especially in speaking of certain specialized fields such as malaria epidemiology. Epidemiologists may study disease in populations of animals and plants, as well as among human populations."

¶ The question asked was, "Does your state health department have adequate epidemiologic capacity to provide the following four essential public health services?"

** The question asked was, "What is the extent of the epidemiology and surveillance capacity in the following program areas in your state health department? If needed, please seek the guidance of other state health department staff within program specific areas when completing this question."

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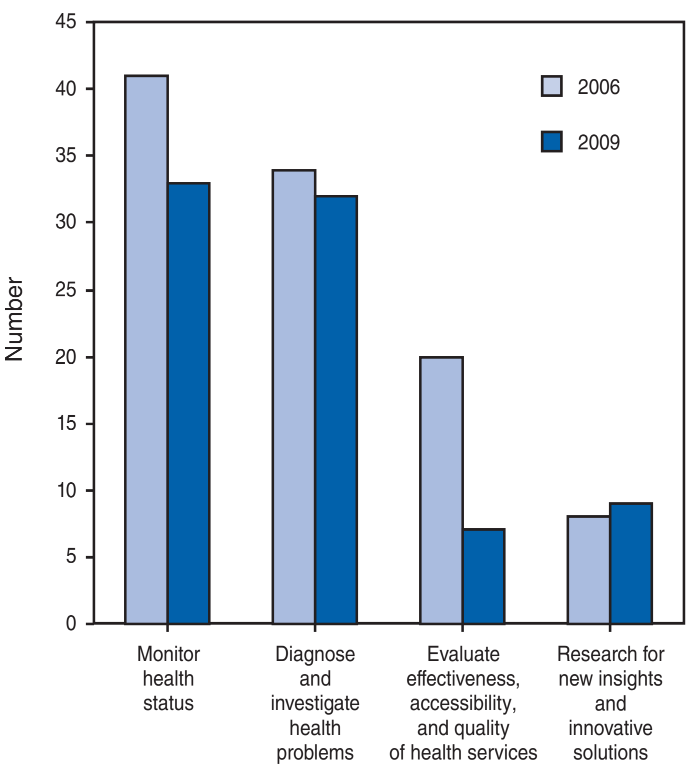
Except for the research ESPH, the percentage of states reporting substantial-to-full capacity decreased since 2006.

By program area, 47 states (92%) reported substantial-to-full capacity for infectious diseases, the only area with >75% of states reporting this level of capacity. For three program areas, the majority reported minimal-to-no capacity: occupational health (35, 69%), oral health (31, 61%), and substance abuse (39, 76%) (Figure 2). When compared with ECA results from the 51 jurisdictions from 2004 and 2006, four program areas showed progressive increases in substantial-to-full capacity: maternal-child health (43% to 47% to 55%), environmental health (27% to 34% to 38%), injury (18% to 25% to 34%), and occupational health (10% to 14% to 18%). Bioterrorism/emergency response was the only program area with a progressive decrease in substantial-to-full capacity, declining from 41 states (80%) in 2004 to 39 states (76%) in 2006 to 37 states (73%) in 2009. Based on responses from 36 state epidemiologists about additional needs, 1,490 additional epidemiologists (a 68% increase to 1.21 epidemiologists per 100,000 population nationally) are needed to achieve ideal epidemiology and surveillance capacity in all program areas, assuming the 15 nonrespondents had no additional need.

FIGURE 1. Number of state health departments reporting substantial-to-full (>50%) capacity in four essential services of public health — Council of State and Territorial Epidemiologists Epidemiology Capacity Assessment, United States,* 2006 and 2009



* 50 states and the District of Columbia.

The assessment of technology capacity to support surveillance showed that 46 states (90%) had a National Electronic Disease Surveillance System–compliant database, but fewer had automated electronic laboratory reporting (27, 53%) or web-based provider reporting (21, 41%), used automated cluster detection software (12, 24%), or routinely geocoded reportable disease data (15, 29%) or deaths (21, 41%).

Among 2,193 enumerated epidemiologists, 1,544 (70%) completed worksheets describing their level of formal epidemiology training (Table). Of these, 885 (57%) had degrees in epidemiology, 452 (29%) had completed other formal training or academic coursework in epidemiology, and 207 (13%) had no formal training or academic coursework in epidemiology. Those with masters or higher level degrees in epidemiology increased steadily, from 49% in 2004 to 56% in 2009. The percentage with no formal training or academic coursework decreased steadily, from 29% in 2004 to 13% in 2009. State epidemiologists reported that 164 (8%) staff epidemiologists with advanced degrees retired or left their job during 2008; 17% of the current workforce anticipates leaving within 5 years.

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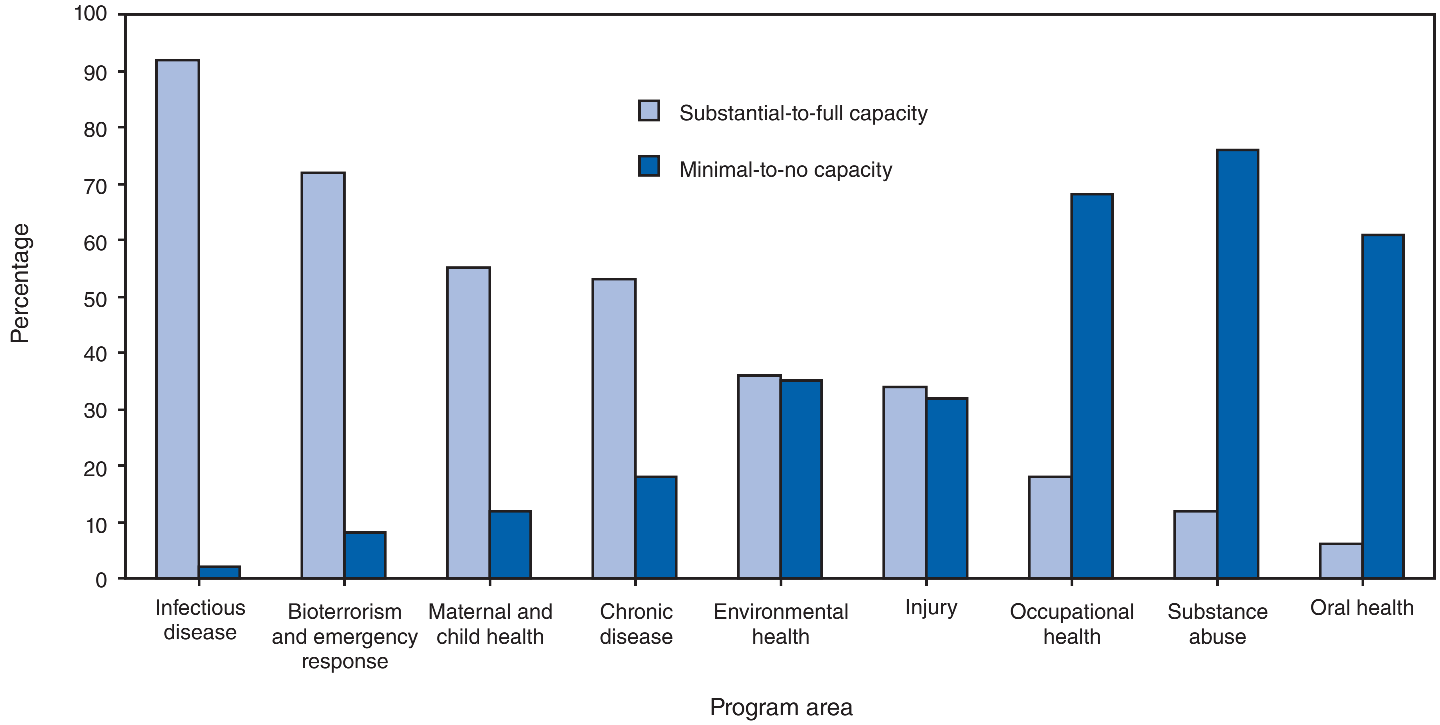
Editorial Note: Epidemiology capacity is essential for detection, control, and prevention of major public health problems. Epidemiology provides information needed to perform four of the 10 ESPH. *Healthy People 2010* objective 23-14 calls for the United States to "increase the proportion of tribal, state, and local public health agencies that provide or assure comprehensive epidemiology services to support essential public health services," so "they can quickly detect, investigate, and respond to diseases to prevent unnecessary transmission" (*5*). CSTE's periodic ECA is the major data source for measuring baseline and ongoing progress in this objective for state public health agencies.

The 2009 ECA revealed that the number of state-level epidemiologists has decreased since 2004, with a marked decline since 2006. The assessment also revealed a decrease in functional epidemiology capacity (even though the residual workforce appears to be increasingly well trained). Two potential explanations for the erosion in state epidemiology capacity are reduced federal terrorism preparedness and emergency response funding during the past 3–4 years and overall decline of state budgets. The 2004 assessment demonstrated that the number of epidemiologists in 39 responding states had increased by 25% from 2001 to 2004, a direct result of federal preparedness funding (*2*). As of 2006, such funding supported approximately 25% of state-based epidemiologists (*3*). However, annual

FIGURE 2. Percentage of state health departments reporting substantial-to-full (50%–100%) and minimal-to-no (<25%) capacity in epidemiology and surveillance programs, by program area — Council of State and Territorial Epidemiologists Epidemiology Capacity Assessment, United States,* 2009



* 50 states and the District of Columbia.

awards of new grants to states through this funding stream decreased from a high of $1 billion in 2002 to approximately $698 million in 2008 (*6*), and bioterrorism/emergency epidemiology and surveillance capacity has decreased concurrently since peaking in 2004. Many states have adjusted their budgets to compensate for diminished revenues in 2008, resulting in workforce reduction. Recent efforts to improve public health workforce training and competence have resulted in progress. However, workforce development remains a challenge. The smaller, if more highly trained, epidemiology workforce is unable to fully compensate for current losses in personnel. Furthermore, the 2009 assessment suggests that nearly 20% of current public health epidemiologists anticipate retiring or changing careers in the next 5 years.

The findings of this report are subject to at least three limitations. First, the 2009 assessment only measured epidemiology capacity of state health departments. The capacity of local health departments was not measured. Second, the methods used by respondents to estimate their capacity to perform the essential services of public health, program-specific epidemiology and surveillance capacity, and the numbers needed to reach ideal capacity were subjective and likely varied by state and year. Finally, only 70% of respondents indicated training

TABLE. Number and percentage of state-level epidemiologists, by highest level of academic training in epidemiology — Council of State and Territorial Epidemiologists Epidemiology Capacity Assessment, United States,* 2004, 2006, and 2009

	2004		2006		2009	
Highest level of epidemiology-specific training	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**
Doctoral degree (e.g., PhD, DrPH)	133	(7.0)	193	(8.5)	121	(7.8)
Master's degree (e.g, MPH, MSPH) in epidemiology	806	(42.5)	1,063	(46.6)	750	(48.6)
Bachelor's degree (e.g., BA, BS) in epidemiology	47	(2.5)	52	(2.3)	14	(0.9)
Completed formal training program in epidemiology (e.g., EIS†)	103	(5.4)	157	(6.9)	103	(6.7)
Completed some coursework in epidemiology	266	(14.0)	445	(19.5)	349	(22.6)
None or on-the-job training	541	(28.5)	370	(16.2)	207	(13.4)
Total	**1,897**		**2,280**		**1,544**	

* Data on 74% of epidemiologists in 2004, 94% in 2006, and 70% in 2009.
† Epidemic Intelligence Service.

What is already known on this topic?

Data on state-level epidemiology capacity from surveys conducted by the Council of State and Territorial Epidemiologists (CSTE) since 2001 indicate that capacity overall is <50% in many areas, but that it increased substantially from 2001 to 2004 after the appropriation of federal funding for public health preparedness.

What is added by this report?

Data from the most recent CSTE survey indicate that overall state-level epidemiology capacity remains below 50% in many areas and has deteriorated since 2006, in part as a consequence of diminishing public health preparedness funding.

What are the implications for public health practice?

State, federal, and local agencies should work together to address downward trends and major gaps in capacity by determining optimal epidemiology capacity and technology requirements, and developing a strategy for achieving them.

level, compared with 74% in 2004 and 94% in 2006, and results might have differed with more complete response.

Many states still do not have the technology capacity (e.g., automated electronic laboratory-based reporting, web-based provider reporting, and cluster-detection software) to conduct state-of-the-art surveillance for acute diseases. The result is less timely and complete reporting, reduced ability to rapidly detect outbreaks, and reduced ability to expand laboratory-based surveillance to monitor gaps in percentage of the population being adequately treated for conditions that affect large numbers of persons, such as human immunodeficiency virus and diabetes. In addition, states that do not routinely geocode address data cannot make use of geographic information systems to better describe and respond to disparities in health. State, federal, and local agencies should work together to address these downward trends and major gaps in capacity. Agencies should reach a consensus on optimal levels of epidemiology capacity and technology requirements, and then develop a strategy to achieve them.

Acknowledgments

The findings in this report are based, in part, on contributions by the 2009 ECA Workgroup, which included D Bixler, MD, West Virginia Dept of Health and Human Resources; C Hahn, MD, Idaho Dept of Health and Welfare; K Hedberg, MD, Oregon Dept of Health and Human Svcs; S Huston, PhD, North Carolina Dept of Health and Human Svcs; M Landen, MD, New Mexico Dept of Health; M Lichtveld, MD, Tulane Univ School of Public Health; S Ostroff, MD, Pennsylvania Dept of Health; W Sappenfield, MD, Florida Dept of Health; and D Thoroughman, PhD, Kentucky Dept for Public Health.

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Imported Case of Marburg Hemorrhagic Fever — Colorado, 2008

Marburg hemorrhagic fever (MHF) is a rare, viral hemorrhagic fever (VHF); the causative agent is an RNA virus in the family *Filoviridae*, and growing evidence demonstrates that fruit bats are the natural reservoir of Marburg virus (MARV) (*1,2*). On January 9, 2008, an infectious disease physician notified the Colorado Department of Public Health and Environment (CDPHE) of a case of unexplained febrile illness requiring hospitalization in a woman who had returned from travel in Uganda. Testing of early convalescent serum demonstrated no evidence of infection with agents that cause tropical febrile illnesses, including VHF. Six months later, in July 2008, the patient requested repeat testing after she learned of the death from MHF of a Dutch tourist who had visited the same bat-roosting cave as the patient, the Python Cave in Queen Elizabeth National Park, Uganda (*3*). The convalescent serologic testing revealed evidence of prior infection with MARV, and MARV RNA was detected in the archived early convalescent serum. A public health investigation did not identify illness consistent with secondary MHF transmission among her contacts, and no serologic evidence of infection was detected among the six tested of her eight tour companions. The patient might have acquired MARV infection through exposure to bat secretions or excretions while visiting the Python Cave. Travelers should be aware of the risk for acquiring MHF in caves or mines inhabited by bats in endemic areas in sub-Saharan Africa. Health-care providers should consider VHF among travelers returning from endemic areas who experience unexplained febrile illness.

Case Report

On January 1, 2008, the patient, a woman aged 44 years with no remarkable past medical history, returned to the United States from a 2-week safari in Uganda, where her activities included camping, white-water rafting, visiting local villages, and viewing wildlife. She had taken malaria prophylaxis with atovaquone-proguanil, as prescribed. On January 4, she experienced severe headache, chills, nausea, vomiting, and diarrhea (Figure). She self-treated for traveler's diarrhea with 2 doses of ciprofloxacin, and developed a diffuse rash. On January 6 and 7, she was seen as an outpatient, had laboratory testing performed, and was treated with antiemetics. A complete blood count on January 6 revealed an abnormally low white blood cell count of 900/μL (normal range: 4,500–10,500/μL). She returned to her primary-care physician's clinic on January 8, complaining of persistent diarrhea and abdominal pain, as well as worsening fatigue, generalized weakness, and confusion. On physical examination, she appeared pale and fatigued, and had decreased bowel sounds; the remainder of her examination was unremarkable. Laboratory results received on January 8 revealed hepatitis (aspartate aminotransaminase 9,660 U/dL [normal range: 15–41 U/L] and alanine aminotransferase 4,823 U/dL [normal range: 14–54 U/L]) and renal failure (creatinine 2.3 mg/dL [normal range: 0.7–1.2 mg/dL]). The patient was admitted to a community hospital for further management. The admission diagnosis was acute hepatitis, nausea, and vomiting of unknown etiology.

On admission, the patient was afebrile (temperature 96.2°F [35.7°C]). She was treated with intravenous fluids and was started on doxycycline for possible leptospirosis. Her hospital course was characterized by pancytopenia, coagulopathy, myositis, pancreatitis, and encephalopathy, all of which are complications that have been associated with MHF. She had no signs of gross hemorrhage other than vaginal bleeding attributed to menses. During her hospitalization, she underwent cholecystectomy for acalculous cholecystitis. Testing was negative for leptospirosis, viral hepatitis, malaria, arboviral infection, acute schistosomiasis, rickettsial infection, and VHFs (including Marburg and Ebola hemorrhagic fever) (Table). Early convalescent serum collected on January 14 (10 days after illness onset) was submitted to CDC for testing and demonstrated no evidence of MARV infection by virus isolation, antigen-detection enzyme-linked immunosorbent assay (ELISA), or anti-MARV immunoglobulin M (IgM) and IgG ELISA. The patient was discharged on January 19 and had a prolonged recovery over the following year because of persistent abdominal pain, fatigue, and "mental fog," but had no long-term sequelae such as chronic hepatitis or chronic renal disease. She received a blood transfusion for persistent anemia after she was discharged.

In July 2008, the patient requested repeat testing after she learned of the fatal case of MHF in a Dutch tourist who recently had visited the same cave she had visited in Uganda, the Python Cave. The Colorado patient had visited the cave on December 25, 2007, 10 days before onset of her initial symptoms. Serum collected on July 15 tested positive for anti-MARV IgG by ELISA, prompting additional testing of the archived day 10 serum. Traditional reverse-transcriptase polymerase chain reaction (RT-PCR) was negative, and real-time (Taqman) RT-PCR was equivocal; however, nested RT-PCR* confirmed the presence of MARV RNA fragments in the day 10 sample.

Public Health Response

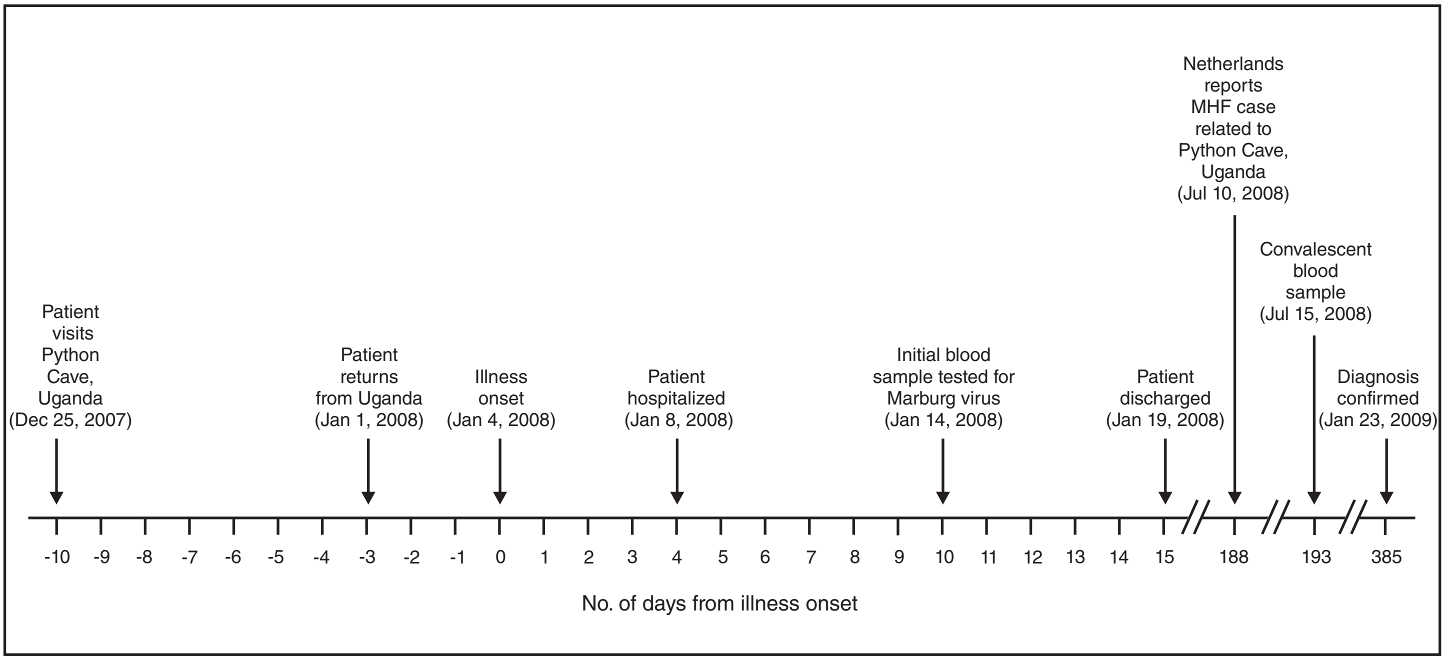
On January 22, 2009, CDC notified the World Health Organization and Uganda Ministry of Health of the imported MHF case. The Python Cave had already been closed to visitors in July 2008, during the response to the Dutch MHF case. CDPHE and CDC conducted a public health investigation during January–February 2009. Interviews were conducted with the patient and her spouse, the patient's medical records were reviewed, and a retrospective contact investigation was conducted to identify possible secondary transmission. A contact was defined as a person who had physical contact with the patient, her body fluids, or contaminated materials or was in the same room as the patient during her acute illness (January 4–19, 2008). Contacts included health-care workers (including health-care providers, housekeeping staff, and hospital laboratory staff), commercial laboratory staff, and social contacts.

To limit the effect of recall bias and to identify secondary cases of MHF, a contact-tracing protocol (*4*) was modified for retrospective use to identify contacts who had a high-risk exposure to the patient's body fluids (through splash, percutaneous, or nonintact skin exposure), or prolonged absenteeism of ≥7 days as indicated by review of health and payroll records. The contact investigation identified approximately 260 contacts: 220 health-care workers, approximately 30 commercial laboratory workers from five laboratories, and 10 social contacts. No high-risk exposure or severe febrile illness was identified.

The patient and her spouse reported spending approximately 15–20 minutes in the cave and recalled seeing bats flying

* Nested RT-PCR is more sensitive and specific than traditional RT-PCR. A portion of the product produced from the first round of amplification is used in the second round of amplification along with a different set of primers.

FIGURE. Timeline of key events in the treatment and diagnosis of an imported case of Marburg hemorrhagic fever (MHF) — Colorado, December 2007–January 2009



overhead. Neither remembered her having contact with a bat or sustaining an injury in the cave. However, the patient reported touching guano-covered rocks while climbing into the cave and surmised that she might have covered her mouth and nose with her hands once inside because of the unpleasant smell.

CDC, with assistance from public health agencies in Illinois, Uganda, Belgium, and the United Kingdom, conducted an investigation of the eight tour companions who accompanied the patient when she visited the Python Cave. During February–July 2009, participants were interviewed using a standardized questionnaire by telephone or e-mail and were offered serologic testing by anti-MARV IgG ELISA. Questionnaires were completed for all eight tour companions. All eight reported having entered the cave (at least under the cave ceiling), and six reported climbing over a crop of boulders further inside as the patient had done; however, none reported direct contact with bats or bat guano/urine. Serum samples were provided by six of the tour companions; none had evidence of prior MARV infection by anti-MARV IgG.

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Editorial Note: Before the case described in this report, the only human cases of VHF imported into the United States were single cases of Lassa fever (an arenaviral hemorrhagic fever) in Chicago, Illinois, in 1989 (*5*) and in Trenton, New Jersey, in 2004 (*4*). No previous cases of imported filovirus (MARV or

TABLE. Marburg virus (MARV)-specific test results for an imported case of Marburg hemorrhagic fever, by serum sample tested — Colorado, 2008–2009

	Serum sample tested			
Test performed	**1/14/08 (day 10)**	**Archived 1/14/08 (day 10)**	**7/15/08 (day 193)**	**2/3/09 (day 396)**
Anti-MARV IgM* ELISA†	Negative	Negative	Negative	Negative
Anti-MARV IgG§ ELISA	Negative	Negative	Positive	Positive
MARV antigen-detection ELISA	Negative	Negative	Negative	Not done
Virus isolation	Negative	Negative	Negative	Not done
Nested RT-PCR¶	Not done	Positive	Not done	Not done

* Immunoglobulin M.
† Enzyme-linked immunosorbent assay.
§ Immunoglobulin G.
¶ Reverse transcription–polymerase chain reaction.

What is already known on this topic?

Marburg hemorrhagic fever (MHF) is a rare viral hemorrhagic fever caused by Marburg virus (a filovirus in the same family as Ebola virus), which is endemic in tropical areas of Africa and likely is maintained in nature by cave-dwelling bats.

What is added by this report?

The case described in this report, the first imported case of a filoviral hemorrhagic fever in the United States, adds further support to the epidemiologic link between MHF and exposure to caves inhabited by bats in Africa.

What are the implications for public health practice?

Health-care providers should advise travelers to endemic areas of Africa to avoid entering caves inhabited by bats, should consider the diagnosis of viral hemorrhagic fever among severely ill travelers returning from endemic areas, and should rapidly report, isolate, and test patients with suspected cases.

Ebola virus) infections have been reported in the United States, making this the first imported case of a filoviral hemorrhagic fever in the United States.

The patient described in this report was first diagnosed by convalescent serology because initial testing of the day 10 sample was negative by virus isolation, antigen-detection, and IgM and IgG ELISA. After the Dutch patient was diagnosed with MHF, retesting of the archived specimen with more sensitive molecular methods was performed, including a nested RT-PCR assay that detected viral RNA. This, along with the positive convalescent serology and compatible clinical course, confirmed the diagnosis. To obtain a rapid diagnosis during the acute illness, patients with suspected VHF should have paired acute blood specimens (ideally collected during days 0–4 and days 4–9 of the acute illness) tested at a World Reference Laboratory (e.g., CDC) with biosafety level 4 capability using multiple methods as appropriate for the timing of the sample, including virus isolation, RT-PCR, and IgM and IgG ELISA. Because the incubation period for MARV is 2–21 days, daily contact tracing is recommended to contain outbreaks. This involves following all contacts of patients suspected of having MHF, and isolating and testing those that experience fever within 21 days after their last contact.

Other sporadic cases of MHF have been reported outside of Africa: two laboratory-acquired cases in Russia and two cases imported from endemic areas (*3,6*). These imported cases occurred in a patient hospitalized in South Africa who likely acquired the disease while camping in Zimbabwe in 1975 (*6*) and the second in the previously described Dutch patient hospitalized in the Netherlands who died of MHF after visiting the Python Cave in Uganda in 2008 (*3*). Case-fatality rates of 83%–90% have been reported for widespread outbreaks of MHF in Africa (*1,7*).

Virologic and serologic evidence of MARV infection has been documented among cave-dwelling bats, particularly the Egyptian fruit bat *Rousettus aegyptiacus* (*2*); this evidence has implicated bats as the likely natural reservoir for MARV. *R. aegyptiacus* bats have a wide range covering most of Africa, indicating that risk for zoonotic infection might exist beyond areas with previously documented cases. The precise route of MARV transmission from the putative bat reservoir to humans has not been determined and might include direct or indirect exposure to bat excretions and secretions. MHF outbreaks have resulted from exposure to caves or mines inhabited by bats (*1,8*) and subsequent human-to-human transmission through direct contact with infectious body fluids and contaminated materials, primarily affecting caregivers and health-care workers (*8,9*). Isolation of suspected patients and implementation of droplet and contact precautions are recommended to prevent person-to-person spread.[†]

Although the Python Cave is closed and no additional MHF cases have been reported, travelers should be aware of the risk for acquiring MHF in endemic areas in Africa and should avoid entering caves or mines inhabited by bats in these areas (*10*). Health-care providers should have a low threshold of suspicion for VHF among travelers returning from endemic areas, promptly implement appropriate infection control measures, and rapidly report suspected cases. Suspected cases of VHF are nationally notifiable and should be reported immediately to local and state health departments and to CDC's Special Pathogens Branch at 404-639-1115 (770-488-7100 after hours) to obtain guidance on testing, management, and response. Additional information regarding Marburg hemorrhagic fever,[§] travelers' health,[¶] and VHF infection-control guidelines[**] are available online.

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† Based on CDC's *Interim Guidance for Managing Patients with Suspected Viral Hemorrhagic Fever in U.S. Hospitals*, available at http://www.cdc.gov/ncidod/dhqp/bp_vhf_interimguidance.html.

§ Available at http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/marburg.htm.

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Agranulocytosis Associated with Cocaine Use — Four States, March 2008–November 2009

In April 2008, a clinical reference laboratory in New Mexico notified the New Mexico Department of Health (NMDOH) of a cluster of unexplained agranulocytosis cases confirmed by bone marrow histopathology during the preceding 2 months. NMDOH began an investigation, which identified cocaine use as a common exposure in 11 cases of otherwise unexplained agranulocytosis during April 2008–November 2009. In the midst of the NMDOH investigation, in November 2008, public health officials in British Columbia and Alberta, Canada, reported detecting levamisole (an antihelminthic drug used mainly in veterinary medicine and a known cause of agranulocytosis [*1*]) from clinical specimens and drug paraphernalia of cocaine users with agranulocytosis. In January 2009, NMDOH posted a notification of its findings on CDC's Epidemic Information Exchange (Epi-X) and notified poison control centers. In a separate investigation during April–November 2009, public health officials in Seattle, Washington, identified 10 cases of agranulocytosis among persons with a history of cocaine use. Of the 21 cases, levamisole was detected from clinical specimens in four of the five patients tested. According to the Drug Enforcement Administration (DEA), as of July 2009, 69% of seized cocaine lots coming into the United States contained levamisole as an added agent. This report summarizes the investigations in New Mexico and Washington, which suggested that levamisole in cocaine was the likely cause of the agranulocytosis. Health-care providers should consider these findings in the differential diagnosis of agranulocytosis, and public health officials should be aware of cases of agranulocytosis associated with cocaine use.

New Mexico Investigation

After learning of the unexplained agranulocytosis in April 2008, NMDOH investigated the cases through medical record reviews and interviews with health-care providers. Four of the six patients had been undergoing treatments that were thought to have caused agranulocytosis (i.e., cancer treatment, gabapentin, sulfasalazine, and an unidentified herbal remedy obtained outside of the country). The remaining two patients (patients 1 and 2 [Table]) had no known cause, although both patients were linked to illicit drug use (marijuana and cocaine for patient 1; heroin, and later, cocaine for patient 2). During the next 8 months, passive surveillance for additional cases resulted in seven additional cases of agranulocytosis reported to NMDOH, six from the same laboratory that sent the original alert to NMDOH, and one decedent (patient 3) from the New Mexico Office of the Medical Investigator. The seven additional cases included one Arizona resident examined in a New Mexico hospital (patient 9) and another (patient 10), whose bone marrow specimen was referred from Colorado.

To further investigate possible common exposures for patients with unexplained agranulocytosis, in June 2008 NMDOH developed a standardized questionnaire to include questions about illicit drug use and known causes of agranulocytosis. NMDOH conducted medical record reviews, physician interviews, and patient interviews for all patients with unexplained agranulocytosis reported to NMDOH. Of the 13 cases reported by January 2009, nine were deemed unexplained, and seven of these patients reported a history of cocaine use.

A review of the scientific literature revealed no reports of agranulocytosis associated with cocaine use. However, in November 2008, NMDOH investigators learned that levamisole* had been isolated from clinical specimens and drug paraphernalia of five cocaine-using patients with agranulocytosis in British Columbia and Alberta, Canada. Although levamisole

* Levamisole is approved by the Food and Drug Administration as an adjuvant treatment for colon cancer and previously was used as an immunomodulator for various conditions. However, levamisole no longer is commonly used for these purposes. Today, levamisole primarily is used in veterinary practice as an antihelminthic agent.

TABLE. Cases (N = 21) of agranulocytosis associated with cocaine use, by selected patient and clinical characteristics — four states, March 2008–November 2009

Patient no.	State of residence	Approximate age (yrs)	Sex	Race/ Ethnicity	Clinical presentation*	Type of cocaine used/ Route	Recurrent episodes of agranulo-cytosis	ANC† cells/μL	Date of first reported hospitalization	Hospital length of stay (days)	Levamisole testing§	Patient outcome
1	New Mexico	30s	Female	American Indian/ Alaska Native	Acute febrile illness with nausea, vomiting, fatigue, headache, and myalgias	Crack/ Smoke	2	0	3/22/08	6	Negative	Full recovery
2	New Mexico	40s	Male	Hispanic	Acute febrile illness with nausea, vomiting, pharyngitis, fatigue, headache, and myalgias	Crack/ Smoke	1	100	3/30/08	4	Not done	Full recovery
3	New Mexico	50s	Male	White	Possible peritonsillar abscess with fever, pharyngitis, fatigue, headache, and myalgias	Unknown	1	Not done	3/24/08	Unknown	Positive (blood)	Died
4	New Mexico	30s	Male	White	Acute febrile illness with myalgias	Powder/ Snort	2	0	10/07/08	7	Not done	Full recovery
5	New Mexico	40s	Female	Hispanic	Vomiting and diarrhea with headache, chills, and back pain	Crack/ Smoke	0	0	12/27/08	11	Not done	Full recovery
6	New Mexico	40s	Female	White	Pharyngitis, dyspnea, sore gums and teeth, swollen glands	Powder/ Snort	0	220	9/27/09	2	Not done	Full recovery
7	New Mexico	20s	Female	Hispanic	Fever, mouth sores, lymphadenitis	Crack/ Smoke	0	100	11/12/09	7	Not done	Full recovery
8	New Mexico	20s	Female	White	Fever, body aches	Powder/ Smoke	0	240	11/18/09	<1	Not done	Unknown
9	Arizona	20s	Male	American Indian/ Alaska Native	Pharyngitis with painful gums and lesions on ears, arms, legs, and trunk	Powder/ Snort	0	24	5/2/08	5	Not done	Full recovery
10	Colorado	40s	Female	Unknown	Arm and neck mass with fever and cough.	Powder/ Snort	1	430	4/28/08	10	Not done	Full recovery
11	Colorado	40s	Male	White	Acute febrile illness with nausea, vomiting, diarrhea, painful gums, pharyngitis, fatigue, headache, and myalgias	Crack/ Smoke	0	19	2/28/09	5	Positive (urine)	Full recovery
12	Washington	50s	Male	Unknown	Chest pain, shortness of breath, and cough	Unknown	0	20	2/11/09	48	Not done	Full recovery
13	Washington	40s	Male	American Indian/ Alaska Native	Acute febrile illness with chills, myalgias, mouth sores, diarrhea, and fatigue	Crack/ Smoke	1	0	4/21/09	7	Not done	Full recovery
14	Washington	30s	Female	Unknown	Acute febrile illness with chills, nausea, vomiting, and sore throat	Crack/ Smoke	0	0	11/19/08	7	Not done	Full recovery

See Table footnotes on next page.

had been isolated previously from cocaine, cocaine paraphernalia, and persons who used cocaine (*2–4*), agranulocytosis had not been associated previously with cocaine use. At the same time, the NMDOH Scientific Laboratory Division (SLD) reported that several unrelated specimens submitted for routine toxicology screening were positive for both cocaine and levamisole.

In January 2009, NMDOH SLD detected levamisole using gas chromatography/mass spectrophotometry (GC/MS) in a postmortem blood specimen from patient 3, who had a diagnosis of *Serratia marcescans* sepsis and agranulocytosis. The specimen had been collected in March 2008 and preserved as part of an investigation by the New Mexico Office of the Medical Investigator. The patient had been admitted to the hospital 5 months before death with a diagnosis of agranulocytosis and an absolute neutrophil count (ANC) of zero. No testing of the other cocaine-exposed patients for levamisole was conducted because levamisole has a half life of approximately 5 hours and was unlikely to be detected in blood or urine beyond 48 hours after the last exposure (*5*). The rest of the specimens from the seven patients with a history of cocaine use had been collected more than 48 hours after the last cocaine exposure.

On January 16, 2009, NMDOH issued a press release and notified health-care providers through the New Mexico Health Alert Network about the potential for agranulocytosis resulting from inadvertent levamisole exposure during cocaine use. Health-care providers were asked to report cases of unexplained agranulocytosis. One week later, NMDOH released the same information nationally through CDC's Epi-X and poison

TABLE. (*Continued*) Cases (N = 21) of agranulocytosis associated with cocaine use, by selected patient and clinical characteristics — four states, March 2008–November 2009

Patient no.	State of residence	Approximate age (yrs)	Sex	Race/ Ethnicity	Clinical presentation*	Type of cocaine used/ Route	Recurrent episodes of agranulo-cytosis	ANC† cells/μL	Date of first reported hospitalization	Hospital length of stay (days)	Levamisole testing§	Patient outcome
15	Washington	40s	Male	Black	Acute febrile illness with chills, malaise, sore throat, fever, chills, muscle aches, headache, and swollen neck	Cocaine/ Snort	1	0	5/31/09	7	Not done	Full recovery
16	Washington	40s	Female	Unknown	Acute febrile illness with pharyngitis	Crack/ Smoke Powder/ Snort	0	0	6/05/09	2	Not done	Unknown
17	Washington	40s	Female	American Indian/ Alaska Native	Acute febrile illness with sore throat, chills, muscle aches, headache, cough, nausea, vomiting, abdominal pain, painful gums, and shortness of breath	Crack/ Smoke	0	20	7/10/09	8	Positive (urine)	Full recovery
18	Washington	40s	Female	Black	Acute febrile illness with chills, shortness of breath, and cough	Crack/ Unknown	0	39	7/03/09	5	Not done	Full recovery
19	Washington	40s	Female	American Indian/ Alaska Native	Acute febrile illness with sore throat, chills, muscle aches, diarrhea, painful gums, abdominal pain, and shortness of breath	Crack/ Smoke	0	0	7/16/09	3	Not done	Full recovery
20	Washington	50s	Female	Black	Throat pain, difficulty swallowing; swollen glands	Crack/ Unknown	0	10	7/23/09	<1	Positive (urine)	Full recovery
21	Washington	40s	Female	Unknown	Weakness and fatigue, fever, sore throat, swollen gums	Cocaine/ Unknown	0	152	7/28/09	4	Not done	Full recovery

* Clinical presentation at first reported incidence of agranulocytosis.
† Absolute neutrophil count at clinical presentation.
§ Qualitative levamisole testing; gas chromatography/mass spectrophotometry.

control centers. This action generated a report of one additional case (patient 10) in a cocaine user from Colorado, reported to NMDOH on February 28, 2009. A urine specimen from this patient was sent to NMDOH SLD, where levamisole was identified using GC/MS. Colorado law enforcement also detected levamisole using GS/MS in residue from the crack cocaine pipe that the patient submitted voluntarily. Since February 2009, three additional cases (patients 6, 7, and 8) have been detected in New Mexico. Levamisole testing was not conducted in any of these three patients because they were examined in the hospital >48 hours after last cocaine exposure. In total, 11 cases of agranulocytosis had been associated with cocaine use through the NMDOH investigation as of November 2009.

Washington Investigation

In April 2009, epidemiologists at Public Health – Seattle & King County (PHSKC) noted a published report from Canada describing agranulocytosis and infections in five users of cocaine contaminated with levamisole (*6*), and issued an alert to clinicians. Simultaneously, PHSKC received a report of three persons previously hospitalized with agranulocytosis (patients 12, 13, and 14) among persons with a history of cocaine use and initiated an investigation. A second PHSKC alert to local health-care providers and press release at the beginning of June 2009 generated five additional reports. As of November 2009, a total of 10 cases had been investigated in conjunction with the Washington State Department of Health.

As of November 2009, a total of 21 cases of cocaine-associated agranulocytosis had been investigated by NMDOH and PHSKC. Thirteen patients were women. The mean age was 42 years (range: 24–58 years). Five patients were whites, three were blacks, five were American Indian/Alaska Natives, three were Hispanics, and five were of unknown race/ethnicity. Both powder and crack cocaine use has been reported by these patients. Seven patients had at least one documented recurrence of agranulocytosis after repeated cocaine use, and eight patients had at least one documented incidence of agranulocytosis before they were reported to the health department. Of the 21 patients, five were tested by GC/MS for the presence of levamisole, and levamisole was isolated from four of the five patients.

Reported by: *M Brackney, MS, J Baumbach, MD, C Ewers, MSN, AL Martinez, J Hagan, MPH, New Mexico Dept of Health; D Czuchlewski, MD, K Foucar, MD, Univ of New Mexico Health Sciences Center; MH Fekrazad, MD, Univ of New Mexico Cancer Research and Treatment Center; SA Seifert, MD, New Mexico Poison and Drug Information Center; D Rimple, MD, Univ of New Mexico Hospital Dept of Emergency Medicine; KB Nolte, MD, Univ of New Mexico, Office of the Medical Investigator. JA Buchanan, MD, EJ, Lavonas, MD, Rocky Mountain Poison and Drug Center, Denver Health; C Nelson, MD, Colorado Dept of Public Health and Environment. RW Wood, MD, JS Duchin, MD, Public Health–Seattle & King County; J VanEenwyk, PhD, Washington State Dept of Health. N Reuter, Substance Abuse and Mental Health Svcs Admin; ML Ta, PhD, S Vagi, PhD, EIS officers, CDC.*

What is already known on this topic?

In a recent report from Canada, agranulocytosis was associated with cocaine contaminated with levamisole.

What is added by this report?

Investigators from New Mexico and Washington identified an additional 21 cocaine users with unexplained agranulocytosis likely caused by exposure to levamisole.

What are the implications for public health practice?

Health-care providers should consider these findings in the differential diagnosis of agranulocytosis, and public health officials should be aware of cases of agranulocytosis associated with cocaine use.

Editorial Note: Agranulocytosis is an uncommon condition (7.2 cases per 1 million population per year, excluding patients with cancer and patients receiving cytotoxic drugs) (*7*) that carries a risk for opportunistic infections and can be fatal in approximately 7%–10% of cases (*8*). Known causes include pharmaceutical drugs, toxins, ionizing radiation, autoimmune and genetic disorders, certain infections, and neoplasms (*7*). This report presents 21 cases of agranulocytosis for which, aside from cocaine exposure, no other common exposure was identified. Cocaine exposure has not been associated previously with agranulocytosis and, therefore, by itself, is not a likely cause of the agranulocytosis. However, agranulocytosis as a result of exposure to cocaine containing levamisole, a known cause of agranulocytosis, was reported recently in Canada (*6*). DEA has reported that, as of July 2009, 69% of the cocaine seized at U.S. borders contained levamisole, although the reason why levamisole is added to cocaine remains unclear. Levamisole also has been detected in cocaine obtained by law enforcement officers in New Mexico and Washington. These pieces of evidence suggest that exposure to levamisole through cocaine use was the likely cause of agranulocytosis in all 21 cases; however, surveillance and toxicologic data regarding additional cases are needed to better define a causal relationship.

Heroin use was reported in two of the 21 cases. DEA reported detecting levamisole in a handful of heroin seizures in 2008 but more frequently (<3%) in 2009 (DEA, unpublished data, 2009). Only trace amounts of levamisole have been detected in heroin, compared with an average concentration of approximately 10% detected in cocaine (DEA, unpublished data, 2009).

For multiple reasons, the 21 cases described in this report might represent a small portion of all agranulocytosis cases associated with cocaine (and potentially levamisole) in the United States. For example, agranulocytosis is not a reportable condition to health departments, patients might not disclose cocaine use to health-care providers, and patients who use cocaine might be less likely to seek health care (*9*). Agranulocytosis has been recognized as an idiosyncratic reaction to levamisole in 2.5%–13% of persons using levamisole for treatment of rheumatoid arthritis and in combined therapy for breast cancer (*1*). However, the proportion of cocaine users exposed to levamisole who might develop levamisole-induced agranulocytosis, is unknown.

Clinicians should be aware of the possible relationship between levamisole-associated agranulocytosis and use of cocaine, and possibly heroin, and should obtain a drug history in all potential cases routinely. Suspected cases should be reported to state or local health departments. Clinicians wishing to test patients for levamisole should have blood or urine collected promptly, because the likelihood of finding the drug decreases markedly after 48 hours.

CDC has begun national surveillance for agranulocytosis in association with suspected cocaine or heroin use, collecting information via medical abstraction form and patient interview. As of December 15, eight states had agreed to participate. The goals of surveillance are to characterize the extent of the problem, identify risk factors for exposure, and describe clinical presentation of patients with agranulocytosis associated with cocaine or heroin use. The Substance Abuse and Mental Health Services Administration is serving as a centralized source for disseminating relevant information regarding agranulocytosis associated with levamisole-contaminated cocaine. Additional information is available from Nicholas Reuter (nicholas.reuter@samhsa.hhs.gov). State and local health departments are encouraged to participate in the national surveillance effort and can report suspected cases to CDC at are8@cdc.gov.

Acknowledgments

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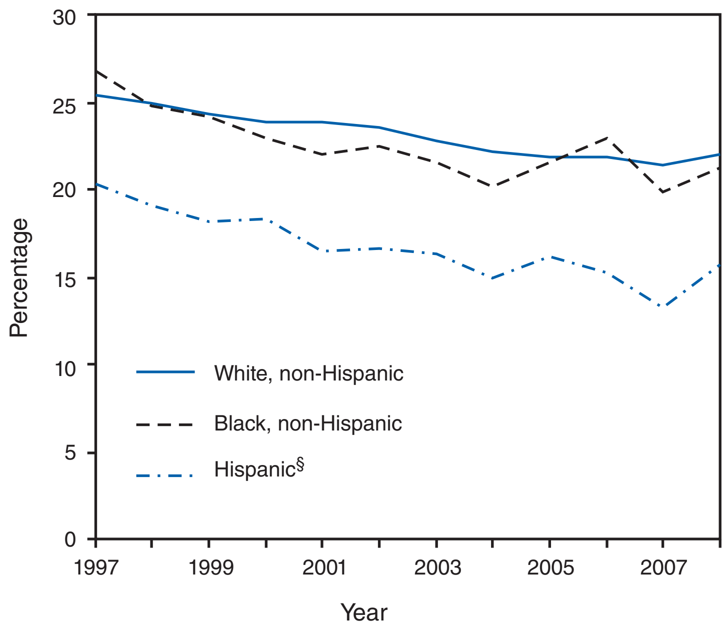
QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Adults Aged ≥18 Years Who Are Current Smokers,* by Race/Ethnicity — National Health Interview Survey, United States, 1997–2008†



* Defined as having smoked at least 100 cigarettes in their lifetime and currently smoking.

† Estimates based on household interviews of a sample of the civilian, noninstitutionalized U.S. population and derived from the National Health Interview Survey sample adult component.

§ Persons of Hispanic ethnicity might be of any race.

During 1997–2008, the percentage of non-Hispanic white adults who were current smokers decreased by 3.3 percentage points (from 25.3% to 22.0%), the percentage of non-Hispanic black adults who were current smokers decreased by 5.6 percentage points (from 26.8% to 21.2%), and the percentage of Hispanic adults who were current smokers decreased by 4.6 percentage points (from 20.4% to 15.8%). Each year, the percentage of Hispanics who were current smokers was considerably less than the percentage of non-Hispanic whites and non-Hispanic blacks who were current smokers.

SOURCE: National Health Interview Survey, 1997–2008 data. Available at http://www.cdc.gov/nchs/nhis.htm.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending December 12, 2009 (49th week)*

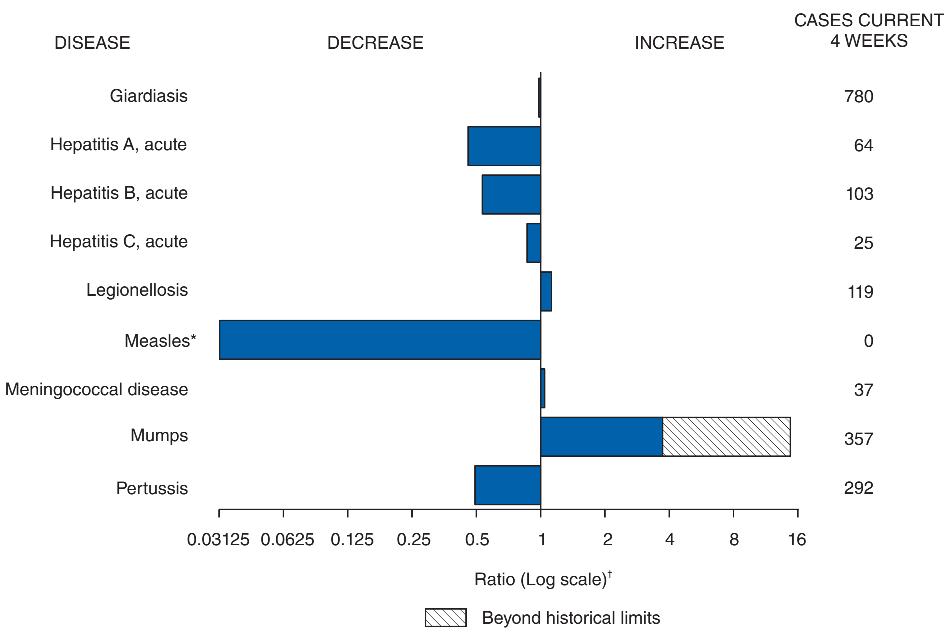
Disease	Current week	Cum 2009	5-year weekly average[†]	Total cases reported for previous years 2008	2007	2006	2005	2004	States reporting cases during current week (No.)
Anthrax	—	—	—	—	1	1	—	—	
Botulism:									
foodborne	1	12	1	17	32	20	19	16	CA (1)
infant	—	55	2	109	85	97	85	87	
other (wound and unspecified)	—	21	1	19	27	48	31	30	
Brucellosis	3	90	1	80	131	121	120	114	TX (2), CA (1)
Chancroid	1	23	1	25	23	33	17	30	MA (1)
Cholera	—	8	0	5	7	9	8	6	
Cyclosporiasis[§]	—	119	2	139	93	137	543	160	
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases[§,¶]:									
California serogroup	—	39	0	62	55	67	80	112	
eastern equine	—	4	0	4	4	8	21	6	
Powassan	—	1	—	2	7	1	1	1	
St. Louis	—	11	—	13	9	10	13	12	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis[§,**]:									
Ehrlichia chaffeensis	5	764	8	1,137	828	578	506	338	ME (1), NY (1), MD (2), TN (1)
Ehrlichia ewingii	—	6	—	9	—	—	—	—	
Anaplasma phagocytophilum	6	647	13	1,026	834	646	786	537	ME (1), MN (4), TX (1)
undetermined	1	114	2	180	337	231	112	59	NY (1)
Haemophilus influenzae,[††] invasive disease (age <5 yrs):									
serotype b	—	25	1	30	22	29	9	19	
nonserotype b	1	181	3	244	199	175	135	135	FL (1)
unknown serotype	5	217	3	163	180	179	217	177	NYC (1), OH (1), NE (1), FL (1), CO (1)
Hansen disease[§]	—	57	1	80	101	66	87	105	
Hantavirus pulmonary syndrome[§]	—	10	1	18	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal[§]	1	201	4	330	292	288	221	200	ID (1)
Hepatitis C viral, acute	11	793	18	878	845	766	652	720	NY (1), MI (3), GA (1), FL (1), KY (2), OK (1), TX (1), CA (1)
HIV infection, pediatric (age <13 years)[§§]	—	—	3	—	—	—	380	436	
Influenza-associated pediatric mortality[§,¶¶]	9	343	0	90	77	43	45	—	NC (1), FL (1), KY (1), CA (3), MA (1), OK (1), TX (1)
Listeriosis	11	710	15	759	808	884	896	753	NY (2), PA (1), OH (2), MD (1), WA (1), CA (4)
Measles***	—	62	1	140	43	55	66	37	
Meningococcal disease, invasive[†††]:									
A, C, Y, and W-135	4	243	5	330	325	318	297	—	OH (1), NE (1), WA (2)
serogroup B	2	129	3	188	167	193	156	—	TX (1), WA (1)
other serogroup	—	23	0	38	35	32	27	—	
unknown serogroup	3	429	11	616	550	651	765	—	OH (1), MO (1), CA (1)
Mumps	143	869	18	454	800	6,584	314	258	NY (99), NYC (38), NE (1), FL (4), TX (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[§,¶¶¶]:	2	77	1	124	171	169	136	70	
acute	—	64	0	110	—	—	—	—	
chronic	2	13	—	14	—	—	—	—	NY (1), TX (1)
Rabies, human	—	4	0	2	1	3	2	7	
Rubella****	—	4	0	16	12	11	11	10	
Rubella, congenital syndrome	—	1	—	—	—	1	1	—	
SARS-CoV[§,††††]	—	—	—	—	—	—	—	—	
Smallpox[§]	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome[§]	—	123	2	157	132	125	129	132	
Syphilis, congenital (age <1 yr)	—	238	8	434	430	349	329	353	
Tetanus	—	11	1	19	28	41	27	34	
Toxic-shock syndrome (staphylococcal)[§]	—	75	2	71	92	101	90	95	
Trichinellosis	—	12	0	39	5	15	16	5	
Tularemia	—	74	2	123	137	95	154	134	
Typhoid fever	1	315	4	449	434	353	324	322	WA (1)
Vancomycin-intermediate *Staphylococcus aureus*[§]	1	68	0	63	37	6	2	—	NY (1)
Vancomycin-resistant *Staphylococcus aureus*[§]	—	—	0	—	2	1	3	1	
Vibriosis (noncholera *Vibrio* species infections)[§]	3	566	4	492	549	N	N	N	VA (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 December 12, 2009 (49th 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 232 influenza-associated pediatric deaths associated with 2009 pandemic influenza A (H1N1) virus infection have been reported. Since August 30, 2009, a total of 212 influenza-associated pediatric deaths occurring during the 2009–10 influenza season have been reported. A total of 130 influenza-associated pediatric death occurring during the 2008-09 influenza season have been reported.
*** No measles cases were reported for the current week.
††† Data for meningococcal disease (all serogroups) are available in Table II.
§§§ 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 December 12, 2009, with historical data



* No measles cases were reported for the current 4-week period yielding a ratio for week 49 of zero (0).
† Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

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TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending December 12, 2009, and December 6, 2008 (49th week)*

Reporting area	Chlamydia†					Coccidiodomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	13,340	22,400	26,296	1063832	1121054	100	240	471	11,431	6,432	62	114	369	6,419	8,471
New England	848	757	1,655	37,584	35,193	—	0	1	1	1	—	6	45	407	381
Connecticut	253	225	1,306	10,830	10,452	N	0	0	N	N	—	0	38	38	41
Maine§	46	47	75	2,299	2,444	N	0	0	N	N	—	0	4	43	45
Massachusetts	490	368	944	18,415	16,193	N	0	0	N	N	—	2	16	164	165
New Hampshire	3	34	61	1,511	1,962	—	0	1	1	1	—	1	5	68	58
Rhode Island§	44	65	244	3,437	3,046	—	0	0	—	—	—	0	8	20	10
Vermont§	12	22	63	1,092	1,096	N	0	0	N	N	—	1	9	74	62
Mid. Atlantic	2,437	3,015	6,734	147,364	139,291	—	0	0	—	—	3	13	37	757	707
New Jersey	—	429	838	20,556	21,012	N	0	0	N	N	—	1	5	42	39
New York (Upstate)	642	584	4,563	30,070	26,256	N	0	0	N	N	2	3	12	207	251
New York City	1,254	1,149	1,966	56,708	52,806	N	0	0	N	N	—	1	8	72	104
Pennsylvania	541	826	1,001	40,030	39,217	N	0	0	N	N	1	8	19	436	313
E.N. Central	1,685	3,391	4,280	160,042	181,728	—	1	4	36	39	6	27	54	1,406	2,087
Illinois	527	1,046	1,426	47,525	55,579	N	0	0	N	N	—	2	8	138	201
Indiana	315	407	695	20,410	20,482	N	0	0	N	N	—	4	17	185	181
Michigan	553	874	1,332	42,953	41,982	—	0	3	20	29	1	5	11	260	266
Ohio	52	742	1,177	32,240	43,648	—	0	2	16	10	3	7	16	366	669
Wisconsin	238	351	462	16,914	20,037	N	0	0	N	N	2	7	24	457	770
W.N. Central	450	1,338	1,697	62,910	63,514	—	0	1	10	3	6	18	61	985	959
Iowa	96	175	256	8,855	8,698	N	0	0	N	N	—	3	14	194	278
Kansas	—	171	561	9,245	8,648	N	0	0	N	N	—	1	6	61	83
Minnesota	—	253	338	11,831	13,548	—	0	0	—	—	3	4	34	334	221
Missouri	291	510	638	24,368	23,060	—	0	1	10	3	2	3	12	177	175
Nebraska§	63	104	223	5,080	5,121	N	0	0	N	N	—	2	9	111	111
North Dakota	—	30	77	1,386	1,702	N	0	0	N	N	1	0	10	13	6
South Dakota	—	55	80	2,145	2,737	N	0	0	N	N	—	1	10	95	85
S. Atlantic	2,850	3,843	5,448	185,189	229,582	—	0	1	5	5	12	19	45	1,000	989
Delaware	93	88	180	4,457	3,521	—	0	1	1	2	—	0	2	10	12
District of Columbia	65	126	226	6,210	6,476	—	0	0	—	—	—	0	1	2	15
Florida	585	1,424	1,670	68,351	66,392	N	0	0	N	N	8	8	24	438	446
Georgia	1	696	1,909	28,268	38,788	N	0	0	N	N	1	5	23	310	246
Maryland§	877	424	772	20,739	22,354	—	0	1	4	3	1	1	5	40	49
North Carolina	—	0	998	—	34,867	N	0	0	N	N	—	0	9	58	68
South Carolina§	518	537	1,421	23,838	24,867	N	0	0	N	N	1	1	7	54	53
Virginia§	672	602	926	29,892	29,262	N	0	0	N	N	1	1	7	72	76
West Virginia	39	70	136	3,434	3,055	N	0	0	N	N	—	0	2	16	24
E.S. Central	1,194	1,751	2,209	84,724	80,717	—	0	0	—	—	1	3	10	208	166
Alabama§	26	469	629	21,889	23,221	N	0	0	N	N	—	1	5	56	71
Kentucky	449	245	642	12,623	11,477	N	0	0	N	N	—	1	4	62	33
Mississippi	296	457	840	21,808	19,739	N	0	0	N	N	—	0	3	15	17
Tennessee§	423	577	809	28,404	26,280	N	0	0	N	N	1	1	5	75	45
W.S. Central	811	2,988	5,809	145,214	141,261	—	0	1	1	3	11	9	271	491	2,217
Arkansas§	1	269	417	12,743	13,456	N	0	0	N	N	3	1	5	54	90
Louisiana	581	515	1,130	24,546	20,972	—	0	1	1	3	—	0	6	29	64
Oklahoma	229	172	2,717	12,674	12,403	N	0	0	N	N	2	2	11	123	130
Texas§	—	2,011	2,521	95,251	94,430	N	0	0	N	N	6	5	258	285	1,933
Mountain	801	1,424	2,088	70,639	71,503	54	187	368	9,148	4,250	5	8	26	489	564
Arizona	127	496	758	23,865	23,396	54	186	364	9,053	4,155	—	1	3	33	87
Colorado	—	298	727	15,468	17,345	N	0	0	N	N	—	2	10	132	109
Idaho§	87	68	184	3,502	3,848	N	0	0	N	N	4	1	7	91	68
Montana§	39	56	87	2,807	2,876	N	0	0	N	N	—	1	4	52	44
Nevada§	311	170	477	9,341	9,039	—	1	4	54	50	—	0	2	5	17
New Mexico§	199	180	540	8,677	7,901	—	0	2	10	32	—	2	8	122	171
Utah	26	113	176	5,163	5,632	—	1	2	30	11	—	0	3	31	45
Wyoming§	12	32	69	1,816	1,466	—	0	1	1	2	1	0	2	23	23
Pacific	2,264	3,453	4,682	170,166	178,265	46	40	172	2,230	2,131	18	13	25	676	401
Alaska	—	92	199	3,500	4,401	N	0	0	N	N	—	0	1	6	3
California	1,808	2,704	3,592	133,415	137,847	46	40	172	2,230	2,131	16	7	20	418	243
Hawaii	—	118	147	5,376	5,598	N	0	0	N	N	—	0	1	1	2
Oregon§	158	193	387	9,332	10,146	N	0	0	N	N	1	3	9	168	63
Washington	298	391	571	18,543	20,273	N	0	0	N	N	1	1	8	83	90
American Samoa	—	0	0	—	73	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	1	1	—	123	—	0	0	—	—	—	0	0	—	—
Puerto Rico	260	133	331	6,826	6,613	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands															

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.
† Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 12, 2009, and December 6, 2008 (49th week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes†				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	186	326	498	16,686	17,494	3,214	5,388	6,512	253,065	313,369	37	59	124	2,716	2,572
New England	10	30	64	1,584	1,581	163	96	301	4,788	4,901	—	3	16	180	166
Connecticut	—	6	15	269	315	107	47	275	2,321	2,380	—	0	12	49	40
Maine§	10	3	13	204	181	2	2	9	131	91	—	0	2	18	18
Massachusetts	—	12	36	672	645	46	36	112	1,872	1,999	—	2	5	89	76
New Hampshire	—	3	11	173	156	1	2	6	106	98	—	0	2	11	9
Rhode Island§	—	1	6	59	87	5	6	19	311	300	—	0	2	8	15
Vermont§	—	4	14	207	197	2	1	5	47	33	—	0	1	5	8
Mid. Atlantic	35	61	104	3,008	3,273	522	587	1,138	29,752	30,795	9	12	25	578	492
New Jersey	—	5	17	215	488	—	92	124	4,290	4,957	—	2	7	105	92
New York (Upstate)	31	24	81	1,272	1,159	101	108	664	5,550	5,722	5	3	20	152	144
New York City	1	16	25	752	794	224	211	366	10,571	9,824	1	2	11	114	84
Pennsylvania	3	15	34	769	832	197	190	263	9,341	10,292	3	4	10	207	172
E.N. Central	14	44	72	2,227	2,599	496	1,078	1,436	50,082	64,749	4	12	28	547	426
Illinois	—	9	18	430	671	170	343	524	15,154	19,350	—	3	9	139	143
Indiana	N	0	11	N	N	88	139	223	6,436	8,145	—	1	22	70	66
Michigan	4	12	24	606	585	147	281	501	13,904	15,879	—	0	3	24	27
Ohio	7	16	28	771	848	23	251	431	10,302	15,540	4	2	6	95	126
Wisconsin	3	9	19	420	495	68	85	143	4,286	5,835	—	3	20	219	64
W.N. Central	7	24	141	1,659	1,918	105	275	365	13,426	15,857	1	3	15	154	188
Iowa	1	6	15	283	307	13	31	47	1,496	1,565	—	0	0	—	2
Kansas	—	2	11	96	154	2	43	83	2,191	2,144	—	0	2	13	20
Minnesota	—	0	124	539	665	—	41	65	1,961	2,873	—	0	10	54	57
Missouri	4	9	27	484	444	80	126	173	6,127	7,475	—	1	4	56	68
Nebraska§	2	3	9	165	198	10	24	55	1,306	1,336	1	0	4	25	29
North Dakota	—	0	16	27	19	—	1	14	87	131	—	0	4	6	12
South Dakota	—	1	5	65	131	—	5	20	258	333	—	0	0	—	—
S. Atlantic	41	69	109	3,448	2,859	874	1,128	1,919	53,479	80,237	15	13	31	668	649
Delaware	—	0	3	25	41	17	18	37	908	972	—	0	1	4	7
District of Columbia	—	0	5	22	64	29	50	88	2,448	2,450	—	0	1	2	8
Florida	34	38	59	1,834	1,257	206	409	476	19,587	21,897	7	4	10	215	177
Georgia	—	10	67	750	650	—	227	876	9,571	14,648	—	3	9	142	129
Maryland§	3	5	13	261	267	203	114	197	5,632	6,070	6	1	6	88	90
North Carolina	N	0	0	N	N	—	0	428	—	14,879	—	0	17	65	73
South Carolina§	1	2	8	99	128	145	162	412	7,504	8,930	1	1	5	67	56
Virginia§	3	8	31	405	382	268	147	308	7,378	9,690	—	1	6	56	83
West Virginia	—	1	5	52	70	6	9	20	451	701	1	0	3	29	26
E.S. Central	3	7	22	364	474	349	506	687	24,327	28,778	2	3	9	146	138
Alabama§	—	3	11	167	269	15	137	183	6,341	9,166	—	0	4	34	24
Kentucky	N	0	0	N	N	140	67	156	3,657	4,338	—	0	5	19	8
Mississippi	N	0	0	N	N	79	142	252	6,756	6,941	—	0	1	5	13
Tennessee§	3	4	18	197	205	115	156	230	7,573	8,333	2	2	6	88	93
W.S. Central	7	7	22	398	427	251	881	1,556	42,467	47,879	3	2	22	109	105
Arkansas§	4	2	9	143	135	—	82	134	3,935	4,327	1	0	3	19	14
Louisiana	—	2	8	96	139	181	167	418	7,967	8,844	—	0	1	12	10
Oklahoma	3	3	18	159	153	70	62	612	4,241	4,520	1	1	20	73	71
Texas§	N	0	0	N	N	—	558	695	26,324	30,188	1	0	1	5	10
Mountain	11	27	59	1,444	1,550	130	175	233	8,259	10,946	3	4	11	219	275
Arizona	—	3	7	185	132	31	58	110	2,920	3,257	1	2	7	73	101
Colorado	8	8	26	458	540	—	43	106	2,134	3,521	2	1	6	65	53
Idaho§	2	3	10	197	192	4	2	8	95	174	—	0	1	4	12
Montana§	—	2	11	123	86	—	1	5	73	115	—	0	1	2	4
Nevada§	1	1	10	69	115	75	28	93	1,642	2,034	—	0	2	15	16
New Mexico§	—	2	8	104	102	17	23	52	1,064	1,270	—	0	3	27	47
Utah	—	5	12	251	337	2	5	12	262	456	—	1	2	30	38
Wyoming§	—	1	4	57	46	1	1	7	69	119	—	0	1	3	4
Pacific	58	51	130	2,554	2,813	324	543	764	26,485	29,227	—	2	8	115	133
Alaska	—	2	7	102	100	—	15	24	610	517	—	0	3	20	19
California	40	34	60	1,682	1,861	263	451	657	22,385	24,001	—	0	4	25	42
Hawaii	—	0	2	17	41	—	12	24	576	574	—	0	3	24	18
Oregon§	4	7	18	379	439	26	20	44	945	1,161	—	1	3	43	52
Washington	14	7	74	374	372	35	39	71	1,969	2,974	—	0	2	3	2
American Samoa	—	0	0	—	—	—	0	0	—	3	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	73	—	0	0	—	—
Puerto Rico	—	2	10	102	206	8	3	24	219	264	—	0	1	3	1
U.S. Virgin Islands	—	0	0	—	—	—	2	7	93	115	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 December 12, 2009, and December 6, 2008 (49th week)*

	Hepatitis (viral, acute), by type†										Legionellosis				
	A					B									
		Previous 52 weeks					Previous 52 weeks					Previous 52 weeks			
Reporting area	Current week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008
United States	21	37	89	1,759	2,390	33	61	197	2,862	3,568	31	53	158	2,985	2,921
New England	—	2	5	92	126	—	1	4	44	72	—	3	17	168	212
Connecticut	—	0	2	18	26	—	0	3	14	25	—	1	5	51	41
Maine§	—	0	1	1	18	—	0	2	15	11	—	0	3	8	11
Massachusetts	—	1	4	56	57	—	0	2	12	21	—	1	9	73	83
New Hampshire	—	0	1	7	11	—	0	1	3	8	—	0	2	10	29
Rhode Island§	—	0	1	8	12	—	0	0	—	4	—	0	4	19	43
Vermont§	—	0	1	2	2	—	0	0	—	3	—	0	1	7	5
Mid. Atlantic	—	5	10	243	306	2	5	17	281	414	6	15	69	1,066	975
New Jersey	—	1	5	55	75	—	1	6	66	115	—	2	13	155	141
New York (Upstate)	—	1	3	45	61	1	1	11	48	60	3	5	29	336	326
New York City	—	2	5	81	104	—	1	4	65	96	—	3	20	204	126
Pennsylvania	—	1	6	62	66	1	2	7	102	143	3	6	25	371	382
E.N. Central	1	4	18	239	323	1	7	21	348	492	4	9	34	573	632
Illinois	—	2	12	105	107	—	1	7	77	179	—	1	10	103	117
Indiana	—	0	4	15	19	—	1	18	56	47	—	1	4	44	54
Michigan	—	1	4	67	116	—	2	8	108	138	—	2	11	140	168
Ohio	1	0	3	36	48	1	1	13	80	111	4	4	17	276	256
Wisconsin	—	0	4	16	33	—	0	4	27	17	—	0	2	10	37
W.N. Central	2	2	16	109	234	3	3	16	163	81	1	2	6	103	136
Iowa	—	0	3	32	106	—	0	3	29	22	—	0	2	21	20
Kansas	—	0	1	7	15	—	0	2	5	8	—	0	1	3	2
Minnesota	2	0	12	21	36	1	0	11	26	10	—	0	4	12	23
Missouri	—	0	3	25	32	1	1	5	79	31	—	1	5	52	68
Nebraska§	—	0	3	20	41	1	0	2	22	9	—	0	2	12	20
North Dakota	—	0	2	1	—	—	0	1	—	1	1	0	3	2	—
South Dakota	—	0	1	3	4	—	0	1	2	—	—	0	1	1	3
S. Atlantic	5	8	14	395	374	7	17	32	825	896	10	10	21	517	468
Delaware	—	0	1	4	7	U	0	1	U	U	—	0	5	18	13
District of Columbia	U	0	0	U	U	U	0	0	U	U	—	0	2	9	16
Florida	3	4	9	170	138	5	6	11	280	312	6	3	10	187	136
Georgia	1	1	3	52	54	1	3	9	130	172	—	1	5	49	39
Maryland§	—	1	4	40	43	—	1	5	67	80	3	2	12	135	129
North Carolina	—	0	3	27	61	—	0	19	148	76	—	0	6	39	36
South Carolina§	—	1	4	57	18	—	1	4	50	64	—	0	2	12	11
Virginia§	1	1	3	40	48	—	1	10	88	109	1	1	5	59	59
West Virginia	—	0	2	5	5	1	0	19	62	83	—	0	2	9	29
E.S. Central	—	1	4	40	77	6	7	11	311	378	1	2	12	130	110
Alabama§	—	0	2	10	12	—	1	7	77	100	—	0	2	15	16
Kentucky	—	0	1	10	30	2	2	6	83	94	—	1	3	49	53
Mississippi	—	0	2	11	5	—	1	2	30	47	—	0	2	4	1
Tennessee§	—	0	2	9	30	4	2	6	121	137	1	1	9	62	40
W.S. Central	1	3	43	166	232	7	9	99	461	691	2	2	21	111	91
Arkansas§	—	0	1	8	10	—	1	5	48	59	—	0	1	8	14
Louisiana	—	0	1	3	11	—	0	4	33	87	—	0	2	4	9
Oklahoma	—	0	6	6	7	1	2	17	99	107	—	0	2	6	10
Texas§	1	3	37	149	204	6	6	76	281	438	2	1	19	93	58
Mountain	4	3	8	154	205	1	2	6	113	195	2	2	7	128	92
Arizona	2	2	6	72	106	—	1	3	40	76	—	1	4	49	22
Colorado	2	1	5	48	36	—	0	2	20	33	1	0	2	19	14
Idaho§	—	0	1	4	17	—	0	2	11	9	—	0	2	7	3
Montana§	—	0	1	6	1	—	0	0	—	2	—	0	2	7	4
Nevada§	—	0	2	8	12	1	0	3	27	43	1	0	1	11	11
New Mexico§	—	0	1	7	17	—	0	2	6	12	—	0	2	8	11
Utah	—	0	2	7	13	—	0	1	5	14	—	0	4	23	27
Wyoming§	—	0	1	2	3	—	0	2	4	6	—	0	2	4	—
Pacific	8	6	17	321	513	6	6	36	316	349	5	3	12	189	205
Alaska	—	0	1	3	5	—	0	1	3	10	—	0	1	1	3
California	8	5	16	256	419	5	4	28	229	248	4	3	10	148	161
Hawaii	—	0	2	6	18	—	0	1	5	7	—	0	1	1	8
Oregon§	—	0	2	17	25	—	1	4	40	40	—	0	2	15	17
Washington	—	1	4	39	46	1	0	8	39	44	1	0	4	24	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	23	—	0	5	22	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.
† Data for acute hepatitis C, viral are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 12, 2009, and December 6, 2008 (49th week)*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All groups				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	191	366	1,911	28,362	32,013	21	22	46	1,106	1,144	9	17	48	824	1,078
New England	20	58	456	5,684	11,275	1	1	5	49	53	—	1	4	33	33
Connecticut	—	0	24	—	3,826	1	0	4	6	10	—	0	2	5	1
Maine§	19	10	76	871	836	—	0	1	2	1	—	0	1	4	6
Massachusetts	—	19	306	3,229	4,524	—	0	3	30	32	—	0	3	16	21
New Hampshire	—	10	87	995	1,574	—	0	1	3	4	—	0	1	3	4
Rhode Island§	—	1	78	212	124	—	0	1	5	2	—	0	1	4	1
Vermont§	1	4	40	377	391	—	0	1	3	4	—	0	1	1	—
Mid. Atlantic	123	173	1,401	16,138	12,989	3	6	13	285	310	—	2	6	93	119
New Jersey	—	37	376	4,050	3,395	—	0	1	1	64	—	0	2	8	16
New York (Upstate)	37	53	1,368	4,006	5,100	3	1	10	49	30	—	0	2	25	30
New York City	—	3	24	236	775	—	3	11	184	176	—	0	2	16	25
Pennsylvania	86	72	631	7,846	3,719	—	1	4	51	40	—	1	4	44	48
E.N. Central	3	18	214	2,298	2,285	—	3	10	137	145	2	3	9	143	197
Illinois	—	1	11	122	107	—	1	4	54	74	—	1	4	40	80
Indiana	—	1	6	61	40	—	0	3	15	5	—	0	3	32	25
Michigan	—	1	10	114	88	—	0	3	26	17	—	0	5	19	32
Ohio	1	0	5	54	45	—	1	6	35	29	2	1	3	42	39
Wisconsin	2	15	196	1,947	2,005	—	0	1	7	20	—	0	2	10	21
W.N. Central	7	5	336	267	1,013	8	1	8	67	68	2	1	9	72	92
Iowa	—	1	14	93	107	—	0	1	10	12	—	0	2	11	18
Kansas	—	0	2	14	16	—	0	1	4	9	—	0	2	8	6
Minnesota	7	0	326	140	869	8	0	8	32	25	—	0	4	13	24
Missouri	—	0	0	—	6	—	0	2	11	14	1	0	3	27	26
Nebraska§	—	0	3	19	12	—	0	1	8	8	1	0	1	10	12
North Dakota	—	0	10	—	—	—	0	1	1	—	—	0	3	1	3
South Dakota	—	0	1	1	3	—	0	1	1	—	—	0	1	2	3
S. Atlantic	31	60	235	3,650	4,114	6	6	17	326	279	—	2	9	141	151
Delaware	2	12	64	933	749	—	0	1	5	3	—	0	1	4	2
District of Columbia	—	0	5	20	71	—	0	2	8	4	—	0	0	—	—
Florida	2	2	12	116	80	3	1	7	87	58	—	1	4	50	49
Georgia	—	1	6	52	35	—	1	5	66	56	—	0	2	29	18
Maryland§	5	25	125	1,721	2,141	2	1	13	77	77	—	0	1	10	19
North Carolina	3	0	14	62	44	—	0	5	21	27	—	0	5	19	13
South Carolina§	—	0	3	33	28	—	0	1	4	9	—	0	1	11	22
Virginia§	17	10	61	546	834	1	1	5	56	43	—	0	2	12	23
West Virginia	2	0	33	167	132	—	0	1	2	2	—	0	2	6	5
E.S. Central	—	0	2	34	46	—	0	3	27	22	—	0	4	33	53
Alabama§	—	0	1	3	9	—	0	3	8	5	—	0	2	10	10
Kentucky	—	0	1	1	5	—	0	2	9	5	—	0	1	6	9
Mississippi	—	0	0	—	1	—	0	1	1	1	—	0	1	3	12
Tennessee§	—	0	2	30	31	—	0	3	9	11	—	0	2	14	22
W.S. Central	2	1	21	45	117	—	1	10	41	79	1	1	12	79	114
Arkansas§	—	0	0	—	—	—	0	1	4	1	—	0	2	9	15
Louisiana	—	0	0	—	3	—	0	1	3	3	—	0	3	11	23
Oklahoma	—	0	2	—	—	—	0	1	1	4	—	0	2	14	17
Texas§	2	1	21	45	114	—	0	9	33	71	1	1	9	45	59
Mountain	—	1	13	46	51	1	0	6	29	33	—	1	4	56	57
Arizona	—	0	2	6	8	—	0	2	9	14	—	0	2	13	9
Colorado	—	0	1	4	3	—	0	3	8	5	—	0	2	20	14
Idaho§	—	0	3	15	9	1	0	1	3	3	—	0	1	7	5
Montana§	—	0	13	3	4	—	0	3	5	—	—	0	2	4	4
Nevada§	—	0	1	4	12	—	0	1	—	4	—	0	1	2	7
New Mexico§	—	0	1	5	8	—	0	0	—	3	—	0	1	3	8
Utah	—	0	1	7	4	—	0	2	4	4	—	0	1	2	8
Wyoming§	—	0	1	2	3	—	0	0	—	—	—	0	2	5	2
Pacific	5	4	13	200	123	2	3	9	145	155	4	3	14	174	262
Alaska	—	0	1	3	6	—	0	1	2	6	—	0	2	6	8
California	5	2	10	148	69	2	2	6	110	115	1	2	8	108	188
Hawaii	N	0	0	N	N	—	0	1	1	3	—	0	1	4	5
Oregon§	—	0	4	34	37	—	0	2	11	4	—	0	6	40	37
Washington	—	0	12	15	11	—	0	3	21	27	3	0	6	16	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 December 12, 2009, and December 6, 2008 (49th week)*

	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
		Previous 52 weeks					Previous 52 weeks					Previous 52 weeks			
Reporting area	Current week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008
United States	84	271	1,697	12,885	10,362	35	64	140	3,488	3,995	7	24	179	1,352	2,265
New England	—	12	27	558	970	15	6	24	341	402	—	0	2	11	7
Connecticut	—	0	4	37	53	14	2	22	146	190	—	0	0	—	—
Maine†	—	1	10	77	40	—	1	4	50	56	—	0	2	5	1
Massachusetts	—	7	19	327	741	—	0	0	—	—	—	0	1	5	2
New Hampshire	—	1	7	75	41	—	0	3	31	53	—	0	0	—	1
Rhode Island†	—	0	7	31	83	—	1	7	51	33	—	0	0	—	3
Vermont†	—	0	1	11	12	1	1	5	63	70	—	0	1	1	—
Mid. Atlantic	14	22	64	1,052	1,122	4	11	23	559	896	1	1	29	66	123
New Jersey	—	3	12	151	210	—	0	0	—	—	—	0	1	—	83
New York (Upstate)	6	4	41	233	402	4	7	22	419	480	1	0	29	11	14
New York City	4	1	21	92	85	—	0	3	22	19	—	0	4	32	11
Pennsylvania	4	12	33	576	425	—	0	16	118	397	—	0	2	23	15
E.N. Central	31	57	238	2,832	1,797	—	2	19	216	253	—	1	7	88	147
Illinois	—	12	33	562	524	—	1	9	87	103	—	0	6	49	109
Indiana	—	7	158	317	100	—	0	6	21	10	—	0	3	13	6
Michigan	11	13	40	786	281	—	1	6	63	77	—	0	2	6	3
Ohio	20	19	57	1,035	715	—	0	5	45	63	—	0	4	18	29
Wisconsin	—	3	12	132	177	N	0	0	N	N	—	0	1	2	—
W.N. Central	13	31	872	1,626	1,280	—	7	18	325	300	1	3	27	339	434
Iowa	—	4	10	184	223	—	0	3	24	29	—	0	2	5	8
Kansas	—	3	9	146	82	—	1	6	60	64	—	0	1	2	—
Minnesota	—	0	808	165	226	—	0	11	61	64	—	0	2	4	—
Missouri	12	19	51	932	446	—	1	5	65	63	1	3	26	316	403
Nebraska†	1	3	15	140	235	—	1	6	77	32	—	0	2	12	20
North Dakota	—	0	24	29	1	—	0	9	11	25	—	0	1	—	—
South Dakota	—	0	6	30	67	—	0	4	27	23	—	0	0	—	3
S. Atlantic	6	32	71	1,507	917	10	26	111	1,584	1,577	5	9	40	447	880
Delaware	—	0	2	13	18	—	0	0	—	—	—	0	3	17	32
District of Columbia	—	0	1	3	7	—	0	0	—	—	—	0	0	—	6
Florida	5	9	29	495	282	—	0	95	153	138	—	0	2	9	16
Georgia	—	3	11	187	102	—	0	72	409	364	—	0	7	46	77
Maryland†	1	2	8	125	150	3	7	15	372	408	—	1	3	36	90
North Carolina	—	0	65	223	79	N	4	4	N	N	5	4	36	264	450
South Carolina†	—	4	18	243	121	—	0	0	—	—	—	0	5	18	56
Virginia†	—	4	24	187	147	7	10	26	536	591	—	1	8	53	144
West Virginia	—	0	5	31	11	—	3	6	114	76	—	0	1	4	9
E.S. Central	1	14	33	717	393	—	1	6	83	177	—	3	16	249	332
Alabama†	—	4	19	273	59	—	0	0	—	—	—	1	7	59	91
Kentucky	—	4	15	210	144	—	1	4	45	45	—	0	1	1	1
Mississippi	—	1	4	55	98	—	0	1	4	7	—	0	1	7	10
Tennessee†	1	3	14	179	92	—	0	4	34	125	—	3	14	182	230
W.S. Central	—	62	389	2,755	1,752	4	0	13	70	82	—	1	161	130	294
Arkansas†	—	5	38	265	151	3	0	10	36	44	—	0	61	61	65
Louisiana	—	1	8	90	85	—	0	0	—	—	—	0	1	2	6
Oklahoma	—	0	45	76	53	1	0	13	33	36	—	0	98	53	170
Texas†	—	55	304	2,324	1,463	—	0	1	1	2	—	0	6	14	53
Mountain	15	18	32	850	800	—	1	6	82	105	—	0	3	21	45
Arizona	—	4	12	205	212	N	0	0	N	N	—	0	1	6	16
Colorado	13	5	12	237	142	—	0	0	—	—	—	0	1	1	1
Idaho†	1	1	15	86	31	—	0	0	—	11	—	0	1	1	1
Montana†	1	0	6	55	84	—	0	4	25	13	—	0	2	8	3
Nevada†	—	0	3	9	28	—	0	1	1	12	—	0	0	—	3
New Mexico†	—	1	7	59	80	—	0	2	24	29	—	0	1	1	4
Utah	—	3	19	179	206	—	0	2	11	14	—	0	1	1	7
Wyoming†	—	0	5	20	17	—	0	4	21	26	—	0	1	3	10
Pacific	4	23	67	988	1,331	2	4	12	228	203	—	0	1	1	3
Alaska	—	1	8	46	255	—	0	2	12	14	N	0	0	N	N
California	—	9	22	417	500	2	4	12	201	176	—	0	1	1	—
Hawaii	—	0	3	26	17	—	0	0	—	—	N	0	0	N	N
Oregon†	—	3	16	244	173	—	0	3	15	13	—	0	0	—	3
Washington	4	5	58	255	386	—	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	58	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

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U: Unavailable. —: No reported cases. N: Not 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 December 12, 2009, and December 6, 2008 (49th week)*

Reporting area	Salmonellosis					Shiga toxin-producing *E. coli* (STEC)[†]					Shigellosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	651	877	2,323	42,492	45,802	31	84	255	4,163	4,828	194	286	1,268	13,775	20,005
New England	3	32	426	1,981	2,141	—	3	67	273	249	—	4	43	316	234
Connecticut	—	0	401	401	491	—	0	67	67	47	—	0	38	38	40
Maine[§]	2	2	7	117	147	—	0	3	19	23	—	0	2	5	20
Massachusetts	—	21	50	1,045	1,158	—	2	6	89	109	—	3	27	226	152
New Hampshire	1	3	42	238	146	—	1	3	36	30	—	0	4	19	5
Rhode Island[§]	—	2	11	122	107	—	0	26	38	10	—	0	7	23	12
Vermont[§]	—	1	5	58	92	—	0	3	24	30	—	0	1	5	5
Mid. Atlantic	43	87	196	4,817	5,546	3	6	21	335	448	20	57	87	2,549	2,375
New Jersey	—	14	46	799	1,252	—	1	4	33	129	—	10	27	516	862
New York (Upstate)	31	23	66	1,255	1,388	3	3	9	144	174	8	4	23	216	558
New York City	2	22	42	1,134	1,234	—	1	5	56	52	—	9	15	416	707
Pennsylvania	10	31	65	1,629	1,672	—	2	8	102	93	12	27	63	1,401	248
E.N. Central	30	91	152	4,441	4,928	7	15	32	762	836	17	48	121	2,200	3,953
Illinois	—	24	51	1,237	1,443	—	2	10	136	132	—	10	25	470	933
Indiana	—	6	50	344	583	—	1	7	71	92	—	1	21	56	578
Michigan	6	18	34	880	914	1	3	8	152	211	—	4	21	205	200
Ohio	24	28	52	1,361	1,253	4	3	11	128	186	16	22	67	1,056	1,699
Wisconsin	—	12	29	619	735	2	5	18	275	215	1	7	26	413	543
W.N. Central	31	45	109	2,398	2,667	3	11	37	684	781	46	21	63	1,159	878
Iowa	3	7	16	369	405	—	2	14	149	201	—	1	10	51	186
Kansas	—	6	18	269	439	—	0	4	32	50	—	3	11	159	64
Minnesota	8	12	51	564	675	1	2	19	219	186	2	2	8	80	290
Missouri	17	12	30	636	723	1	2	10	132	148	42	12	57	828	213
Nebraska[§]	3	5	41	333	231	1	1	6	85	144	2	0	3	32	16
North Dakota	—	0	30	71	43	—	0	28	7	2	—	0	9	5	33
South Dakota	—	2	22	156	151	—	0	12	60	50	—	0	1	4	76
S. Atlantic	296	266	448	12,820	11,911	5	12	30	606	776	32	44	79	2,178	3,022
Delaware	1	2	9	131	145	—	0	2	13	13	1	3	10	143	10
District of Columbia	—	0	5	23	60	—	0	1	1	6	1	0	2	8	21
Florida	203	118	278	6,345	4,946	2	4	7	164	137	8	9	24	445	777
Georgia	22	39	98	2,238	2,208	—	1	4	67	86	4	12	29	613	1,077
Maryland[§]	16	15	29	749	827	2	2	5	90	122	6	6	19	353	116
North Carolina	29	17	92	1,048	1,384	—	2	21	86	115	7	5	27	307	230
South Carolina[§]	13	16	67	1,098	1,120	—	0	3	29	43	4	3	9	116	537
Virginia[§]	11	21	88	979	1,017	1	2	16	127	222	1	4	59	184	221
West Virginia	1	4	23	209	204	—	0	5	29	32	—	0	3	9	33
E.S. Central	6	50	113	2,750	3,358	1	4	12	204	271	4	13	46	735	1,858
Alabama[§]	—	14	32	724	961	—	1	4	43	60	—	2	11	122	401
Kentucky	2	8	18	428	457	—	1	4	66	99	4	2	25	212	259
Mississippi	—	14	45	839	1,046	—	0	1	6	5	—	1	4	47	295
Tennessee[§]	4	14	33	759	894	1	2	10	89	107	—	7	23	354	903
W.S. Central	81	98	1,333	4,577	6,731	1	5	139	255	362	35	48	967	2,378	4,807
Arkansas[§]	7	11	25	589	744	1	1	4	43	54	5	6	16	296	553
Louisiana	—	8	43	599	1,080	—	0	1	—	8	—	2	8	108	627
Oklahoma	10	13	102	595	770	—	0	82	30	51	12	5	61	280	165
Texas[§]	64	56	1,204	2,794	4,137	—	4	55	182	249	18	33	889	1,694	3,462
Mountain	17	53	128	2,686	3,206	1	9	26	505	610	7	21	49	1,072	1,151
Arizona	3	20	50	1,000	1,070	—	1	4	69	63	2	16	42	785	586
Colorado	10	11	33	585	673	1	3	13	154	200	1	2	11	95	128
Idaho[§]	—	3	10	166	188	—	1	7	88	144	—	0	2	9	14
Montana[§]	—	2	7	96	121	—	0	7	34	35	—	0	5	13	8
Nevada[§]	3	3	11	167	220	—	0	3	14	19	4	1	7	62	226
New Mexico[§]	1	5	29	315	509	—	1	3	33	49	—	1	11	90	146
Utah	—	6	15	273	346	—	1	10	98	87	—	0	3	16	36
Wyoming[§]	—	1	9	84	79	—	0	2	15	13	—	0	1	2	7
Pacific	144	126	537	6,022	5,314	10	9	31	539	495	33	24	66	1,188	1,727
Alaska	—	1	7	67	56	—	0	0	—	6	—	0	1	2	1
California	109	97	516	4,532	3,896	7	5	15	256	238	26	19	65	966	1,492
Hawaii	—	5	59	293	247	—	0	2	8	13	—	0	4	35	44
Oregon[§]	—	8	18	392	412	—	1	11	78	64	—	1	3	39	93
Washington	35	12	85	738	703	3	2	17	197	174	7	3	11	146	97
American Samoa	—	0	1	—	2	—	0	0	—	—	—	1	2	3	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	13	—	0	0	—	—	—	0	0	—	15
Puerto Rico	—	7	40	376	733	—	0	0	—	—	—	0	2	10	31
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 *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 December 12, 2009, and December 6, 2008 (49th week)*

Reporting area	Streptococcal diseases, invasive, group A					*Streptococcus pneumoniae,* invasive disease, nondrug resistant† Age <5 years				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	42	101	239	4,643	5,077	36	31	122	1,612	1,740
New England	—	5	28	274	353	11	1	6	68	92
Connecticut	—	0	21	72	95	11	0	4	11	11
Maine§	—	0	2	18	26	—	0	1	6	2
Massachusetts	—	2	10	120	167	—	0	4	35	58
New Hampshire	—	0	4	35	26	—	0	2	11	11
Rhode Island§	—	0	2	11	26	—	0	1	1	10
Vermont§	—	0	3	18	13	—	0	1	4	—
Mid. Atlantic	8	18	43	920	1,009	6	4	33	225	222
New Jersey	—	2	7	124	181	—	0	4	38	70
New York (Upstate)	7	6	25	304	311	4	2	17	114	97
New York City	—	4	12	175	191	2	0	31	73	55
Pennsylvania	1	5	18	317	326	N	0	2	N	N
E.N. Central	9	17	42	836	919	5	5	18	246	317
Illinois	—	5	13	237	245	—	0	3	23	93
Indiana	—	2	23	128	121	—	0	13	37	31
Michigan	3	3	11	142	169	2	1	4	66	82
Ohio	6	3	13	202	248	3	1	6	75	59
Wisconsin	—	2	11	127	136	—	1	3	45	52
W.N. Central	1	6	37	371	359	—	2	12	143	104
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	5	37	36	N	0	1	N	N
Minnesota	—	0	34	171	166	—	0	10	81	41
Missouri	1	2	8	83	86	—	0	4	36	35
Nebraska§	—	1	3	42	38	—	0	2	14	8
North Dakota	—	0	4	17	10	—	0	3	5	9
South Dakota	—	0	3	21	23	—	0	2	7	11
S. Atlantic	13	21	49	1,068	1,071	8	6	18	305	341
Delaware	—	0	1	11	9	—	0	0	—	—
District of Columbia	—	0	3	13	14	N	0	0	N	N
Florida	7	5	12	264	254	3	1	6	70	65
Georgia	—	5	13	247	244	1	1	6	79	98
Maryland§	2	3	12	184	179	3	1	7	76	58
North Carolina	2	2	12	90	130	N	0	0	N	N
South Carolina§	—	1	5	69	71	—	1	6	44	64
Virginia§	1	3	9	152	132	—	0	4	23	43
West Virginia	1	1	4	38	38	1	0	3	13	13
E.S. Central	1	3	10	182	179	—	2	7	97	87
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	1	1	5	36	39	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	2	19	9
Tennessee§	—	3	9	146	140	—	1	6	78	78
W.S. Central	7	8	79	412	475	3	5	46	274	275
Arkansas§	1	0	3	19	11	—	0	4	26	14
Louisiana	—	0	3	11	17	—	0	3	13	13
Oklahoma	1	3	20	124	109	—	1	7	55	64
Texas§	5	5	59	258	338	3	3	34	180	184
Mountain	3	10	22	423	544	3	4	16	223	254
Arizona	2	3	7	145	184	1	2	10	109	111
Colorado	1	2	7	120	137	2	0	4	47	59
Idaho§	—	0	2	10	16	—	0	2	9	5
Montana§	N	0	0	N	N	N	0	0	N	N
Nevada§	—	0	1	5	13	—	0	1	—	4
New Mexico§	—	1	7	79	132	—	0	4	24	37
Utah	—	1	6	63	54	—	0	5	34	36
Wyoming§	—	0	1	1	8	—	0	0	—	2
Pacific	—	3	9	157	168	—	0	4	31	48
Alaska	—	1	4	36	37	—	0	3	23	29
California	N	0	0	N	N	N	0	0	N	N
Hawaii	—	2	8	121	131	—	0	2	8	19
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

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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 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 December 12, 2009, and December 6, 2008 (49th week)*

Reporting area	*Streptococcus pneumoniae*, invasive disease, drug resistant† — All ages: Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Aged <5 years: Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Syphilis, primary and secondary: Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	101	50	276	2,607	2,932	19	8	20	419	487	124	267	452	12,465	12,318
New England	50	1	16	105	109	11	0	2	14	16	8	5	15	304	293
Connecticut	50	0	15	50	55	11	0	2	11	5	1	1	5	54	31
Maine§	—	0	2	19	17	—	0	1	1	2	—	0	1	3	10
Massachusetts	—	0	1	3	—	—	0	1	2	—	7	4	10	220	205
New Hampshire	—	0	3	5	—	—	0	0	—	—	—	0	2	14	19
Rhode Island§	—	0	6	15	23	—	0	1	—	7	—	0	5	13	18
Vermont§	—	0	2	13	14	—	0	0	—	2	—	0	1	—	10
Mid. Atlantic	—	3	14	167	291	—	0	3	25	30	26	35	50	1,691	1,586
New Jersey	—	0	0	—	—	—	0	0	—	—	—	4	13	203	202
New York (Upstate)	—	1	10	76	66	—	0	2	14	9	3	2	8	114	130
New York City	—	0	4	7	120	—	0	2	—	4	18	22	39	1,046	998
Pennsylvania	—	1	8	84	105	—	0	2	11	17	5	7	13	328	256
E.N. Central	11	11	41	582	577	3	2	7	87	76	19	24	43	1,124	1,202
Illinois	N	0	0	N	N	N	0	0	N	N	10	10	28	489	503
Indiana	—	3	32	186	189	—	0	6	27	23	2	2	10	137	126
Michigan	—	0	2	24	21	—	0	1	3	2	7	4	18	226	188
Ohio	11	7	18	372	367	3	1	4	57	51	—	5	12	236	323
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	3	36	62
W.N. Central	1	2	161	113	200	—	0	3	21	40	3	6	12	292	387
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	19	16
Kansas	—	0	5	38	76	—	0	2	13	6	—	0	3	26	29
Minnesota	—	0	156	—	28	—	0	3	—	28	—	1	4	67	109
Missouri	1	1	5	61	85	—	0	1	6	3	3	3	8	159	217
Nebraska§	—	0	1	2	—	—	0	0	—	—	—	0	3	16	15
North Dakota	—	0	3	10	2	—	0	0	—	—	—	0	1	4	—
South Dakota	—	0	2	2	9	—	0	2	2	3	—	0	1	1	1
S. Atlantic	33	24	53	1,220	1,239	5	3	12	204	235	27	63	262	3,019	2,740
Delaware	—	0	2	18	3	—	0	2	3	—	—	0	3	27	15
District of Columbia	N	0	0	N	N	N	0	0	N	N	1	3	8	163	137
Florida	23	14	36	717	701	4	2	9	124	147	3	19	32	922	980
Georgia	9	8	25	382	419	1	1	5	69	74	3	14	227	721	659
Maryland§	—	0	1	4	6	—	0	0	—	1	4	6	16	270	329
North Carolina	N	0	0	N	N	N	0	0	N	N	14	9	31	521	268
South Carolina§	—	0	0	—	—	—	0	0	—	—	2	2	6	109	89
Virginia§	N	0	0	N	N	N	0	0	N	N	—	6	15	282	251
West Virginia	1	1	13	99	110	—	0	2	8	13	—	0	2	4	12
E.S. Central	2	4	25	242	301	—	0	3	32	57	30	22	36	1,068	1,048
Alabama§	N	0	0	N	N	N	0	0	N	N	—	8	18	396	423
Kentucky	2	1	5	71	72	—	0	2	8	11	13	1	10	75	80
Mississippi	—	0	3	4	41	—	0	1	3	14	12	4	16	211	155
Tennessee§	—	2	23	167	188	—	0	3	21	32	5	8	15	386	390
W.S. Central	2	1	6	84	92	—	0	3	16	15	—	53	79	2,470	2,204
Arkansas§	2	1	5	52	17	—	0	3	11	4	—	5	35	243	162
Louisiana	—	1	5	32	75	—	0	1	5	11	—	13	41	602	651
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	5	66	80
Texas§	—	0	0	—	—	—	0	0	—	—	—	31	49	1,559	1,311
Mountain	2	1	7	91	121	—	0	2	18	16	2	9	18	411	565
Arizona	—	0	0	—	—	—	0	0	—	—	—	3	9	170	294
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	4	74	126
Idaho§	N	0	1	N	N	N	0	1	N	N	—	0	1	3	7
Montana§	—	0	0	—	1	—	0	0	—	—	—	0	7	1	—
Nevada§	2	0	4	32	53	—	0	2	6	6	1	1	10	90	72
New Mexico§	—	0	1	1	—	—	0	0	—	—	1	1	5	54	39
Utah	—	1	5	47	65	—	0	2	10	10	—	0	2	16	24
Wyoming§	—	0	2	11	2	—	0	1	2	—	—	0	1	3	3
Pacific	—	0	1	3	2	—	0	1	2	2	9	43	68	2,086	2,293
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	0	—	1
California	N	0	0	N	N	N	0	0	N	N	3	40	61	1,895	2,067
Hawaii	—	0	1	3	2	—	0	1	2	2	—	0	3	27	28
Oregon§	N	0	0	N	N	N	0	0	N	N	5	0	4	44	23
Washington	N	0	0	N	N	N	0	0	N	N	1	2	7	120	174
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	—	—	10	3	17	209	150
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 December 12, 2009, and December 6, 2008 (49th week)*

Reporting area	Varicella (chickenpox) Current week	Varicella Previous 52 weeks Med	Varicella Previous 52 weeks Max	Varicella Cum 2009	Varicella Cum 2008	West Nile virus disease† Neuroinvasive Current week	Neuroinvasive Previous 52 weeks Med	Neuroinvasive Previous 52 weeks Max	Neuroinvasive Cum 2009	Neuroinvasive Cum 2008	Nonneuroinvasive§ Current week	Nonneuroinvasive Previous 52 weeks Med	Nonneuroinvasive Previous 52 weeks Max	Nonneuroinvasive Cum 2009	Nonneuroinvasive Cum 2008
United States	171	336	1,035	16,370	27,603	—	0	43	356	688	—	0	46	319	667
New England	1	7	36	340	1,621	—	0	0	—	7	—	0	0	—	3
Connecticut	—	0	14	—	821	—	0	0	—	5	—	0	0	—	3
Maine¶	1	0	12	105	257	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	2	2	—	—	0	0	—	1	—	0	0	—	—
New Hampshire	—	3	10	186	248	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	1	4	—	—	0	0	—	1	—	0	0	—	—
Vermont¶	—	0	16	43	295	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	22	32	57	1,468	2,243	—	0	2	7	50	—	0	1	1	20
New Jersey	N	0	0	N	N	—	0	1	2	6	—	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	22	32	57	1,468	2,243	—	0	0	—	12	—	0	0	—	2
E.N. Central	58	131	232	5,942	7,286	—	0	4	8	44	—	0	3	4	20
Illinois	4	32	73	1,493	1,379	—	0	3	5	12	—	0	0	—	8
Indiana	—	7	30	379	—	—	0	1	2	3	—	0	1	2	1
Michigan	13	41	84	1,767	2,882	—	0	0	—	11	—	0	0	—	6
Ohio	41	36	88	1,850	2,210	—	0	0	—	14	—	0	2	2	1
Wisconsin	—	8	55	453	815	—	0	1	1	4	—	0	0	—	4
W.N. Central	7	15	114	855	1,217	—	0	5	26	51	—	0	11	71	134
Iowa	N	0	0	N	N	—	0	0	—	3	—	0	1	5	3
Kansas	—	2	19	183	451	—	0	2	5	14	—	0	2	7	17
Minnesota	—	0	0	—	—	—	0	1	1	2	—	0	1	3	8
Missouri	7	8	51	572	712	—	0	2	3	12	—	0	0	—	3
Nebraska¶	N	0	0	N	N	—	0	2	11	7	—	0	6	40	40
North Dakota	—	0	108	83	—	—	0	0	—	2	—	0	1	1	35
South Dakota	—	0	2	17	54	—	0	3	6	11	—	0	2	15	28
S. Atlantic	22	33	146	1,794	4,413	—	0	3	12	20	—	0	1	3	20
Delaware	—	0	2	12	45	—	0	0	—	—	—	0	0	—	1
District of Columbia	—	0	3	13	21	—	0	0	—	4	—	0	0	—	4
Florida	15	20	67	1,102	1,549	—	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	810	—	0	2	3	—	—	0	0	—	1
Virginia¶	—	0	119	28	1,329	—	0	1	3	—	—	0	0	—	1
West Virginia	7	9	32	485	659	—	0	0	—	1	—	0	0	—	—
E.S. Central	—	5	26	377	1,095	—	0	6	36	48	—	0	4	26	57
Alabama¶	—	5	26	372	1,081	—	0	0	—	11	—	0	0	—	7
Kentucky	N	0	0	N	N	—	0	1	3	3	—	0	0	—	—
Mississippi	—	0	2	5	14	—	0	5	29	22	—	0	4	22	43
Tennessee¶	N	0	0	N	N	—	0	2	4	12	—	0	1	4	7
W.S. Central	51	81	747	4,312	7,530	—	0	16	107	69	—	0	6	33	62
Arkansas¶	—	0	30	115	716	—	0	1	6	7	—	0	0	—	2
Louisiana	—	1	7	76	70	—	0	2	10	18	—	0	4	10	31
Oklahoma	N	0	0	N	N	—	0	2	8	4	—	0	2	2	5
Texas¶	51	75	721	4,121	6,744	—	0	13	83	40	—	0	4	21	24
Mountain	10	18	65	1,194	2,063	—	0	12	75	103	—	0	17	120	184
Arizona	—	0	0	—	—	—	0	4	12	62	—	0	2	6	52
Colorado	9	9	33	495	822	—	0	7	35	17	—	0	14	66	54
Idaho¶	N	0	0	N	N	—	0	3	9	4	—	0	5	29	35
Montana¶	—	0	16	105	312	—	0	1	2	—	—	0	1	4	5
Nevada¶	N	0	0	N	N	—	0	2	7	9	—	0	1	5	7
New Mexico¶	—	0	20	134	212	—	0	2	6	5	—	0	1	2	3
Utah	1	8	32	460	707	—	0	0	—	6	—	0	0	—	20
Wyoming¶	—	0	1	—	10	—	0	1	4	—	—	0	2	8	8
Pacific	—	1	6	88	135	—	0	12	85	296	—	0	11	61	167
Alaska	—	1	5	53	72	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	7	59	291	—	0	6	44	153
Hawaii	—	0	4	35	63	—	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	—	1	1	—	62	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	6	26	405	563	—	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/phs/infdis.htm.
¶ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE III. Deaths in 122 U.S. cities,* week ending December 12, 2009 (49th week)

Reporting area	All causes, by age (years)						P&I†
	All Ages	≥65	45–64	25–44	1–24	<1	Total
New England	505	326	136	35	2	6	43
Boston, MA	122	63	39	16	1	3	9
Bridgeport, CT	24	19	3	2	—	—	2
Cambridge, MA	14	10	4	—	—	—	1
Fall River, MA	28	18	10	—	—	—	1
Hartford, CT	47	39	8	—	—	—	3
Lowell, MA	26	17	7	2	—	—	3
Lynn, MA	11	6	5	—	—	—	3
New Bedford, MA	19	15	4	—	—	—	2
New Haven, CT	22	14	6	2	—	—	2
Providence, RI	64	42	16	4	1	1	5
Somerville, MA	2	1	—	1	—	—	—
Springfield, MA	39	22	14	3	—	—	1
Waterbury, CT	34	22	9	3	—	—	2
Worcester, MA	53	38	11	2	—	2	9
Mid. Atlantic	1,960	1,373	431	100	31	25	115
Albany, NY	47	35	10	1	1	—	2
Allentown, PA	24	16	7	1	—	—	3
Buffalo, NY	77	50	19	5	—	3	11
Camden, NJ	U	U	U	U	U	U	U
Elizabeth, NJ	15	10	4	1	—	—	3
Erie, PA	48	32	14	1	1	—	4
Jersey City, NJ	U	U	U	U	U	U	U
New York City, NY	1,008	713	217	55	14	9	48
Newark, NJ	31	20	6	5	—	—	3
Paterson, NJ	5	3	2	—	—	—	—
Philadelphia, PA	398	266	99	20	8	5	17
Pittsburgh, PA§	41	30	8	1	2	—	2
Reading, PA	50	42	4	—	2	2	2
Rochester, NY	75	54	11	3	2	5	7
Schenectady, NY	14	10	4	—	—	—	2
Scranton, PA	26	20	5	1	—	—	2
Syracuse, NY	51	32	15	3	—	1	7
Trenton, NJ	25	19	4	2	—	—	—
Utica, NY	11	11	—	—	—	—	2
Yonkers, NY	14	10	2	1	1	—	—
E.N. Central	1,924	1,280	483	88	39	34	146
Akron, OH	60	44	14	1	—	1	7
Canton, OH	40	30	9	1	—	—	2
Chicago, IL	U	U	U	U	U	U	U
Cincinnati, OH	111	63	32	9	4	3	14
Cleveland, OH	301	209	72	11	5	4	18
Columbus, OH	205	145	44	10	2	4	22
Dayton, OH	134	85	37	6	2	4	15
Detroit, MI	188	99	69	13	4	3	9
Evansville, IN	52	36	14	1	1	—	2
Fort Wayne, IN	77	53	20	3	1	—	2
Gary, IN	17	7	6	3	—	1	—
Grand Rapids, MI	60	45	11	1	2	1	2
Indianapolis, IN	184	120	45	10	5	4	11
Lansing, MI	46	32	10	2	2	—	4
Milwaukee, WI	91	56	29	1	2	3	9
Peoria, IL	70	51	13	2	4	—	7
Rockford, IL	69	45	17	4	1	2	4
South Bend, IN	54	33	17	3	—	1	4
Toledo, OH	102	78	13	6	4	1	9
Youngstown, OH	63	49	11	1	—	2	5
W.N. Central	650	413	153	52	17	14	48
Des Moines, IA	59	49	6	2	2	—	7
Duluth, MN	29	19	3	6	1	—	—
Kansas City, KS	40	25	10	5	—	—	2
Kansas City, MO	98	60	23	8	3	4	8
Lincoln, NE	28	21	6	—	—	1	1
Minneapolis, MN	63	38	17	3	1	4	6
Omaha, NE	81	52	20	4	4	1	6
St. Louis, MO	105	51	34	15	3	1	2
St. Paul, MN	60	38	14	3	2	3	3
Wichita, KS	87	60	20	6	1	—	13
S. Atlantic	1,421	879	371	102	33	36	96
Atlanta, GA	163	93	39	20	6	5	5
Baltimore, MD	237	129	76	22	3	7	34
Charlotte, NC	122	76	31	12	2	1	12
Jacksonville, FL	171	114	45	4	5	3	9
Miami, FL	146	101	27	11	5	2	5
Norfolk, VA	51	33	15	1	1	1	4
Richmond, VA	74	46	19	6	2	1	3
Savannah, GA	58	44	13	1	—	—	3
St. Petersburg, FL	65	37	21	5	—	2	6
Tampa, FL	214	132	51	16	5	10	10
Washington, D.C.	112	68	32	4	4	4	2
Wilmington, DE	8	6	2	—	—	—	3
E.S. Central	962	588	250	76	23	25	78
Birmingham, AL	191	116	56	13	3	3	11
Chattanooga, TN	88	53	24	9	—	2	6
Knoxville, TN	96	72	19	4	1	—	10
Lexington, KY	80	44	23	10	1	2	7
Memphis, TN	190	99	49	20	9	13	16
Mobile, AL	65	37	20	5	1	2	4
Montgomery, AL	57	41	13	1	2	—	5
Nashville, TN	195	126	46	14	6	3	19
W.S. Central	1,346	835	366	83	32	30	85
Austin, TX	87	58	16	9	2	2	7
Baton Rouge, LA	56	41	11	4	—	—	—
Corpus Christi, TX	87	56	23	5	2	1	7
Dallas, TX	187	100	62	11	6	8	17
El Paso, TX	128	78	39	6	3	2	2
Fort Worth, TX	U	U	U	U	U	U	U
Houston, TX	205	120	58	10	5	12	14
Little Rock, AR	100	60	30	10	—	—	9
New Orleans, LA	U	U	U	U	U	U	U
San Antonio, TX	278	175	77	14	9	3	18
Shreveport, LA	51	34	14	2	—	1	6
Tulsa, OK	167	113	36	12	5	1	5
Mountain	1,123	708	288	65	37	25	82
Albuquerque, NM	140	94	29	8	6	3	14
Boise, ID	59	38	11	6	2	2	5
Colorado Springs, CO	89	58	24	6	1	—	1
Denver, CO	81	56	18	5	1	1	8
Las Vegas, NV	279	174	79	14	9	3	28
Ogden, UT	33	19	10	2	1	1	3
Phoenix, AZ	151	81	42	13	10	5	7
Pueblo, CO	28	21	6	—	1	—	3
Salt Lake City, UT	115	74	28	6	3	4	7
Tucson, AZ	148	93	41	5	3	6	6
Pacific	1,847	1,253	419	106	35	33	193
Berkeley, CA	14	12	2	—	—	—	1
Fresno, CA	140	92	30	10	3	5	7
Glendale, CA	31	21	9	1	—	—	8
Honolulu, HI	64	44	13	4	2	1	9
Long Beach, CA	73	44	24	3	2	—	11
Los Angeles, CA	260	160	68	20	7	5	34
Pasadena, CA	27	20	6	1	—	—	2
Portland, OR	140	99	31	6	1	3	12
Sacramento, CA	203	147	36	13	1	6	26
San Diego, CA	185	128	38	8	6	4	18
San Francisco, CA	143	89	42	10	1	1	13
San Jose, CA	240	178	46	6	5	5	32
Santa Cruz, CA	29	20	7	2	—	—	3
Seattle, WA	108	66	28	10	3	1	6
Spokane, WA	68	48	12	6	—	2	6
Tacoma, WA	122	85	27	6	4	—	5
Total¶	**11,738**	**7,655**	**2,897**	**707**	**249**	**228**	**886**

U: Unavailable. —:No reported cases.

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

† Pneumonia and influenza.

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

¶ Total includes unknown ages.

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