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Public Health Response to Hurricanes Katrina and Rita — Louisiana, 2005

On August 24, 2005, Tropical Depression 12 became Tropical Storm Katrina, the 11th named storm of the 2005 Atlantic hurricane season (*1*). Late on August 25, Katrina made initial landfall in south Florida as a category 1 hurricane on the Saffir-Simpson Hurricane Scale (*1*). Katrina strengthened rapidly upon reaching the Gulf of Mexico, attaining category 5 intensity. On August 29, Hurricane Katrina struck the Gulf Coast near the Louisiana-Mississippi border as a category 3 hurricane (*1*). The effect of earlier category 5 wind speeds on Gulf waters and the massive size of the storm combined to create devastating storm-surge conditions for coastal Mississippi, Louisiana, and Alabama and damage as far east as the Florida panhandle (*1*). Storm-induced breeches in the New Orleans levee system resulted in the catastrophic flooding of approximately 80% of that city (Figure) (*1*). Hurricane Katrina was the deadliest hurricane to strike the United States since 1928 (*2*). Preliminary mortality reports indicate approximately 1,000 Katrina-related deaths in Louisiana, 200 in Mississippi, and 20 in Florida, Alabama, and Georgia (*1*).

When hurricanes move onto land, the resulting storm surges, violent winds, heavy rains, and flooding can cause extensive damage. Before 1990, the majority of hurricane-related deaths in the United States resulted from drowning caused by sudden storm surges (*2*). Advances in warning technology and timely evacuation have decreased hurricane-related mortality (*3*). Since 1990, indirect causes of death and injury from hurricanes, such as electrocutions, clean-up injuries, and carbon monoxide poisonings, have become more prominent (*2,4–6*). During and after Hurricane Katrina, the majority of deaths resulted from storm surges along the Mississippi and Louisiana coastlines and flooding in the New Orleans area (*1*). The destructive force of the hurricane was magnified by the particular vulnerability of New Orleans, a city largely located below the surface of surrounding bodies of water. The resultant flooding closed New Orleans, the major population and

FIGURE. Flooded homes after Hurricane Katrina — New Orleans, Louisiana, September 2005

Photo/Associated Press

INSIDE

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

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commercial center of Louisiana and the hub of the state's public health infrastructure.

Hurricane Katrina disrupted basic utilities, food-distribution systems, health-care services, and communications in large portions of Louisiana and Mississippi. In the days after the hurricane struck, displacement of persons living in these areas resulted in the congregation of more than 200,000 persons in evacuation centers in at least 18 states (*7*). Massive local, state, and federal responses ensued. The situation was compounded on September 24 when a second category 3 hurricane, Rita, forced the cessation of response activities in New Orleans and the evacuation of Louisiana and Texas cities near the Gulf. As the region moves into the reconstruction phase of this disaster, heavily affected states will need continued support to rebuild the public health infrastructure.

MMWR is highlighting the public health response to Hurricanes Katrina and Rita with two special issues. This issue focuses on public health activities in Louisiana 1–2 months after Hurricane Katrina, during which time local authorities reopened portions of New Orleans and the pre-disaster population began to return. Reports in this issue describe a range of public health disaster-response activities, including morbidity surveillance, shelter-based surveillance, community health and needs assessment, environmental assessment, and infectious-disease case investigation. A second special issue, scheduled for March, will focus on the broader impact of Hurricanes Katrina and Rita, including public health activities in Mississippi, Texas, Alabama, and Florida.

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References

1. Knabb RD, Rhome JR, Brown DP; National Hurricane Center. Tropical cyclone report: Hurricane Katrina, 23–30 August 2005; Miami, FL: National Oceanic and Atmospheric Administration, National Weather Service, National Hurricane Center; December 20, 2005. Available at http://www.nhc.noaa.gov/pdf/TCR-AL122005_Katrina.pdf.
2. Shultz JM, Russell J, Espinel Z. Epidemiology of tropical cyclones: the dynamics of disaster, disease, and development. Epidemiol Rev 2005;27:21–35.
3. Malilay J. Tropical cyclones. In: Noji EK, ed. The public health consequences of disasters. New York, NY: Oxford University Press; 1997:207–27.
4. CDC. Morbidity and mortality associated with Hurricane Floyd—North Carolina, September–October 1999. MMWR 2000;49:369–700.
5. CDC. Carbon monoxide poisoning from hurricane-associated use of portable generators—Florida, 2004. MMWR 2005;54:697–700.
6. CDC. Carbon monoxide poisoning after Hurricane Katrina—Alabama, Louisiana, and Mississippi, August–September 2005. MMWR 2005;54:996–8.
7. CDC. Infectious disease and dermatologic conditions in evacuees and response workers after Hurricane Katrina—multiple states, August–September, 2005. MMWR 2005;54:961–4.

Two Cases of Toxigenic *Vibrio cholerae* O1 Infection After Hurricanes Katrina and Rita — Louisiana, October 2005

Louisiana was struck by Hurricane Katrina on August 29, 2005, and by Hurricane Rita on September 24, 2005. The two hurricanes caused unprecedented damage from wind and storm surge to the Louisiana Gulf Coast region, and levee breaks resulted in flooding of large residential areas in and around New Orleans. With the flooding, an immediate public health concern was the potential for outbreaks of infectious diseases, including cholera. Nearly all *Vibrio* infections in the United States are caused by noncholeragenic *Vibrio* species (e.g., *V. parahaemolyticus*, *V. vulnificus*, and non-O1, non-O139 *V. cholerae*) (*1,2*). Cases of cholera rarely occur in the United States, and cholera epidemics, such as those reported in certain developing countries, are unlikely, even with the extreme flooding caused by the two hurricanes (*2*). This report describes the investigation by the Louisiana Office of Public Health and CDC into two cases of toxigenic *V. cholerae* O1 infection in a Louisiana couple; the cases were attributed to consumption of undercooked or contaminated seafood. Although noncholeragenic *Vibrio* illnesses were reported in 22 residents of Louisiana and Mississippi after Hurricane Katrina (*1*), no epidemic of cholera was identified, and no evidence exists of increased risk to Gulf Coast residents.

In Louisiana, cases of notifiable diseases, including *V. cholerae* infections, are reported through the Internet-based Reportable Disease Database (RDD). All health-care providers and diagnostic facilities throughout the state submit reports through this system. A 24-hour telephone line is available to report emergencies. Although the 24-hour telephone line was disrupted immediately after hurricane Katrina, the Internet-based RDD never stopped functioning. In addition, after the hurricanes, morbidity surveillance systems were implemented in acute-care facilities in severely damaged areas and in evacuee centers throughout the state. During August 29–October 30, 2005, a total of 81 reports were investigated by Louisiana infectious-disease epidemiologists; 33 (41%) of these investigations were related to diarrheal illnesses. Five suspected cases of cholera were reported in Louisiana on the basis of presumptive laboratory results from clinical laboratories. However, of the five stool specimens sent to the Louisiana State Public Health Laboratory, only two were confirmed as containing toxigenic *V. cholerae* O1.

The two cases of toxigenic *V. cholerae* O1 infection were identified in a Louisiana couple approximately 3 weeks after Hurricane Rita. On October 15, 2005, in southeastern Louisiana, a man aged 43 years and his wife aged 46 years had onset of diarrhea. The husband had a history of high blood pressure, alcoholism, diabetes, brain tumor, and chronic renal failure that required dialysis three times a week. On October 16, 2005, he was hospitalized for fever, muscle pains, nausea, vomiting, abdominal cramps, and severe diarrhea and dehydration; subsequently he experienced complete loss of renal function and respiratory and cardiac failure. However, after treatment with ciprofloxacin and aggressive rehydration therapy, the man recovered to his previous state of health. His wife had mild diarrhea and was treated as an outpatient with ciprofloxacin and extra fluids.

Because the couple's residence had been severely damaged and flooded by Hurricane Rita, both patients had waded in coastal flood waters in late September, 2–3 weeks before their illness onset. Five days before onset of illness, both had eaten locally caught crabs. On October 14, the day preceding illness onset, both had eaten shrimp purchased from a local fisherman. The shrimp were boiled for 5 minutes; however, at least some of the boiled shrimp were returned to a cooler containing raw shrimp and were eaten later. Two other persons who ate the shrimp reported mild diarrhea and abdominal discomfort; they did not seek medical attention, and no stool or serum specimens were collected from them for testing.

Toxigenic *V. cholerae* O1, serotype Inaba, biotype El Tor, was isolated at the hospital from stool specimens of the two patients and was confirmed at the Louisiana State Public Health Laboratory and the Foodborne and Diarrheal Diseases Laboratory at CDC. Both isolates were susceptible to all antimicrobial agents tested and were hemolytic on sheep blood agar, two characteristics of the strain of toxigenic *V. cholerae* O1 that is endemic to the U.S. Gulf Coast. By pulsed-field gel electrophoresis, the isolates were indistinguishable from each other and from other isolates previously associated with the Gulf Coast.

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Editorial Note: Cholera is caused by toxigenic *V. cholerae* O1 or O139 and is characterized by severe watery diarrhea, sometimes accompanied by vomiting, that can lead to dehydration, electrolyte abnormalities, and hypovolemic shock if fluid losses are not promptly replaced (*3*). In developing African and Asian countries, where most cholera cases and epidemics occur (*4,5*), transmission tends to be waterborne. However, because *V. cholerae* occurs naturally in some marine or estuarine environments, cholera is also occasionally acquired from consumption of inadequately cooked crustaceans or molluscan shellfish (*3,6–8*).

In the United States, epidemic cholera has not occurred during the past 100 years. Although small outbreaks have been identified, most cases have been sporadic. During 1996–2005, a total of 64 cases of toxigenic *V. cholerae* O1 were reported to CDC from U.S. states and territories (Figure). In 35 (55%) cases, cholera infection was acquired during foreign travel. For the remaining 29 (45%) cases, infection was acquired in the United States. Seven (24%) of these 29 cases were attributed to consumption of Gulf Coast seafood (e.g., crabs, shrimp, or oysters); 22 (76%) others could not be attributed to consumption of Gulf Coast seafood.*

Seven of the 11 U.S. cholera cases in 2005 were reported during October–December, after Hurricanes Katrina and Rita. In addition to the two Louisiana cases described in this report, two cases occurred in Guam, and three others were attributed to foreign travel. The number and sources of these seven cases are consistent with U.S. reports of cholera in previous years (*9*). No evidence suggests increased risk for cholera among Gulf Coast residents or consumers of Gulf Coast seafood after the hurricanes.

Illness in the two Louisiana residents was attributed to shellfish that was not prepared or handled properly, perhaps because of difficult living conditions after the hurricanes. Boiling shellfish for >10 minutes is recommended to render the *V. cholerae* organism nonviable and then placing the shellfish into clean serving dishes to prevent recontamination (*3,8*).

Acknowledgments

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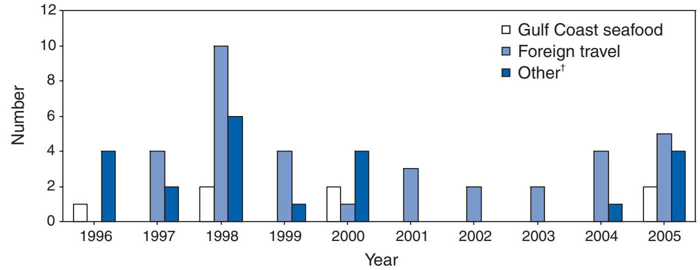
References

1. CDC. *Vibrio* illnesses after Hurricane Katrina—multiple states, August–September 2005. MMWR 2005;54:928–31.
2. CDC. Cholera and other *Vibrio* illness surveillance summaries: summary of human *Vibrio* isolates reported to CDC, 2004. Atlanta, GA: US Department of Health and Human Services, CDC; 2004. Available at http://www.cdc.gov/foodborneoutbreaks/vibrio_sum/cstevibrio2004.pdf.
3. Wachsmuth IK, Blake PA, Olsvik O, eds. *Vibrio cholerae* and cholera: molecular to global perspectives. Washington, DC: American Society for Microbiology; 1994.
4. World Health Organization. Cholera 2004. Wkly Epidemiol Rec 2005;80:261–8.
5. Global Task Force on Cholera Control. Cholera outbreak: assessing the outbreak response and improving preparedness. Geneva, Switzerland: World Health Organization; 2004. Available at http://www.who.int/topics/cholera/publications/cholera_outbreak/en.

*Among the 22 cases not associated with either foreign travel or Gulf Coast seafood, 13 were associated with consumption of seafood from areas other than the Gulf Coast, and nine exposures were undetermined. Thirteen of the cases occurred in states outside of the Gulf Coast, eight occurred in U.S. territories (seven in Guam and one in the Mariana Islands), and one case occurred in Louisiana.

FIGURE. Number of toxigenic *Vibrio cholerae* O1 cases, by year and source of infection — United States, 1996–2005*



* Reported to the CDC Cholera and Other *Vibrio* Surveillance System.
† Not associated with either foreign travel or consumption of Gulf Coast seafood. Thirteen of these 22 cases were associated with consumption of seafood from areas other than the Gulf Coast, and nine exposures were undetermined. Thirteen of the cases occurred in states outside of the Gulf Coast, eight occurred in U.S. territories (seven in Guam and one in the Mariana Islands), and one case occurred in Louisiana.

6. Colwell RR, Seidler RJ, Kaper J, et al. Occurrence of *V. cholerae* serotype O1 in Maryland and Louisiana estuaries. Appl Environ Microbiol 1981;41:555–8.
7. Powell JL. *Vibrio* species. Clin Lab Med 1999;19:537–52.
8. Rabbani GH, Greenough WB III. Food as a vehicle of transmission of cholera. J Diarrhoeal Dis Res 1999;17:1–9.
9. Steinberg EB, Greene KD, Bopp CA, Cameron DN, Wells JG, Mintz ED. Cholera in the United States, 1995–2000: trends at the end of the twentieth century. J Infect Dis 2001;184:799–802.

Surveillance in Hurricane Evacuation Centers — Louisiana, September–October 2005

On August 29, 2005, Hurricane Katrina made landfall southeast of New Orleans, Louisiana. Before the arrival of Katrina, New Orleans and surrounding parishes were under a mandatory evacuation order (*1*). Because of this order and subsequent flooding, approximately 400,000 residents became displaced (*2*). On August 28, approximately 50,000 persons began moving into evacuation centers (ECs) throughout the state of Louisiana (American Red Cross, unpublished data, 2005). The Louisiana Department of Health and Hospitals, Office of Public Health (LAOPH) recognized the need for communicable disease surveillance in the ECs. Although the LAOPH Internet-based Reportable Disease Database was intact and never stopped functioning after the hurricane, LAOPH determined that the large number of ECs warranted active surveillance. On September 8, LAOPH, with the cooperation of the American Red Cross (ARC) and the U.S. Public Health Service, initiated statewide daily syndromic surveillance for communicable diseases in the ECs. In addition to collecting and analyzing data on communicable disease syndromes, data were collected on chronic medical conditions, injuries, and mental health conditions. This report summarizes the development and implementation of this surveillance system in the ECs, the types of data collected and how they were used, and the limitations of the data.

ARC, local governments, faith-based groups, and others established and sponsored ECs. Any facility that housed displaced persons overnight was considered an EC. ARC disaster headquarters in Baton Rouge, Louisiana, maintained a comprehensive list of ECs in Louisiana that was updated at least twice daily. This list included the name, location, contact information, and population of each EC. Approximately 500 ECs were identified. Individual EC populations ranged from fewer than 10 to as many as 7,000 persons.

A one-page surveillance form was designed to record the number of patient encounters at an EC for selected communicable disease signs and syndromes, including fever only (>100.4°F [>38°C]); watery diarrhea (three or more watery bowel movements per day); vomiting; bloody diarrhea; influenza-like illness or other severe respiratory infection; rash; scabies, lice, or other infestation; conjunctivitis; other potentially communicable diseases; injury (e.g., self-inflicted injury, intentional injury, unintentional injury, dehydration, or heat-related injury); mental health disorders (e.g., preexisting psychiatric disorder, new psychiatric disorder since hurricane, or alcohol/substance abuse or withdrawal); and chronic medical conditions (e.g., diabetes mellitus, high blood pressure and other cardiovascular disease, and asthma or chronic obstructive pulmonary disorder). The form was designed to record the number of patient encounters during a 24-hour period at an individual EC, including residents who were evaluated in health clinics set up inside the EC and those who were referred to an offsite medical facility. Instructions for recording and returning the completed forms were distributed along with the forms to all identified ECs. Health-care personnel were asked to complete the forms whenever possible.

Completed forms were reported by fax, e-mail, or telephone to the ARC disaster headquarters in Baton Rouge, where the Louisiana EC surveillance program was housed. To maximize reporting and the proportion of EC population under surveillance, the surveillance staff attempted to call ECs that had not reported by 11:00 a.m. each day, with higher-census ECs called first. Individual forms were reviewed; if the reviewing medical epidemiologist identified a case or clusters of cases that indicated a possible outbreak, the file was flagged for further investigation.

Data were entered into a database. Initially, communicable disease data were analyzed by comparing daily results with a 3-day moving average. Beginning September 14, data were analyzed in statistical software using the Early Aberration Reporting System (EARS), a program developed by CDC to calculate cumulative sum (CUSUM) scores for each syndromic category (*3*). An elevated CUSUM score suggests a potential outbreak. Elevated CUSUM scores and suspicious cases and clusters identified were investigated by telephone. Those cases that could not be reconciled by telephone were referred to LAOPH for investigation.

The EC surveillance system operated during September 8–October 26. Some ECs had been collecting patient data before the system started and provided these data retrospectively from as early as September 4. The surveillance team received 2,975 surveillance forms reporting on 39,217 patient encounters during its 49 days of operations. At least one surveillance form was received from 297 (61%) of the 489 identified ECs. On average, 33% (range: 4%–64%) of the EC population was under surveillance each day (Figure 1). On average, reports were received from 23% (range: 3%–49%) of the ECs daily.

Influenza-like illness and rash were the most commonly reported communicable disease syndromes, and skin infestation was the largest reported cluster (Table). However, the majority of large clusters were attributed to overreporting. For example, after telephone investigation, a skin infestation cluster of 60 cases was determined to be four confirmed cases of scabies, with the remainder being EC residents treated prophylactically.

Review of individual EC surveillance forms led to 86 follow-up investigations by telephone; of these, 67 (74%) led to further investigation by LAOPH. During September 15–October 26, the EARS syndromic surveillance system produced 194 CUSUM scores that warranted telephone investigation; 46 (15%) were referred for follow-up by LAOPH. Of 56 investigations referred to LAOPH after implementation of

FIGURE 1. Number and percentage of persons under surveillance in hurricane evacuation centers (ECs), by date — Louisiana, September–October 2005

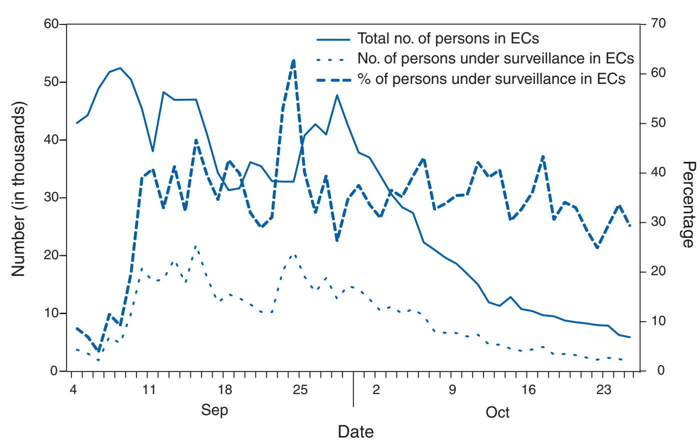


TABLE. Average daily incidence* of communicable disease signs and syndromes among persons in hurricane evacuation centers (ECs), by selected conditions — Louisiana, September–October 2005

Condition	Average daily incidence	Range	Largest reported cluster (no. of cases)
Fever only (>100.4°F [>38°C])	0.5	(0–1.9)	10
Bloody diarrhea	0.1	(0–0.7)	6
Watery diarrhea with or without vomiting	1.8	(0–4.0)	22
Vomiting only (one episode or more)	1.3	(0–6.0)	13
Influenza-like illness	4.7	(0–8.8)	47
Rash	2.7	(0–13.8)	35
Scabies, lice, or other infestation	0.6	(0–3.8)	60
Wound infection	1.6	(0–8.5)	34
Conjunctivitis	0.4	(0–1.8)	10

* Per 1,000 persons.

EARS, 42 (75%) were identified by both an elevated CUSUM score and epidemiologist review of surveillance forms, 10 (18%) were identified by epidemiologist review only, and four (7%) were identified by an elevated CUSUM score only.

Chronic medical conditions accounted for 31% of encounters (Figure 2). Anecdotal reports suggested that many of these encounters involved replacing medications lost during evacuation or reestablishing medical treatments that were interrupted after Katrina. Patient encounters for mental health conditions, either previously diagnosed (e.g., depression) or newly recognized (e.g., anxiety), accounted for 9% of patient encounters.

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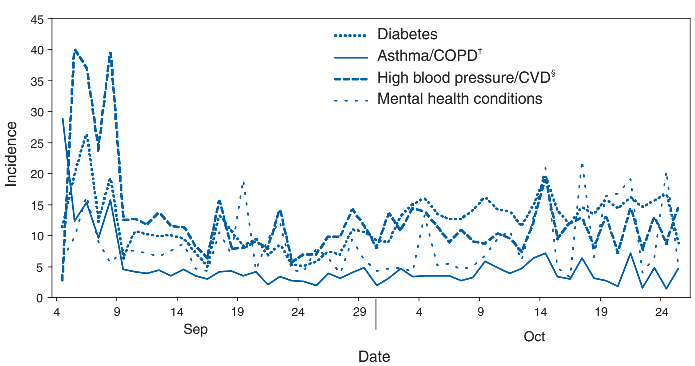
FIGURE 2. Incidence* of patient encounters in hurricane evacuation centers, by date and selected conditions — Louisiana, September–October 2005



* Per 1,000 persons.
† Chronic obstructive pulmonary disease.
§ Cardiovascular disease.

Editorial Note: This report describes the rapid development and implementation of an active surveillance system established in ECs located throughout Louisiana in the aftermath of Hurricane Katrina. This surveillance system directed limited public health resources to investigate and control potential communicable disease outbreaks and monitor health-care needs for selected injuries, mental health conditions, and chronic medical conditions.

Public health responses after hurricanes have previously focused on populations other than those in ECs and have emphasized needs assessments, injury and carbon monoxide poisoning surveillance, and emergency department surveillance (*4,5*). After Hurricane Hugo, needs assessments were conducted in all identified ECs in Puerto Rico, and communicable diseases were identified; however, no ongoing surveillance was conducted (*6*). Active surveillance in a large and changing number of ECs during an extended period has not been described previously. Concurrent with establishing the surveillance system in Louisiana, a needs assessment was conducted in all known ECs.

An existing program designed to conduct routine, active surveillance for disease and injury among military personnel was adapted to conduct surveillance of ECs (*7*). Syndromic surveillance has been implemented to provide early recognition of a bioterrorist attack and in other settings in which an epidemic potential exists (*8*). The surveillance system described in this report represents the first instance of EARS being used to monitor ECs after a natural disaster.

The system enabled surveillance of nearly 64% of the EC population; however, the average daily proportion under surveillance was lower. To maximize the number of ECs contributing data, active follow-up (e.g., telephone calls) of larger-population ECs was conducted with some success, as evidenced by the proportion of the EC population under surveillance (33%), which was consistently higher than the proportion of ECs under surveillance (23%). Several factors might have contributed to the limited surveillance coverage. First, reporting was encouraged but not mandatory. Second, no training was provided to EC staff regarding the recognition or definition of syndromes included in the system. Third, rapid turnover occurred among EC staff. Fourth, many EC personnel staff did not have health-care backgrounds or training. Fifth, at an unknown number of ECs, especially those with a small population, delivery of health-care was not provided or the care was offered offsite. Sixth, the number and location of ECs changed daily, and communication was often difficult in the post-hurricane environment (i.e., telephone lines damaged, cellular telephone systems overloaded, and Internet servers offline). Finally, the system conducted surveillance of patient encounters, which might have overrepresented the prevalence of chronic diseases, such as hypertension and diabetes, for which persons might have multiple visits for monitoring and control. These limitations might have resulted in underreporting, overreporting, and poor quality of reported data. However, the primary purpose of the system was to detect potential outbreaks and to measure the burden of selected chronic conditions among the EC population on the health-care system. The daily incidence of patient encounters with the identified syndromes and conditions provided a useful indicator for these purposes.

In preparation for large-scale disasters that result in numerous displaced persons being housed in crowded conditions, coordinated planning by federal, state, and volunteer agencies for surveillance in ECs is needed. Standard operating procedures for EC surveillance should be developed that include easily adaptable surveillance forms and software to analyze and report data. Disease surveillance should be incorporated into the training offered to persons involved in managing and providing health care in ECs.

The EC surveillance system provided a timely reporting mechanism for EC staff to alert LAOPH about potential outbreaks and concerns related to communicable diseases and other health conditions. The use of similar surveillance in other large-scale disasters that require the sheltering of a large population should be incorporated into state and national response plans.

Acknowledgments

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References

1. Nagin R. Promulgation of emergency orders. New Orleans, LA: City of New Orleans; 2005. Available at http://www.cityofno.com/portal.aspx?portal=1&tabid=43.
2. US Department of Homeland Security, Federal Emergency Management Agency. By the numbers: FEMA recovery update in Louisiana. Available at http://www.fema.gov/news/newsrelease.fema?id=22403.
3. CDC. Early Aberration Reporting System. Atlanta, GA: US Department of Health and Human Services, CDC; 2005. Available at http://www.bt.cdc.gov/surveillance/ears.
4. CDC. Epidemiologic assessment of the impact of four hurricanes—Florida, 2004. MMWR 2005;54:693–7.
5. CDC. Rapid assessment of the needs and health status of older adults after hurricane Charley—Charlotte, Desoto, and Hardee counties, Florida, August 27–31, 2004. MMWR 2004; 53:837–40.
6. CDC. Surveillance of shelters after Hurricane Hugo—Puerto Rico, January 26, 1990. MMWR 1990;39:41–2,47.
7. Office of the Chairman, Joint Chiefs of Staff. Updated procedures for deployment health surveillance and readiness. Joint Staff memorandum. MCM-0006-02. Washington, DC: US Department of Defense; 2002. Available at http://amsa.army.mil/documents/jcs_pdfs/20020201%20mcm-00006-02%20dep%20hlth%20surv%20and%20readiness.pdf.
8. Mandl KD, Overhage JM, Wagner MM, et al. Implementing syndromic surveillance: a practical guide informed by the early experience. J Am Med Inform Assoc 2004;11:141–50.

Injury and Illness Surveillance in Hospitals and Acute-Care Facilities After Hurricanes Katrina and Rita — New Orleans Area, Louisiana, September 25–October 15, 2005

In response to Hurricane Katrina, CDC and the Louisiana Department of Health and Hospitals (LDHH) implemented active surveillance on September 9, 2005, to monitor for injuries and illnesses at functioning hospitals and other acute-care facilities in the greater New Orleans area (Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, and St. Tammany parishes) (*1,2*). On September 20, the system was interrupted because of mandatory evacuation for Hurricane Rita. Surveillance was reestablished on September 24, and repopulation of Orleans Parish began on September 30. This report updates a previous report (*3*) on injuries and illness surveillance during September 8–25, 2005, after Hurricane Katrina and describes frequencies of these events during the days after Hurricane Rita and during repopulation of the city. The results indicate that 17,446 visits occurred at participating facilities during this period. Whereas the proportion of relief workers who had acute respiratory illnesses and unintentional injuries was higher compared with residents, the proportion of falls and motor-vehicle crashes among relief workers was lower. Moreover, although the collection of detailed data using a paper-based active surveillance system was required in response to Hurricane Katrina, the burden of this system required the implementation of an electronic syndromic surveillance system, which is more sustainable.

Data were collected prospectively for the period September 25–October 15, 2005. Eight hospitals and 19 acute-care clinics (i.e., staffed by disaster medical assistance teams [DMATs]) located in greater New Orleans participated in the system; one hospital and four acute-care clinics had been deactivated (i.e. closure of acute-care clinics staffed by DMATs) after Hurricane Rita. Because no access to electronic data was possible, a standardized paper case-report form (CRF) was used to collect patient-specific data regarding demographics, symptoms, clinical impressions, and mechanism of injury. CRFs were completed by health-care providers and entered into a computer database by surveillance staff. Data were analyzed every 24 hours for trends or aberrations in illness and injury categories and for single cases of select illnesses (e.g., rash illness), which were reported to city and state health authorities for investigation (*3*). With the assistance of infection-control professionals, follow-up investigations were conducted for any aberrations detected through daily analysis and review of the data.

Because baseline data were unavailable, the frequency and proportional morbidity of injury and illness categories were reported for September 25–October 15 for all six parishes. Proportion estimates for each illness and injury category were calculated by dividing the number of persons with a specific condition by all persons who reported an illness or injury, respectively. Analyses were stratified by relief worker status, with persons identified as relief workers 1) if they were coded as a relief worker on the CRF, or 2) if they reported to specific facilities that primarily served relief workers.

During September 25–October 15, a total of 17,446 CRFs were recorded, including 8,997 (51.6%) for illness; 4,579 (26.2%) for injury (Tables 1 and 2); and 3,870 (22.2%) for nonacute (e.g., medication refill and follow-up visits) or undetermined reasons. A total of 178 CRFs recorded both injury and illness (1.0%). For patients whose disposition status was known (n = 13,717), a total of 11,169 (81.4%) were discharged, 1,500 (10.9%) were admitted to a hospital, 537 (3.9%) left without medical advice or treatment, 486 (3.5%) were transferred to another facility, and 25 (0.2%) died. The most common reasons for hospital admission were heart disease (26.6%), nondiarrheal gastrointestinal illness (e.g., gastritis or other gastrointestinal condition not including

TABLE 1. Number and percentage of persons with selected illnesses after Hurricane Rita, by residency status — New Orleans, Louisiana area, September 25–October 15, 2005

	Relief worker		Resident		Unknown status		Total	
Illness	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**
Infectious-disease–related								
Skin or wound infection	62	(8.8)	361	(9.9)	459	(9.9)	**882**	**(9.8)**
Acute respiratory infection	179	(25.5)	538	(14.8)	587	(12.6)	**1,304**	**(14.5)**
Diarrhea	18	(2.6)	92	(2.5)	123	(2.6)	**233**	**(2.6)**
Other infectious disease	28	(4.0)	219	(6.0)	223	(4.8)	**470**	**(5.2)**
Noninfectious-disease–related								
Rash	59	(8.4)	170	(4.7)	290	(6.2)	**519**	**(5.8)**
Heat-related	28	(4.0)	86	(2.4)	118	(2.5)	**232**	**(2.6)**
Nondiarrheal gastrointestinal	24	(3.4)	200	(5.5)	253	(5.4)	**477**	**(5.3)**
Renal	11	(1.6)	49	(1.3)	104	(2.2)	**164**	**(1.8)**
Other classifiable illness*	76	(10.8)	758	(20.8)	1,030	(22.1)	**1,864**	**(20.7)**
Other illness†	217	(30.9)	1,166	(32.0)	1,469	(31.6)	**2,852**	**(31.7)**
Total	**702**	**(100.0)**	**3,639**	**(100.0)**	**4,656**	**(100.0)**	**8,997**	**(100.0)**

* Includes diabetes, cardiovascular conditions, obstetric/gynecologic conditions, and dental problems.
† Includes other nonclassifiable illness.

TABLE 2. Number and percentage of persons with selected injuries and exposures after Hurricane Rita, by residency status — New Orleans, Louisiana area, September 25–October 15, 2005

	Relief worker		Resident		Unknown status		Total	
Injury/Exposure	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**
Injury								
Fall	64	(12.0)	449	(25.0)	479	(21.3)	**992**	**(21.7)**
Bite/Sting	52	(9.8)	114	(6.3)	173	(7.7)	**339**	**(7.4)**
Motor-vehicle crash	20	(3.8)	161	(9.0)	235	(10.5)	**416**	**(9.1)**
Intentional injury	11	(2.1)	32	(1.8)	46	(2.0)	**89**	**(1.9)**
Other unintentional injury*	334	(62.7)	934	(51.9)	1,143	(50.8)	**2,411**	**(52.7)**
Undetermined etiology	44	(8.3)	96	(5.3)	158	(7.0)	**298**	**(6.5)**
Toxic exposure/Poisoning								
Carbon monoxide poisoning	1	(0.2)	1	(0.1)	3	(0.1)	**5**	**(0.1)**
Other toxic exposure	7	(1.3)	11	(0.6)	11	(0.5)	**29**	**(0.6)**
Total	**533**	**(100.0)**	**1,798**	**(100.0)**	**2,248**	**(100.0)**	**4,579**	**(100.0)**

* Includes cuts, blunt trauma, burns, and environmental exposures.

gastroenteritis) (12.3%), mental health condition (6.7%), and heat-related illness (6.1%). Of the 25 deaths, 23 occurred in patients who were seen for an illness (92%), and two occurred in patients seen for an injury (8%).

Of 13,576 visits for injuries and illnesses, 1,235 (9.1%) were reported among relief workers (e.g., paid military, paid civilian, self-employed, or volunteer), and 5,437 (40.1%) were among residents (i.e., those who were not relief workers). Relief worker status was unknown for 6,904 (50.9%) events. Among patients with a reported illness (n = 8,997), a higher proportion of acute respiratory events were observed among relief workers (25.5% versus 14.8%) than among residents. Among patients with a reported injury, residents had a higher proportion of falls (25.0% versus 12.0%) and motor-vehicle crashes (9.0% versus 3.8%) and a lower proportion of unintentional injuries (51.9% versus 62.7%), when compared with relief workers. Unintentional injuries included cuts, blunt trauma, burns, and environmental exposures.

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Editorial Note: Active surveillance for injuries and illnesses was rapidly implemented in hospital emergency departments (EDs), community clinics, and temporary acute-care facilities staffed by DMATs in response to Hurricane Katrina. Although resource intensive, operation of this paper-based active surveillance system was useful in providing timely patient-specific information on suspected illnesses, mechanisms of injury, and unmet needs of persons with chronic diseases or other conditions (e.g., medication refills). In addition to the paper-based active surveillance system, infection-control professionals conducted follow-up of cases and were the sole source of information during the evacuation period for Hurricane Rita. Information obtained through surveillance and communication with infection-control professionals aided epidemiologic investigations, provided timely and appropriate public health messages, and facilitated decisions in resource distribution (*4*).

The system identified illness clusters (e.g., rash illness and acute respiratory infection) and increasing injury trends (e.g., motor-vehicle crashes) and disproved unconfirmed illness reports (*3,5*). For example, on September 30, surveillance staff completing CRFs through medical-record abstraction at a single participating ED recognized an increase in rash-illness visits among construction workers. A joint epidemiologic investigation by CDC and the U.S. Army was performed to determine illness etiology, along with the help of infection-control professionals. A cohort of 100 construction workers residing in close quarters in a temporary camp on a U.S. military installation were interviewed for sources of exposure, and environmental samples were collected. Preliminary results indicated multiple etiologies, including arthropod bites and exposure to fiberglass.

Compared with the immediate post-Hurricane Katrina surveillance period (September 8–25, 2005), the proportion of illness and injury events during this post-Hurricane Rita reporting period (September 25–October 15, 2005) was similar (*3*). However, the distribution of specific illness categories changed, with a lower proportion of skin or wound infections (9.8% versus 15.4%) and heat-related illnesses (2.6% versus 5.0%) during the post-Hurricane Rita and repopulation periods, compared with the immediate post-Hurricane Katrina period (*3*). Nonetheless, any changes in proportional morbidity of a specific condition might reflect actual changes or possibly a consequence of change in another condition (e.g., an increase in unintentional injuries).

The findings in this report are subject to at least four limitations. First, illnesses and injuries might have been misclassified, particularly certain conditions (e.g., chest pain) that could be classified under multiple diagnostic categories (*6*). Second, information regarding denominator data (i.e., target population at risk) was limited. Thus, calculating rates for illnesses and injuries was not feasible. Third, because a true baseline was not available for comparison, determining whether observed data reflected actual increases was difficult. Finally, data were incomplete, especially for variables such as residency status, and thus might have introduced bias into these analyses.

The public health response to this major disaster involved the implementation of a paper-based active surveillance system in hospital EDs and acute-care facilities. However, because of the burden imposed on health-care workers and capacity required by public health staff to maintain this system, an ED-based electronic syndromic surveillance system was implemented on October 17, 2005. Six participating EDs in the New Orleans area consented to transmit ED data electronically (e.g., patient demographics and chief complaint) every 24 hours to LDHH, where data were analyzed using the Early Aberration Reporting System (EARS) (*7*). These six hospitals were representative of the community, including public, private, and children's hospitals, whereas the two hospitals not participating were outside of the city and were smaller facilities. Although electronically reported data commonly used in syndromic surveillance are limited and nonspecific (i.e., chief complaint versus detailed clinical and etiologic questions on a CRF), electronic ED-based syndromic surveillance is a more sustainable method to continue long-term surveillance for injury and illness after the initial response phase of a major disaster.

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References

1. CDC. Rapid health response, assessment, and surveillance after a Tsunami—Thailand, 2004. MMWR 2005;54:61–4.
2. CDC. Injuries and illnesses related to Hurricane Andrew—Louisiana, 1992. MMWR 1993;42:242–51.
3. CDC. Surveillance for illness and injury after Hurricane Katrina—New Orleans, Louisiana, September 8–25, 2005. MMWR 2005;54:1018–21.
4. CDC. Carbon monoxide poisoning from hurricane-associated use of portable generators—Florida, 2004. MMWR 2005;54:697–700.
5. CDC. Infectious disease and dermatologic conditions in evacuees and rescue workers after hurricane Katrina—multiple states, August–September 2005. MMWR 2005;54:1–4.
6. Fleischauer AT, Silk BJ, Schumacher M, et al. The validity of chief complaint and discharge diagnosis in emergency department-based syndromic surveillance. Acad Emerg Med 2004;11:1262–7.
7. Hutwagner L, Thompson W, Seeman GM, Treadwell T. The bioterrorism preparedness and response Early Aberration Reporting System (EARS). J Urban Health 2003;80(2 Suppl 1):i89-i96.

Assessment of Health-Related Needs After Hurricanes Katrina and Rita — Orleans and Jefferson Parishes, New Orleans Area, Louisiana, October 17–22, 2005

Residents returning home after natural disasters face numerous physical, mental, and social challenges (*1–3*). Seven weeks after Hurricane Katrina struck the New Orleans area in Louisiana, causing levees to break and large sections of the city to flood, local authorities had reopened most of Jefferson Parish and much of Orleans Parish to residents. To identify health-related needs among returning parish residents, state and local public health and mental health agencies and CDC conducted an assessment of living conditions, access to basic services, and physical and mental health status. This report describes the results of that assessment, which determined that, approximately 7 weeks after Hurricane Katrina made landfall, 20.2% of housing units lacked water, 24.5% had no electricity, 43.2% had no telephone service, and 55.7% of households contained one or more members with a chronic health condition. In addition, 49.8% of adults exhibited levels of emotional distress, indicating a potential need for mental health services. As a result of these findings, the Louisiana Office of Mental Health established a crisis-counseling program to provide interventions and support to hurricane survivors. Community assessments after natural disasters can identify health-related needs and guide public health interventions.

During October 17–22, 2005, survey teams interviewed residents in Orleans Parish, which has the same boundaries as the city of New Orleans, and Jefferson Parish, a suburban area south and west of New Orleans. A total of 45 census blocks were selected by the cumulative sum method, using the total number of housing units in each census block (*4*). Blocks with 20 or fewer housing units were excluded to increase the efficiency of the assessment. A cluster of four waypoints (i.e., latitude and longitude) in each of the 45 census blocks was randomly generated. Survey teams used global positioning system (GPS) instruments to navigate to the location of each of the 180 waypoints and selected the nearest residence. At multifamily dwellings, teams randomly selected a floor and unit as a starting point. If unable to complete an interview at the starting point, teams noted the reason (e.g., residence destroyed, unoccupied, or resident refused to be interviewed) and proceeded in a systematic manner until one interview was completed. Teams then traveled to the next waypoint within the cluster. Teams continued until they had completed four interviews per cluster or until all residences within the cluster were exhausted. Clusters were visited at most twice to obtain four interviews.

To one adult (aged ≥18 years) resident in each household, interviewers administered a questionnaire concerning basic utilities and services, safety of the home, damage to property and belongings, presence of new persons in the home, health status of household members, and current problems of household members. If more than one adult resident was present, one was chosen at random to represent the household and complete the interview. In addition, each respondent completed an individual assessment that included SPRINT-E, an 11-question postdisaster assessment and referral tool. SPRINT-E contains the Short Post Traumatic Stress Disorder (PTSD) Rating Interview (SPRINT), an eight-question measure that has been determined to have good reliability and convergent validity with other PTSD diagnostic and psychological functioning measures in both clinical trials and population surveys (*5*). SPRINT-E incorporates three additional questions regarding depression and impaired functioning that were

TABLE. Percentage of homes with health-related consequences after Hurricane Katrina — Orleans and Jefferson Parishes, New Orleans area, Louisiana, October 17–22, 2005

	Overall		Orleans Parish		Jefferson Parish	
Consequences	%	(95% CI*)	%	(95% CI)	%	(95% CI)
Utilities/Services						
No electricity	24.5	(0.0–51.6)	65.5	(28.5–100.0)	0.6	(0.0–2.1)
No gas	31.2	(7.1–55.3)	70.4	(37.2–100.0)	8.4	(0.0–20.1)
No running water	20.2	(0.0–47.4)	53.8	(9.2–98.4)	0.6	(0.0–2.1)
No working toilet	31.4	(6.3–56.5)	57.9	(15.5–100.0)	16.1	(0.0–39.9)
No telephone service	43.2	(22.5–63.8)	76.8	(51.4–100.0)	23.6	(12.2–35.1)
No garbage removal	29.4	(2.5–56.4)	69.8	(36.1–100.0)	6.0	(0.0–12.4)
Property/Belongings						
No damage	3.3	(0.0–6.8)	4.1	(0.0–10.0)	2.9	(0.0–7.5)
Little damage	12.7	(4.6–20.8)	6.7	(0.0–14.9)	16.2	(3.8–28.6)
Moderate damage	30.4	(18.0–42.8)	42.5	(24.5–60.5)	23.4	(11.8–35.0)
Much damage	15.6	(0.1–31.1)	4.0	(0.0–9.2)	22.3	(1.3–43.3)
Very much damage	38.0	(24.8–51.2)	42.7	(26.2–59.1)	35.3	(16.2–54.4)
Home not safe	41.9	(25.7–58.1)	51.9	(40.1–63.8)	36.1	(8.2–63.9)
Illness or injury†						
Preexisting chronic illness	55.7	(40.1–71.2)	60.4	(44.5–76.4)	52.9	(30.6–75.2)
Injury caused by hurricane	3.7	(0.3–7.0)	3.6	(0.0–8.5)	3.7	(0.0–8.5)
Illness since hurricane	52.5	(42.1–62.8)	41.3	(28.3–54.4)	58.9	(46.8–71.1)
Medical care/Food						
Problems obtaining medical care	23.3	(12.2–34.4)	32.9	(13.9–51.9)	17.8	(7.7–27.9)
Problems obtaining medications	9.4	(1.5–17.3)	7.2	(0.0–15.2)	10.7	(0.0–21.8)
Shortage of food	4.2	(0.8–7.5)	2.5	(0.0–5.8)	5.1	(0.0–10.5)

* Confidence interval.
† In a household member.

added for use in Project Liberty, the New York crisis-counseling program initiated after the September 11, 2001, terrorist attacks. In New York, responses to SPRINT-E were determined strongly related to perceived need for treatment: 70% of respondents scoring three or more high responses (4 or 5 on a 5-point scale) and 85% of those scoring seven or more high responses out of 11 questions accepted referral for professional mental health services (*6*). For this assessment, three and seven high responses were used to estimate possible and probable needs, respectively, for mental health assistance. Each survey team included a local mental health professional to provide support and referrals if desired. Teams also had access to two onsite psychiatrists and one clinical psychologist if acute mental health needs were identified in the field or among study personnel. Statistical analyses accounted for the cluster design, and responses were weighted on the basis of sampling probabilities.

A total of 24 census blocks were selected in Orleans Parish and 21 in Jefferson Parish. Survey teams contacted 224 persons and successfully interviewed 166 (74%); 58 persons refused. Eighty-four interviews were conducted in Jefferson Parish and 82 in Orleans Parish. No interviews could be completed in two Orleans parish blocks; one had been destroyed and the other converted to commercial use. In four other blocks in Orleans Parish, survey teams completed fewer than four interviews because few residents were encountered. Overall, fewer residents had returned to the selected blocks in Orleans Parish than to those in Jefferson Parish.

A substantial percentage of housing units did not have basic utilities and services (Table). This varied markedly between Jefferson and Orleans Parishes, reflecting a greater level of damage to the infrastructure in Orleans Parish. In Orleans Parish, more than 50% of housing units lacked running water and working toilets, more than 60% lacked electricity and garbage removal service, and more than 70% lacked gas and telephone service. In Jefferson Parish, 23.5% of homes lacked telephone service and 16.1% reportedly lacked working toilets, although this was primarily the result of needed repair work not lack of water service. Overall, 41.9% (95% confidence interval [CI] = 25.7%–58.1%) of respondents did not consider their homes safe at the time of the interview, including 51.9% (CI = 40.1%–63.8%) in Orleans Parish and 36.1% (CI = 8.2%–63.9%) in Jefferson Parish. An estimated 25.5% (CI = 7.2%–43.8%) of households included additional persons after the hurricanes, including 31.7% (CI = 4.3%–59.1%) in Jefferson Parish and 14.8% (CI = 0.0–33.9%) in Orleans Parish. In 1 month, 65.9% (CI = 7.2%–43.8%) of persons expected to be living in the housing unit where they were interviewed.

Overall, 55.7% (CI = 40.1%–71.2%) of households included at least one member with a preexisting chronic health condition; 52.5% (CI = 42.1%–62.8%) included a person that had been ill in the 7–8 weeks since Hurricane Katrina. Problems obtaining medical care and prescription medications were reported in 23.3% (CI = 12.2%–34.4%) and 9.4% (CI = 1.5%–17.3%) of households, respectively. Problems obtaining medical care included closure of the usual health-care provider site and insurance/financial concerns. Problems obtaining medications included loss of or difficulty obtaining prescriptions, insurance/financial concerns, and pharmacy closure. A substantial proportion of adults had lost their means of employment since Katrina; 72.8% (CI = 60.2%–85.3%) reported being employed before Katrina, compared with 34.5% (CI = 14.1%–54.9%) at the time of the interview.

Respondents frequently identified emotional concerns as current problems in their household: feeling isolated (42.8%), feeling crowded (38.1%), feeling overwhelmed as a parent (23.6%), and family conflict (18.4%). According to interview responses, an estimated 25.9% (CI = 21.2%–30.5%) of households contained one or more members in need of counseling services, but only 1.6% (CI = 0.0%–3.2%) contained a person who had used counseling services since the hurricane. However, on the SPRINT-E assessment, 49.8% (CI = 37.3%–62.2%) of respondents scored three or more high responses, indicating possible need for mental health services. In addition, 33.1% (CI = 17.7%–48.6%) scored seven or more high responses, indicating probable need for mental health services. These percentages did not vary significantly between Jefferson and Orleans parishes. Most respondents identified financial concerns (34.7%), housing (24.9 %), or emotional support (8.3%) as their family's greatest need.

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Editorial Note: This assessment documents that, approximately 7 weeks after Hurricane Katrina struck the New Orleans area, most residential areas in Orleans Parish were still without basic public utilities and services such as water, electricity, gas, and garbage removal. Conversely, most utilities had been restored in Jefferson Parish, although some homes still lacked telephone service. The status of Jefferson Parish 7 weeks after the hurricane resembled that reported for other U.S. communities more than 2 weeks after disasters (*7,8*), whereas the basic environmental health needs in Orleans Parish were more similar to the needs in other locations in the immediate aftermath of major hurricanes (*9,10*). In both parishes, the majority of households contained one or more person with a chronic illness, indicating a need for adequate health care and pharmacy services for returning residents.

Major population disruption existed at the time of this assessment. Approximately one fourth of households included a person not present in the household before Katrina struck, and many persons returning to the area were still unable to live in their homes. Many respondents were unemployed and identified emotional concerns among members of their family. Nearly half of the respondents had high levels of distress/dysfunction, indicating likely needs for mental health services. However, only one fourth said a household member needed counseling services, and few had used any counseling services. Changed living environments and disruption of preexisting social networks can result in various mental health problems (*1–3,7*). Mental health interventions should be included within a public health strategy for rebuilding community services and civic networks. Optimal use of mental health services might require community outreach and education activities after natural disasters; combining mental health services with family medical care and social services might reduce stigma associated with mental health services and promote their use.

The findings in this report are subject to at least four limitations. First, no stable population estimates existed; survey design was based on preexisting population distribution. Second, findings likely underestimated the severity of conditions because some heavily damaged areas were not sampled. Third, vacant homes were replaced by households with a person present, creating a bias toward persons more likely to be at home (e.g., retired or elderly). Finally, the SPRINT-E assessment has been evaluated as a referral tool by crisis counselors in a clinical setting but has not been evaluated for use 7 weeks after a natural disaster in a field environment; responses and interpretations might vary. However, the original SPRINT, on which SPRINT-E was based, demonstrated strong validity in both clinical and community populations (*5*).

The results of this assessment were provided to the Louisiana Office of Mental Health within 2 weeks of initiation and were used to guide strategies for providing medical, social, and mental health services. Crisis-counseling services were initiated that, when integrated with social service interventions, might begin to restore stability to disrupted social networks. As both the current conditions and resident population continue to change, ongoing assessment will be required to track evolving health needs and evaluate the effectiveness of implemented programs.

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References

1. Norris FH, Friedman MJ, Watson PJ, Byrne CM, Diaz E, Kaniasty K. 60,000 disaster victims speak: Part I. An empirical review of the empirical literature, 1981–2001. Psychiatry 2002;65:207–39.
2. Norris FH, Friedman MJ, Watson PJ. 60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research. Psychiatry 2002;65:240–60.

3. Ursano RJ, Fullerton CS, McCaughey BG. Individual and community responses to trauma and disaster: the structure of human chaos. In: Ursano RJ, Fullerton CS, McCaughey BG, eds. Trauma and disaster. Cambridge, United Kingdom: Cambridge University Press; 1994:3–27.
4. Lohr SL. Cluster sampling with equal probabilities. In: Sampling: design and analysis. Pacific Grove, CA: Duxbury Press; 1999:131–78.
5. Connor K, Davidson J. SPRINT: A brief global assessment of posttraumatic stress disorder. Int Clin Psychopharmacol 2001;16:279–84.
6. Norris F, Donahue S, Felton C, Watson P, Hamblen J, Marshall R. Making and monitoring referrals to enhanced services: a psychometric analysis of Project Liberty's adult enhanced services referral tool. White River Junction, VT: National Center for Post Traumatic Stress Disorder; 2005.
7. CDC. Community needs assessment of Lower Manhattan residents following the World Trade Center attacks—Manhattan, New York City, 2001. MMWR 2002;51(special issue):10–3.
8. CDC. Rapid assessment of the needs and health status of older adults after Hurricane Charley—Charlotte, DeSoto, and Hardee counties, Florida, August 27–31, 2004. MMWR 2004;53:837–40.
9. CDC. Rapid community health and needs assessments after Hurricanes Isabel and Charley—North Carolina, 2003–2004. MMWR 2004;53:840–2.
10. Hlady WG, Quenemoen LE, Armenia-Cope RR, et al. Use of a modified cluster sampling method to perform rapid needs assessment after Hurricane Andrew. Ann Emerg Med 1994;23:719–25.

Health Concerns Associated with Mold in Water-Damaged Homes After Hurricanes Katrina and Rita — New Orleans Area, Louisiana, October 2005

After Hurricanes Katrina and Rita made landfall on August 29 and September 24, 2005, respectively, large sections of New Orleans (Orleans Parish) and the three surrounding parishes (Jefferson, Plaquemines, and St. Bernard) were flooded for weeks, leading to extensive mold growth in buildings. As residents reoccupied the city, local health-care providers and public health authorities were concerned about the potential for respiratory health effects from exposure to water-damaged homes. On October 6, CDC was invited by the Louisiana Department of Health and Hospitals (LDHH) to assist in documenting the extent of potential exposures. This report summarizes the results of that investigation, which determined that 46% of inspected homes had visible mold growth and that residents and remediation workers did not consistently use appropriate respiratory protection. Public health interventions should emphasize the importance of safe remediation practices and ensure the availability of recommended personal protective equipment.

Housing Assessment for Mold and Mold Exposure

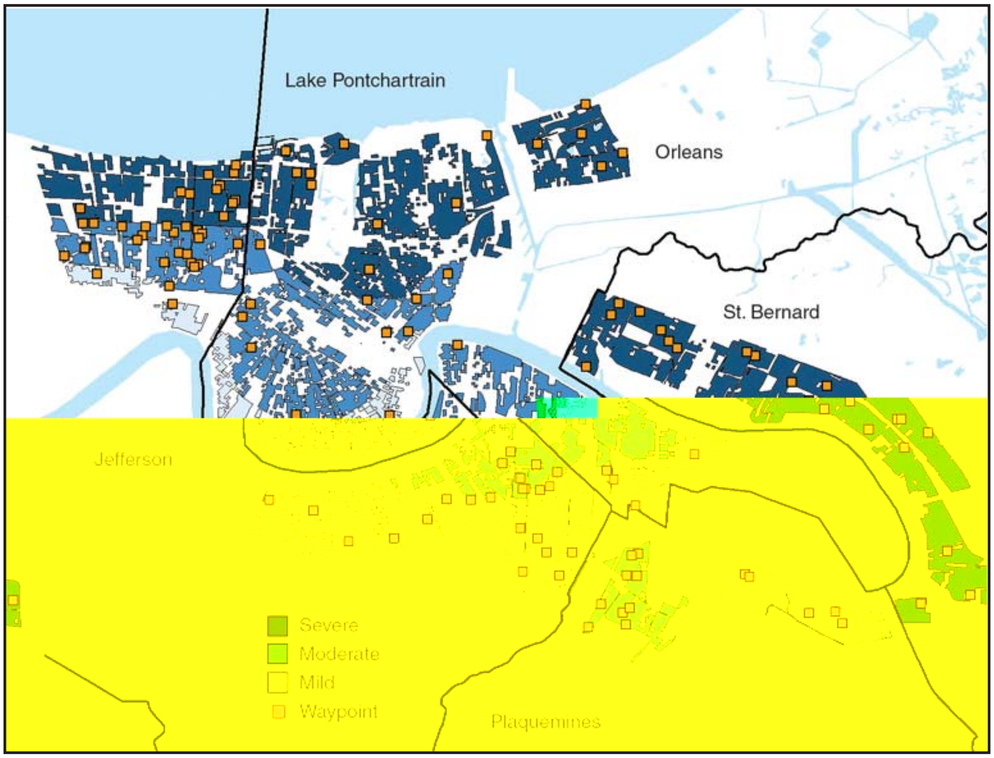
During October 22–28, a team representing CDC and LDHH assessed a cross-section of the 440,269 households in the four-parish area (on the basis of the 2000 U.S. Census). Sampling was restricted to blocks with more than 20 housing units (areas with fewer housing units are likely to be sparsely populated and to contain mostly industrial buildings or parks) and areas where residents were permitted entry, yielding 239,949 potential households (Figure). Blocks were classified into three strata (mild, moderate, and severe) on the basis of Federal Emergency Management Agency flood and damage maps. Geographic information system (GIS) mapping software was used to select a random number of waypoints (latitude and longitude) proportionate for each stratum (*1*). A sample size of 88 homes was required to obtain estimates within 10% accuracy. Global positioning system (GPS) units were used to locate each waypoint as the random starting point to locate the nearest home at or north of the waypoint.

In the sampled areas, 141 homes were found to be occupied. A questionnaire on demographics, home occupancy, and participation in remediation activities was administered to one consenting adult from 113 of the 141 homes in which someone was in the home. One assessment was abandoned for safety reasons, resulting in a final sample of 112. A standard instrument designed for this study and pilot-tested with occupants of flood-damaged homes was used to visually assess water damage and mold growth. Air samples were collected at a subset of 20 homes; samples were collected for 36–144 minutes with 0.4 μm, 37 mm polycarbonate closed-faced cassettes at 3 L/min. The filters were analyzed for culturable fungi, (1→3,1→6)-β-D-glucan (a cell-wall component of many fungi) (*2*), and endotoxin (a cell-wall component of gram-negative bacteria) (*3*).

Of 112 homes inspected (Table), flood levels had been high (>6 feet) in 21 (18.8%) homes, medium (3–6 feet) in 19 (17.0%), and low (<3 feet) in 72 (64.3%) (including 44 [39.3%] homes with no flooding). Seventy-six (67.9%) homes had roof damage with water leakage. Visible mold growth occurred in 51 (45.5%) homes, and 19 (17.0%) had heavy mold coverage (>50% coverage on interior wall of most-affected room). The distribution of homes with heavy mold coverage was 10 (52.6%), seven (36.8%), and two (10.5%) in high, medium, and low flood areas, respectively.

Participants reported being indoors doing heavy cleaning an average of 13 hours since the hurricanes (range: 0–84 hours) and 15 hours doing light cleaning (range: 0–90 hours). Sixty-eight (60.7%) participants reported inhabiting their homes

FIGURE. Map of four-parish area with three-strata sampling area used for housing assessments, by damage level* — New Orleans area, Louisiana, October 2005



* Blocks were classified into three strata (mild, moderate, and severe) on the basis of Federal Emergency Management Agency flood and damage maps.

TABLE. Flood level, roof damage, and visible mold growth observed in 112 inspected homes — New Orleans area, Louisiana, October 2005

	No.*	(%)
Flood level		
Low (<3 feet)†	72	(64.3)
Medium (3–6 feet)	19	(17.0)
High (>6 feet)	21	(18.8)
Roof damage with water leakage	76	(67.9)
Visible mold growth	51	(45.5)
Heavy§	19	(17.0)
Low flood level	2	(1.8)
Medium flood level	7	(6.3)
High flood level	10	(8.9)

* Denominators ranged from 108 to 112 because of incomplete data.
† Includes 44 homes (39%) without any flooding.
§ Defined as >50% mold coverage on interior wall of most-affected room.

overnight for an average of 25 (standard deviation: ±13.7) nights since the hurricanes.

Indoor air samples were collected nonrandomly at 20 (16%) homes; outdoor air samples were also collected for 11 of these homes. Predominant fungi indoors and outdoors were *Aspergillus* spp. and *Penicillium* spp. Geometric mean (1→3,1→6)-β-D-glucan air levels were 1.6 $\mu g/m^3$ (geometric standard deviation [GSD]: 4.4) indoors and 0.9 $\mu g/m^3$ (GSD: 2.0) outdoors; endotoxin levels were 23.3 EU/m^3 (GSD: 5.6) indoors and 10.5 EU/m^3 (GSD: 2.5) outdoors. Glucan and endotoxin levels were significantly correlated (correlation coefficient $r = 0.56$; $p = 0.0095$). The geometric mean glucan and endotoxin levels were higher indoors compared with outdoors but the differences were not statistically significant.

Survey of Residents and Workers Regarding Mold

During October 18–23, the assessment team conducted interviews with residents and remediation workers in recently flooded communities at three sites (i.e., the FEMA Disaster Recovery Center in St. Bernard, a home improvement store in West Jefferson, and a grocery store in East Jefferson) and at worker gathering places (e.g., work sites, campsites, and social venues). A convenience sample of residents and remediation workers with potential exposure to mold were asked questions about their knowledge, attitudes, and practices regarding mold; nonidentifying demographic information was also collected. A total of 332 persons (workers and residents combined) were approached for interviews; 235 (70.1%) participated. Interviews were conducted in English and Spanish. A display of respirators was used for reference during the interviews.

Of 159 residents interviewed, 82 (51.6%) were male; the overall mean age was 51 years (range: 18–81 years). Nearly all (96.2%) residents responded affirmatively to the question, "Do you think mold can make people sick?" One hundred eight (67.9%) correctly identified particulate-filter respirators as appropriate respiratory protection for cleaning of mold. Sixty-seven (42.1%) had cleaned up mold; of these, 46 (68.7%) did not always use appropriate respirators. Reasons for not using respirators included discomfort (10 [21.7%] respondents) and lack of availability (10 [21.7%]). For public communications about potential risks from exposure to mold and the use of personal protective equipment, 139 (87.4%) respondents recommended the use of television or radio.

Seventy-six persons who self-identified as remediation workers were interviewed. Of these, 14 (18.4%) were self-employed, and 62 (81.6%) worked for a company doing remediation. Of the 76 workers, 70 (92.1%) were male; the mean age of respondents was 33 years (range: 18–57 years); 40 (52.6%) spoke only Spanish. Seventy-two (94.7%) thought mold causes illness. Sixty-five (85.5%) correctly identified particulate-filter respirators as appropriate protection for cleaning of mold. Sixty-nine (90.7%) had already participated in mold remediation activities at the time of the interview. Of these, 34 (49.3%) had not been fit tested for respirator use and 24 (34.8%) did not always use appropriate respirators; 13 (54.2%) cited discomfort as the reason for not using respirators. For worker communications about potential risks from exposure to mold and the use of personal protective equipment, 36 (47.4%) recommended use of television or radio and 17 (22.4%) recommended communication through employers.

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Editorial Note: In 2004, the Institute of Medicine (IOM) reviewed the literature regarding health outcomes related to damp indoor spaces (*4*). In addition to the risk for opportunistic fungal infections in immunocompromised persons, IOM found sufficient evidence for an association between both damp indoor spaces and mold and upper respiratory symptoms (nasal congestion and throat irritation) and lower respiratory symptoms (cough, wheeze, and exacerbation of asthma). The findings of this report indicate that, in the New Orleans area post-hurricane, indoor environmental conditions and personal practices provided exposures that potentially put residents and remediation workers at risk for these negative health effects.

This study used markers that have been used in exposure assessments in water-damaged buildings, including cultured fungi and microbial structural components (bacterial endotoxins and fungal glucans). Interpreting the significance of these measures is not straightforward, and health-based indoor exposure limits for these compounds have not been established (*4,5*). Previous measurements of airborne endotoxin in homes have averaged <1.0 EU/m^3, with indoor levels generally lower than outdoor ones (*6*). In post-hurricane New Orleans homes, mean indoor endotoxin levels were more than 20 times higher than the 1.0 EU/m^3 average, with an inversion of the expected indoor-outdoor relationship. This mean level exceeds that associated with respiratory symptoms in one study (*7*). In five New Orleans homes, the measured indoor endotoxin levels were comparable to those of certain industrial settings in which declines in pulmonary function have been demonstrated (*8*).

Exposure to (1→3)-β-D-glucan, a cell-wall component not specific to fungi, has also been linked to respiratory health effects in certain studies (*5*). In this assessment, a newer assay for (1→3,1→6)-β-D-glucan (*2*), a different glucan with higher specificity for fungi, yielded higher indoor than outdoor levels in New Orleans homes. Although differences in the two glucan assays preclude direct comparisons, the findings of this assessment indicated that mold growth inside homes was likely at or above a level sometimes reported to be associated with certain health effects (e.g., cough; airway hyper-reactivity; influenza-like symptoms; ear, nose, and throat irritation; decreased lung function; and skin rash) (*5*).

In October 2005, the CDC Mold Work Group published guidelines for remediation workers and the public on preventing mold-associated illness in areas affected by hurricane-related flooding (*9*). Recommendations included avoiding exposure when possible and using a particulate-filter respirator during activities that create mold-contaminated dust. Despite their awareness of health effects associated with mold, one third of a convenience sample of residents could not identify an appropriate respirator, and the majority of those participating in mold-remediation activities reported doing so without consistently using respiratory protection. Although the majority of remediation workers reported consistently using an appropriate respirator, one third still failed to do so. Even those workers who used respiratory protection consistently might not have benefited from its full effectiveness; only half of the workers reported having had a respirator fit test, an Occupational Safety and Health Administration (OSHA) requirement (*10*).

The findings of this report are subject to at least three limitations. First, because homes at which persons were present likely had less water damage and mold than homes that were unoccupied at the time of the study, this study might have underestimated the extent of mold-contaminated homes. Second, air-sampling results might not be representative because a convenience sample was used and because sampling occurred after six homes had been remediated. Finally, residents and workers surveyed were not randomly selected and might not be representative of their respective populations.

This report provides an early assessment of the impact of water damage and mold growth in the New Orleans area after Hurricanes Katrina and Rita. This assessment benefited from the random sampling method used to assess homes and the survey of remediation workers, a group with high potential for exposures. Results of this assessment should be used to guide future public health interventions in this setting and after other catastrophic floods. Specifically, measures to increase awareness of appropriate respiratory protection among the public are warranted. This could be carried out via traditional media announcements and educational sessions for employees of home improvement stores and other commercial entities that sell respirators. Public availability of particulate-filter respirators might be increased through partnerships with respirator manufacturers. For remediation workers, the importance of appropriate respiratory protection should be emphasized via traditional media announcements and/or employers, with messages in both English and Spanish. Fit testing should occur according to the OSHA Standard (*10*); making such services available to small or individual operators might increase compliance with requirements. Given the extent of flooding in the New Orleans area, exposure to water-damaged buildings and mold will likely be an ongoing problem; investigation of sentinel clinical case reports might enable primary and secondary prevention of exposure-related respiratory disease.

Acknowledgments

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References

1. Jenness J. Random point generator Version 1.28 for ArcView 3.x. Flagstaff, AZ: Jenness Enterprises; 2004. Available at http://www.jennessent.com/arcview/random_points.htm.
2. Blanc PD, Eisner MD, Katz PP, et al. Impact of the home indoor environment on adult asthma and rhinitis. J Occup Environ Med 2005;47:362–72.
3. Vojta PJ, Friedman W, Marker DA, et al. First National Survey of Lead and Allergens in Housing: survey design and methods for the allergen and endotoxin components. Environ Health Perspect 2002;110:527–32.
4. Institute of Medicine. Damp indoor spaces and health. Washington, DC: National Academies Press; 2004.
5. Douwes J. (1 → 3) Beta-D-glucans and respiratory health: a review of the scientific evidence. Indoor Air 2005;15:160–9.
6. Park JH, Spiegelman DL, Burge HA, Gold DR, Chew GL, Milton DK. Longitudinal study of dust and airborne endotoxin in the home. Environ Health Perspect 2000;108:1023–8.
7. Reynolds SJ, Black DW, Borin SS, et al. Indoor environmental quality in six commercial office buildings in the midwest United States. Appl Occup Environ Hyg 2001;16:1065–77.
8. Douwes J, Pearce N, Heederik D. Does environmental endotoxin exposure prevent asthma? Thorax 2002;57:86–90.
9. CDC Mold Work Group. Prevention strategies and possible health effects in the aftermath of Hurricanes Katrina and Rita. Atlanta, GA: US Department of Health and Human Services, CDC; October 2005. Available at http://www.bt.cdc.gov/disasters/mold/report/pdf/2005_moldreport.pdf.
10. Occupational Safety and Health Administration. Fit testing procedures (mandatory). Washington, DC: US Department of Labor, Occupational Safety and Health Administration; 2004. Available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9780.

High Levels of Adamantane Resistance Among Influenza A (H3N2) Viruses and Interim Guidelines for Use of Antiviral Agents — United States, 2005–06 Influenza Season

On January 17, this report was posted as an MMWR Dispatch *on the* MMWR *website* (http://www.cdc.gov/mmwr).

An estimated 200,000 persons are hospitalized each year and 36,000 persons die from complications of influenza in the United States (*1,2*). The cornerstone of influenza prevention is annual vaccination. However, antiviral drugs are an important adjunct to vaccination for influenza prevention and control. Two classes of antiviral medications are available currently: adamantanes or M2 ion channel inhibitors (i.e., amantadine and rimantadine) and neuraminidase inhibitors (i.e., oseltamivir and zanamivir). The adamantanes are active against only influenza A viruses and are used for both treatment and chemoprophylaxis of influenza A, whereas the neuraminidase inhibitors are active against both influenza A and B viruses. Zanamivir is not approved for chemoprophylaxis of influenza in the United States. This report describes new findings regarding the resistance to adamantanes of influenza A viruses currently circulating in the United States and provides interim recommendations that these drugs not be used during the remainder of the 2005–06 influenza season. Amantadine also is used to treat symptoms of Parkinson disease and may continue to be used for this indication.

Resistance of influenza A viruses to adamantanes can occur spontaneously or emerge rapidly during treatment (*3*). A single point mutation in the codons for amino acids at positions 26, 27, 30, 31, or 34 of the M2 protein can confer cross-resistance to both amantadine and rimantadine (*4*). Neither replication, transmission, nor virulence of adamantane-resistant influenza A viruses are impaired by the point mutations conferring resistance (*5*). A recent report on the global prevalence of adamantane-resistant influenza A viruses indicated a significant increase of drug resistance, from 1.8% during the 2001–02 influenza season to 12.3% during the 2003–04 season (*4*). In the United States, the frequency of adamantane resistance increased from 1.9% during the 2003–04 influenza season to 11% during the 2004–05 season (CDC, unpublished data, 2005). In contrast to adamantane resistance, neuraminidase inhibitor resistance remains rare worldwide (*6*).

The World Health Organization (WHO) Collaborating Laboratories and National Respiratory and Enteric Virus Surveillance System (NREVSS) laboratories in the United States submit influenza isolates to CDC as part of routine virologic surveillance. A subset of these isolates is further characterized at CDC, which includes testing for antiviral susceptibility. Although isolates are submitted by all U.S. states and territories, they are not necessarily a representative sample of all influenza viruses circulating in the United States.

Since the beginning of the 2005–06 influenza surveillance season, WHO and NREVSS laboratories have tested a total of 38,932 specimens for influenza viruses; 1,557 (4.0%) tested positive. Among the 1,557 influenza viruses, 1,499 (96.3%) were influenza A viruses, and 58 (3.7%) were influenza B viruses. A total of 765 (51.0%) of the 1,499 influenza A viruses have been subtyped; 760 (99.3%) were influenza A (H3N2) viruses, and five (0.7%) were influenza A (H1N1) viruses. During October 1, 2005–January 14, 2006, a total of 123 influenza A viruses collected from 23 states were tested at CDC for adamantane resistance. Among the 120 influenza A (H3N2) viruses tested, 109 (91%) demonstrated the S31N substitution in the M2 protein that confers resistance to amantadine and rimantadine. Conventional sequencing on a subset of 20 viruses confirmed this substitution. Among the three influenza A (H1N1) viruses tested, none contained any mutations associated with resistance. As of January 14, all U.S. influenza viruses screened for antiviral resistance at CDC had demonstrated susceptibility to neuraminidase inhibitors. Procedures for virus propagation, RNA extraction, and pyrosequencing for adamantane resistance have been described previously (*4*).

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Editorial Note: The high levels of resistance to amantadine and rimantadine detected among influenza A viruses tested during this season necessitate an interim change in recommendations for the use of these drugs. On the basis of available antiviral testing results, CDC recommends that neither amantadine nor rimantadine be used for the treatment or chemoprophylaxis of influenza A infections in the United States for the remainder of the 2005–06 influenza season. During this period, oseltamivir or zanamivir should be prescribed if an antiviral medication is indicated for the treatment of influenza, or oseltamivir should be prescribed for chemoprophylaxis of influenza. On January 14, 2005, a CDC Health Alert* with these recommendations was sent via the Health Alert Network (HAN) to state and local health officers, public information officers, epidemiologists, HAN coordinators, and clinician organizations.

Testing of influenza isolates for resistance to antivirals will continue throughout the 2005–06 influenza season, and recommendations will be updated as needed. These findings of adamantane resistance pertain to human influenza A (H3N2) viruses and not to avian influenza A (H5N1) viruses isolated from birds or humans in Asia or Europe.

Recommendations for the use of the oseltamivir and zanamivir have not changed. The Food and Drug Administration (FDA) recently extended chemoprophylaxis approval of oseltamivir to include children aged 1–12 years; previously, chemoprophylaxis approval had been limited to children aged ≥13 years (*7*).

When administered for treatment within 48 hours of illness onset, neuraminidase inhibitors can reduce the duration of uncomplicated influenza A and B illness by approximately 1 day when compared with placebo (*8*). Persons at high risk for serious complications from influenza can benefit most from neuraminidase inhibitors (*8*). CDC recommends that neuraminidase inhibitors be used as treatment for any person experiencing a potentially life-threatening influenza-related illness and for persons at high risk for serious complications from influenza. CDC recommends that oseltamivir be used as chemoprophylaxis for 1) persons who live or work in institutions caring for persons at high risk for serious complications from influenza infection in the event of an institutional outbreak and 2) persons at high risk for serious influenza complications if they are likely to be exposed to others infected with influenza. The FDA-approved indications for the use of neuraminidase inhibitors are available at http://www.cdc.gov/flu/professionals/treatment.

* Available at http://www.cdc.gov/flu/han011406.htm.

Annual influenza vaccination remains the primary means of preventing morbidity and mortality associated with influenza. Because the influenza season has only recently begun in many areas of the United States, persons for whom influenza vaccination is recommended should still be vaccinated (*9*).

Additional information regarding the prevention and control of influenza is available at http://www.cdc.gov/flu. New information will be provided at this website as it becomes available.

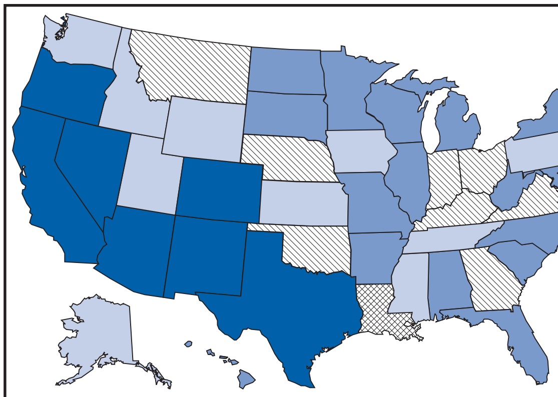
References

1. Thompson WW, Shay DK, Weintraub E, et al. Influenza-associated hospitalizations in the United States. JAMA 2004;292:1333–40.
2. Thompson WW, Shay DK, Weintraub E, et al. Mortality associated with influenza and respiratory syncytial virus in the United States. JAMA 2003;289:179–86.
3. Belshe RB, Smith MH, Hall CB, Betts R, Hay AJ. Genetic basis of resistance to rimantadine emerging during treatment of influenza virus infection. J Virol 1988;62:1508–12.
4. Bright RA, Medina MJ, Xu X, et al. Incidence of adamantane resistance among influenza A (H3N2) viruses isolated worldwide from 1994 to 2005: a cause for concern. Lancet 2005;366:1175–81.
5. Sweet C, Hayden FG, Jakeman KJ, Grambas S, Hay AJ. Virulence of rimantadine-resistant human influenza A (H3N2) viruses in ferrets. J Infect Dis 1991;164:969–72.
6. Moscona A. Neuraminidase inhibitors for influenza. N Engl J Med 2005;353:1363–73.
7. Food and Drug Administration. FDA news: FDA approves Tamiflu for prevention of influenza in children under age 12. Rockville, MD: Food and Drug Administration; 2005. Available at http://www.fda.gov/bbs/topics/news/2005/new01285.html.
8. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2005;54(No. RR-8).
9. CDC. Update: influenza activity—United States, December 25–31, 2005. MMWR 2006;55:11–3.

Update: Influenza Activity — United States, January 1–7, 2006

During January 1–7, 2006,* the number of states reporting widespread influenza activity† remained at seven (Figure 1).

FIGURE 1. Estimated influenza activity levels reported by state epidemiologists, by state and level of activity* — United States, January 1–7, 2006



* Levels of activity are 1) *widespread:* outbreaks of influenza or increases in influenza-like illness (ILI) cases and recent laboratory-confirmed influenza in at least half the regions of a state; 2) *regional:* outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least two but less than half the regions of a state; 3) *local:* outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of a state; 4) *sporadic:* small numbers of laboratory-confirmed influenza cases or a single influenza outbreak reported but no increase in cases of ILI; and 5) *no activity*.

Eleven states reported regional activity, nine reported local activity, and 21 reported sporadic activity.§

The percentage of specimens testing positive for influenza decreased in the United States overall. Since October 2, 2005, the largest numbers of specimens testing positive for influenza have been reported from the Mountain (580 positives) and Pacific (332) regions, accounting for 37.3% and 21.3%, respectively, of positive tests reported during the 2005–06 influenza season. The percentage of outpatient visits for influenza-like illness (ILI)¶ decreased during the week ending January 7 but is above the national baseline.** The percentage of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold for the week ending January 7.

*Provisional data reported as of January 13, 2006. Additional information regarding influenza activity is updated each Friday and is available from CDC at http://www.cdc.gov/flu.

†Levels of activity are 1) *widespread:* outbreaks of influenza or increases in influenza-like illness (ILI) cases and recent laboratory-confirmed influenza in at least half the regions of a state; 2) *regional:* outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least two but less than half the regions of a state; 3) *local:* outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of a state; 4) *sporadic:* small numbers of laboratory-confirmed influenza cases or a single influenza outbreak reported but no increase in cases of ILI; and 5) *no activity*.

§ *Widespread:* Arizona, California, Colorado, Nevada, New Mexico, Oregon, and Texas; *regional:* Alaska, Connecticut, Idaho, Iowa, Kansas, Mississippi, Pennsylvania, Tennessee, Utah, Washington, and Wyoming; *local:* Georgia, Indiana, Kentucky, Massachusetts, Montana, Nebraska, Ohio, Oklahoma, and Virginia; *sporadic:* Alabama, Arkansas, Delaware, Florida, Hawaii, Illinois, Maine, Maryland, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, West Virginia, and Wisconsin; *no activity:* Louisiana and Vermont; *no report:* None.

¶ Temperature of $\geq$100.0°F ($\geq$37.8°C) and cough and/or sore throat in the absence of a known cause other than influenza.

** The national baseline was calculated as the mean percentage of visits for ILI during noninfluenza weeks for the preceding three seasons plus two standard deviations. Noninfluenza weeks are those in which <10% of laboratory specimens are positive for influenza. Wide variability in regional data precludes calculating region-specific baselines; therefore, applying the national baseline to regional data is inappropriate.

Laboratory Surveillance

During January 1–7, World Health Organization (WHO) collaborating laboratories and National Respiratory and Enteric Virus Surveillance System (NREVSS) laboratories in the United States reported testing 2,223 specimens for influenza viruses, of which 203 (9.1%) were positive. Of these, 90 were influenza A (H3N2) viruses, 105 were influenza A viruses that were not subtyped, and eight were influenza B viruses.

Since October 2, 2005, WHO and NREVSS laboratories have tested 38,932 specimens for influenza viruses, of which 1,557 (4.0%) were positive. Of these, 1,499 (96.3%) were influenza A viruses, and 58 (3.7%) were influenza B viruses. Of the 1,499 influenza A viruses, 765 (51.0%) have been subtyped; 760 (99.3%) were influenza A (H3N2) viruses, and five (0.7%) were influenza A (H1N1) viruses.

P&I Mortality and ILI Surveillance

During the week ending January 7, P&I accounted for 7.3% of all deaths reported through the 122 Cities Mortality Reporting System. This percentage is below the epidemic threshold[††] of 8.0% (Figure 2).

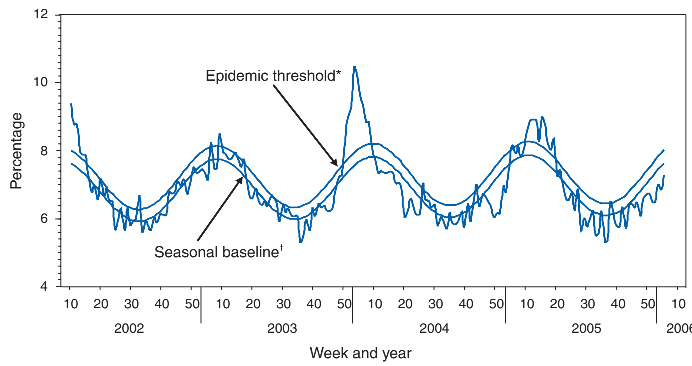
The percentage of patient visits for ILI was 2.7%, which is above the national baseline of 2.2% (Figure 3). The percentage of patient visits for ILI ranged from 1.5% in the New England region to 5.5% in the West South Central region.

Pediatric Deaths and Hospitalizations

From October 2, 2005 through January 7, 2006, CDC received reports of six influenza-associated deaths in U.S. residents aged <18 years. Four of the deaths occurred during the current influenza season, and two occurred during the 2004–05 influenza season.

During October 1–December 24, 2005, the preliminary influenza-associated hospitalization rate for children aged 0–4 years reported by the Emerging Infections Program (EIP)[§§] was 0.17 per 10,000. The EIP also monitors hospitalizations in children aged 5–17 years. The preliminary influenza-associated hospitalization rate for this age group reported by EIP was 0.01 per 10,000. During October 30–December 24, the New Vaccine Surveillance Network[¶¶] reported no laboratory-confirmed influenza-associated hospitalizations among children aged 0–4 years.

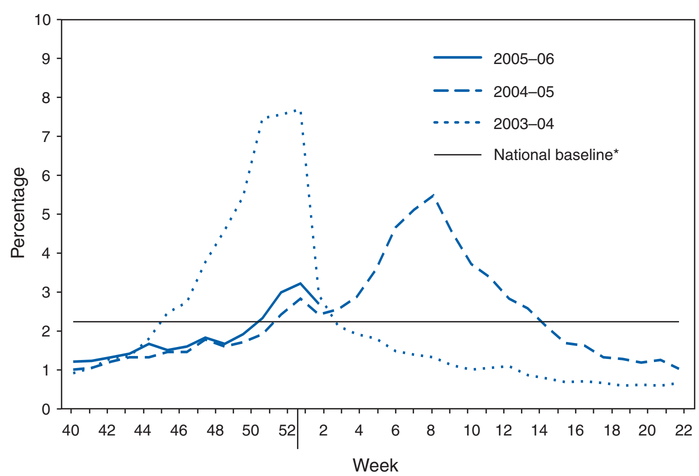
FIGURE 2. Percentage of deaths attributed to pneumonia and influenza (P&I) reported by the 122 Cities Mortality Reporting System, by week and year — United States, 2002–2006



* The epidemic threshold is 1.645 standard deviations above the seasonal baseline percentage.

† The seasonal baseline is projected using a robust regression procedure that applies a periodic regression model to the observed percentage of deaths from P&I during the preceding 5 years.

FIGURE 3. Percentage of visits for influenza-like illness (ILI) reported by the Sentinel Provider Surveillance Network, by week — United States, 2003–04, 2004–05, and 2005–06 influenza seasons



* The national baseline was calculated as the mean percentage of visits for ILI during noninfluenza weeks for the preceding three seasons, plus two standard deviations. Noninfluenza weeks are those in which <10% of laboratory specimens are positive for influenza. Wide variability in regional data precludes calculating region-specific baselines; therefore, applying the national baseline to regional data is inappropriate.

†† The expected seasonal baseline proportion of P&I deaths reported by the 122 Cities Mortality Reporting System is projected using a robust regression procedure in which a periodic regression model is applied to the observed percentage of deaths from P&I that occurred during the preceding 5 years. The epidemic threshold is 1.645 standard deviations above the seasonal baseline.

§§ The EIP Influenza Project conducts surveillance in 60 counties associated with the following 12 metropolitan areas: San Francisco, California; Denver, Colorado; New Haven, Connecticut; Atlanta, Georgia; Baltimore, Maryland; Minneapolis/St. Paul, Minnesota; Albuquerque, New Mexico; Las Cruces, New Mexico; Albany, New York; Rochester, New York; Portland, Oregon; and Nashville, Tennessee.

¶¶ The New Vaccine Surveillance Network conducts surveillance in Monroe County, New York; Hamilton County, Ohio; and Davidson County, Tennessee.

Human Cases of Avian Influenza A (H5N1)

No human case of avian influenza A (H5N1) virus infection has ever been identified in the United States. From December 2003 through January 14, 2006, a total of 148 laboratory-confirmed human cases of avian influenza A (H5N1) infections were reported to WHO.*** Of these, 79 (53%) were fatal (Table). Cases were reported from Cambodia, China, Indonesia, Thailand, Turkey, and Vietnam. This represents an increase of one case and one death in Indonesia reported since January 10, 2006. The majority of cases appear to have been acquired from direct contact with infected poultry. No evidence of sustained human-to-human transmission of H5N1 has been detected, although rare cases of human-to-human transmission likely have occurred (*1*).

Reference

1. Ungchusak K, Auewarakul P, Dowell SF, et al. Probable person-to-person transmission of avian influenza A (H5N1). N Engl J Med 2005;352:333–40.

*** Available at http://www.who.int/csr/disease/avian_influenza/en

TABLE. Number of laboratory-confirmed human cases and deaths from avian influenza A (H5N1) infection reported to the World Health Organization — worldwide, 2003–2006*

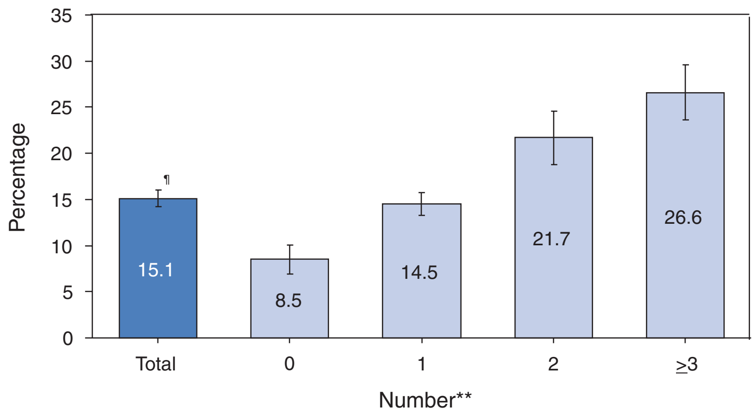
	Cambodia		China		Indonesia		Thailand		Turkey		Viet Nam		Total	
Year of onset	**No.**	**Deaths**	**No.**	**Deaths**	**No.**	**Deaths**	**No.**	**Deaths**	**No.**	**Deaths**	**No.**	**Deaths**	**No.**	**Deaths**
2003	0	0	0	0	0	0	0	0	0	0	3	3	**3**	**3**
2004	0	0	0	0	0	0	17	12	0	0	29	20	**46**	**32**
2005	4	4	8	5	16	11	5	2	0	0	61	19	**94**	**41**
2006	0	0	0	0	1	1	0	0	4	2	0	0	**5**	**3**
Total	**4**	**4**	**8**	**5**	**17**	**12**	**22**	**14**	**4**	**2**	**93**	**42**	**148**	**79**

* As of January 14, 2006.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Persons Aged 15–44 Years Overall Tested for Human Immunodeficiency Virus (HIV)* During the Preceding Year and Percentage by Number of Sex Partners of the Opposite Sex† — United States, 2002§



* Excludes persons tested as blood donors.
† Categories might also include persons with same-sex partners.
§ Data from 2004 National Survey of Family Growth.
¶ Confidence interval.
** Includes opposite-sex partners with whom they had vaginal intercourse, oral sex, or anal sex.

In 2002, among all persons aged 15–44 years (approximately 18.3 million persons), 15.1% had been tested for HIV during the preceding year. The percentage tested was strongly associated with the number of sex partners of the opposite sex; 8.5% of those with no sex partners of the opposite sex were tested, compared with 26.6% of those with three or more sex partners of the opposite sex during the preceding year.

SOURCE: Anderson JE, Chandra A, Mosher W. HIV testing in the United States, 2002. Advance data from vital and health statistics; no 363. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2005. Available at http://www.cdc.gov/nchs/data/ad/ad363.pdf.

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Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis: Recommendations from the National Tuberculosis Controllers Association and CDC (*Expires 12/16/2008*)

Good Laboratory Practices for Waived Testing Sites: Survey Findings from Testing Sites Holding a Certificate of Waiver Under the Clinical Laboratory Improvement Amendments of 1988 and Recommendations for Promoting Quality Testing (*Expires 11/11/2007*)

Guidelines for Identifying and Referring Persons with Fetal Alcohol Syndrome (*Expires 10/28/2007*)

Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis (*Expires 09/30/2007*)

Prevention and Control of Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP) (*Expires 05/27/2008*)

Compendium of Measures To Prevent Disease Associated with Animals in Public Settings, 2005: National Association of State Public Health Veterinarians, Inc. (NASPHV) (*Expires 03/25/2007*)

Antiretroviral Postexposure Prophylaxis After Sexual, Injection-Drug Use, or Other Nonoccupational Exposure to HIV in the United States: Recommendations from the U.S. Department of Health and Human Services (*Expires 01/21/2008*)

Treating Opportunistic Infections Among HIV-Infected Adults and Adolescents: Recommendations from CDC, the National Institutes of Health, and the HIV Medicine Association/Infectious Diseases Society of America (*Expires 12/17/2007)*

Treating Opportunistic Infections Among HIV-Exposed and Infected Children: Recommendations from CDC, the National Institutes of Health, and the Infectious Diseases Society of America (*Expires 12/03/2007*)

Newborn Screening for Cystic Fibrosis: Evaluation of Benefits and Risks and Recommendations for State Newborn Screening Programs (*Expires 10/15/2007)*

Continuing Education Activity Sponsored by CDC Medical Examiners, Coroners, and Biologic Terrorism: A Guidebook for Surveillance and Case Management (*Expires 06/11/2007*)

Diagnosis and Management of Foodborne Illnesses: A Primer for Physicians and Other Health Care Professionals (*Expires 04/16/2007*)

Applying Public Health Strategies to Primary Immunodeficiency Diseases: A Potential Approach to Genetic Disorders *(Expires 01/16/2007*)

Guidelines for Infection Control in Dental Health-Care Settings — 2003 (*Expires 12/19/2006*)

Incorporating HIV Prevention into the Medical Care of Persons Living with HIV: Recommendations of CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America (*Expires 07/18/2006*)

Treatment of Tuberculosis: American Thoracic Society, CDC, and Infectious Diseases Society of America (*Expires 06/20/2006*)

Guidelines for Laboratory Testing and Result Reporting of Antibody to Hepatitis C Virus (*Expires 02/07/2006*)

http://www.cdc.gov/mmwr/cme/conted.html

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending January 14, 2006 (2nd week)*

Disease	Current week	Cum 2006	5-year weekly average†	Total cases reported for previous years 2005	2004	2003	2002	2001	States reporting cases during current week (No.)
Anthrax	—	—	—	—	—	—	2	23	
Botulism:									
foodborne	—	—	1	19	16	20	28	39	
infant	—	—	2	85	87	76	69	97	
other (wound & unspecified)	1	2	1	23	30	33	21	19	WI (1)
Brucellosis	2	2	2	101	114	104	125	136	NJ (1), WI (1)
Chancroid	—	—	1	25	30	54	67	38	
Cholera	—	—	0	6	5	2	2	3	
Cyclosporiasis§	1	2	1	731	171	75	156	147	NE (1)
Diphtheria	—	—	—	—	—	1	1	2	
Domestic arboviral diseases§¶:									
California serogroup	—	—	1	65	112	108	164	128	
eastern equine	—	—	0	21	6	14	10	9	
Powassan	—	—	0	—	1	—	1	N	
St. Louis	—	—	0	9	12	41	28	79	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis§:									
human granulocytic	1	1	14	699	537	362	511	261	NE (1)
human monocytic	3	12	5	466	338	321	216	142	MN (1), NE (2)
human (other & unspecified)	—	—	0	112	59	44	23	6	
Haemophilus influenzae,** invasive disease (age <5 yrs):									
serotype b	—	—	1	7	19	32	34	—	
nonserotype b	1	1	4	110	135	117	144	—	VT (1)
unknown serotype	—	1	3	189	177	227	153	—	
Hansen disease§	—	1	2	87	105	95	96	79	
Hantavirus pulmonary syndrome§	—	—	0	22	24	26	19	8	
Hemolytic uremic syndrome, postdiarrheal§	—	1	4	191	200	178	216	202	
Hepatitis C viral, acute	4	7	37	720	713	1,102	1,835	3,976	GA (1), KY (1), NJ (1), WI (1)
HIV infection, pediatric (age <13 yrs)§††	—	—	5	255	436	504	420	543	
Influenza-associated pediatric mortality§,§§,¶¶	—	—	0	54	—	N	N	N	
Listeriosis	4	8	12	805	753	696	665	613	CT (1), FL (2), NE (1)
Measles	—	—***	1	62	37	56	44	116	
Meningococcal disease,††† invasive:									
A, C, Y, & W-135	—	1	7	258	—	—	—	—	
serogroup B	—	—	4	143	—	—	—	—	
other serogroup	—	—	1	18	—	—	—	—	
Mumps	—	—	5	270	258	231	270	266	
Plague	—	—	—	7	3	1	2	2	
Poliomyelitis, paralytic	—	—	—	1	—	—	—	—	
Psittacosis§	—	—	1	19	12	12	18	25	
Q fever§	—	—	1	130	70	71	61	26	
Rabies, human	—	—	0	2	7	2	3	1	
Rubella	—	—	0	12	10	7	18	23	
Rubella, congenital syndrome	—	—	—	1	—	1	1	3	
SARS-CoV§,§§	—	—	—	—	—	8	N	N	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	1	1	3	101	132	161	118	77	GA (1)
Streptococcus pneumoniae,§ invasive disease (age <5 yrs)	7	9	19	957	1,162	845	513	498	CT (1), GA (1), MN (4), OR (1)
Syphilis, congenital (age <1 yr)	—	1	8	290	353	413	412	441	
Tetanus	—	—	1	20	34	20	25	37	
Toxic-shock syndrome (other than streptococcal)§	—	—	3	91	95	133	109	127	
Trichinellosis	—	—	0	16	5	6	14	22	
Tularemia§	—	—	2	130	134	129	90	129	
Typhoid fever	—	1	5	279	322	356	321	368	
Vancomycin-intermediate *Staphylococcus aureus*§	—	—	—	1	—	N	N	N	
Vancomycin-resistant *Staphylococcus aureus*§	—	—	—	—	1	N	N	N	
Yellow fever	—	—	0	—	—	—	1	—	

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

* Incidence data for reporting years 2004, 2005, and 2006 are provisional, whereas data for 2001, 2002, and 2003 are finalized.

† Calculated by summing the incidence counts for the current week, the two weeks preceding the current week, and the two weeks following the current week, for a total of 5 preceding years. Additional information is available at http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf.

§ Not notifiable in all states.

¶ Includes both neuroinvasive and non-neuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNET Surveillance).

** 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, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Data for HIV/AIDS are available in Table IV quarterly.

§§ Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases.

¶¶ Of the 54 cases reported, 10 were reported since October 2, 2005 (40th week). Of these 10, only eight occurred during the current 2005–06 season.

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

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

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

	Chlamydia†					Coccidioidomycosis					Cryptosporidiosis				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	7,070	18,450	20,415	13,028	32,957	45	88	275	101	161	20	68	865	39	52
New England	378	593	1,155	707	1,330	—	0	0	—	—	—	3	34	—	—
Connecticut	10	146	715	11	384	N	0	0	N	N	—	0	14	—	—
Maine	—	42	74	—	107	N	0	0	N	N	—	0	2	—	—
Massachusetts	265	271	417	471	569	—	0	0	—	—	—	1	16	—	—
New Hampshire	19	34	65	44	81	—	0	0	—	—	—	0	3	—	—
Rhode Island	74	63	99	144	156	—	0	0	—	—	—	0	4	—	—
Vermont§	10	19	43	37	33	—	0	0	—	—	—	0	5	—	—
Mid. Atlantic	967	2,244	3,095	1,481	3,418	—	0	0	—	—	4	9	613	5	15
New Jersey	5	358	529	5	834	N	0	0	N	N	—	0	11	—	—
New York (Upstate)	93	498	1,168	116	188	N	0	0	N	N	—	3	574	—	2
New York City	297	686	1,168	458	1,102	—	0	0	—	—	—	2	15	—	7
Pennsylvania	572	728	1,055	902	1,294	N	0	0	N	N	4	3	21	5	6
E.N. Central	1,290	3,076	4,041	2,137	5,043	—	0	3	—	—	5	12	162	10	13
Illinois	568	848	1,644	947	1,384	—	0	0	—	—	—	1	15	—	2
Indiana	—	374	558	93	857	N	0	0	N	N	—	1	13	—	—
Michigan	547	538	1,015	872	210	—	0	3	—	—	1	2	7	2	2
Ohio	131	803	1,714	135	1,761	N	0	0	N	N	4	4	109	8	8
Wisconsin	44	377	490	90	831	N	0	0	N	N	—	4	38	—	1
W.N. Central	361	1,108	1,293	819	1,995	—	0	3	—	—	2	8	51	3	4
Iowa	—	136	221	97	232	N	0	0	N	N	—	1	11	—	—
Kansas	—	141	240	—	307	N	0	0	N	N	—	0	5	1	1
Minnesota	—	224	292	—	504	—	0	3	—	—	1	2	10	1	—
Missouri	322	440	606	621	659	—	0	1	—	—	1	3	37	1	2
Nebraska§	10	97	200	55	146	—	0	1	—	—	—	0	1	—	—
North Dakota	29	23	38	46	36	N	0	0	N	N	—	0	1	—	—
South Dakota	—	51	86	—	111	—	0	0	—	—	—	0	4	—	1
S. Atlantic	1,778	3,270	4,528	2,943	6,506	—	0	1	—	—	6	11	52	17	8
Delaware	72	67	92	150	136	N	0	0	N	N	—	0	2	—	—
District of Columbia	—	71	103	55	162	—	0	0	—	—	—	0	3	—	—
Florida	437	854	987	1,028	1,435	N	0	0	N	N	4	5	28	7	2
Georgia	—	585	1,012	—	373	—	0	0	—	—	—	2	7	1	1
Maryland	69	359	528	453	612	—	0	1	—	—	1	0	4	2	3
North Carolina	1,078	510	1,741	1,078	1,727	N	0	0	N	N	1	1	10	7	2
South Carolina§	—	328	1,291	—	764	—	0	0	—	—	—	0	3	—	—
Virginia§	—	376	700	—	1,210	—	0	0	—	—	—	1	8	—	—
West Virginia	122	46	122	179	87	N	0	0	N	N	—	0	3	—	—
E.S. Central	672	1,336	2,189	1,206	2,102	—	0	0	—	—	—	3	20	1	2
Alabama§	—	310	1,048	—	566	—	0	0	—	—	—	0	3	1	1
Kentucky	244	157	408	406	414	N	0	0	N	N	—	1	19	—	—
Mississippi	—	395	1,077	—	396	—	0	0	—	—	—	0	1	—	—
Tennessee§	428	459	703	800	726	N	0	0	N	N	—	0	4	—	1
W.S. Central	428	1,980	2,942	598	4,815	—	0	1	—	—	1	2	30	1	—
Arkansas	190	171	341	221	279	—	0	0	—	—	—	0	1	—	—
Louisiana	39	276	760	61	817	—	0	1	—	—	—	0	21	—	—
Oklahoma	199	207	1,246	316	690	N	0	0	N	N	1	0	10	1	—
Texas§	—	1,339	2,255	—	3,029	N	0	0	N	N	—	1	8	—	—
Mountain	76	1,059	1,374	529	2,179	—	66	204	—	57	2	2	8	2	2
Arizona	—	331	572	334	821	—	64	204	—	52	—	0	1	—	—
Colorado	35	259	376	111	516	N	0	0	N	N	—	1	3	—	1
Idaho§	—	41	236	—	48	N	0	0	N	N	—	0	2	—	—
Montana	—	42	68	—	89	N	0	0	N	N	1	0	3	1	—
Nevada§	—	138	459	—	285	—	1	3	—	5	—	0	2	—	—
New Mexico§	—	90	281	—	275	—	0	2	—	—	—	0	2	—	1
Utah	38	85	130	53	106	—	0	3	—	—	1	0	3	1	—
Wyoming	3	22	43	31	39	—	0	2	—	—	—	0	2	—	—
Pacific	1,120	3,176	3,942	2,608	5,569	45	28	89	101	104	—	6	29	—	8
Alaska	5	77	120	12	78	—	0	0	—	—	—	0	2	—	—
California	684	2,446	3,153	1,875	4,401	45	28	89	101	104	—	3	10	—	6
Hawaii	—	104	132	—	208	—	0	0	—	—	—	0	1	—	—
Oregon§	138	166	315	221	235	—	0	0	—	—	—	1	20	—	2
Washington	293	360	501	500	647	N	0	0	N	N	—	0	7	—	—
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	55	72	141	71	60	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	5	14	—	12	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting years 2005 and 2006 are provisional.

† Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, NEDSS data from these states are not included this week.

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	107	313	572	232	448	2,770	6,200	7,346	5,096	12,087	13	37	67	34	91
New England	—	26	90	10	31	86	102	229	155	243	—	2	12	1	5
Connecticut	—	1	65	—	—	4	37	163	6	126	—	0	6	—	—
Maine	—	4	12	—	3	—	2	7	—	2	—	0	1	—	—
Massachusetts	—	12	34	9	26	56	49	86	99	90	—	2	5	1	3
New Hampshire	—	1	7	—	—	6	4	7	10	6	—	0	3	—	—
Rhode Island	—	0	19	—	—	19	8	25	38	16	—	0	2	—	—
Vermont†	—	3	11	1	2	1	1	4	2	3	—	0	2	—	2
Mid. Atlantic	10	66	121	22	103	345	651	966	559	1,091	2	8	16	7	29
New Jersey	—	7	15	—	30	5	109	166	5	250	—	2	5	1	6
New York (Upstate)	5	22	60	7	12	82	125	348	101	112	—	2	8	1	6
New York City	—	16	31	—	34	59	181	407	104	326	—	1	4	1	6
Pennsylvania	5	16	30	15	27	199	217	305	349	403	2	2	5	4	11
E.N. Central	13	52	101	28	79	517	1,241	1,790	943	2,206	1	6	13	8	13
Illinois	—	13	32	—	18	221	354	699	362	538	—	1	5	1	3
Indiana	N	0	0	N	N	—	149	234	65	360	—	1	6	—	1
Michigan	6	14	29	16	24	222	214	518	433	93	—	0	3	1	3
Ohio	7	14	34	12	17	69	374	701	71	965	1	2	9	6	5
Wisconsin	—	13	33	—	20	5	106	156	12	250	—	0	3	—	1
W.N. Central	14	37	142	20	29	174	361	456	347	655	5	2	6	6	5
Iowa	1	5	14	2	10	—	30	54	17	56	—	0	1	—	—
Kansas	1	4	9	2	7	—	47	99	—	119	—	0	2	—	—
Minnesota	2	16	113	2	—	—	63	89	—	130	—	0	5	—	—
Missouri	9	9	32	13	10	168	183	243	321	290	5	0	5	6	4
Nebraska†	—	1	7	—	2	2	21	40	5	46	—	0	1	—	1
North Dakota	—	0	3	—	—	4	2	5	4	1	—	0	2	—	—
South Dakota	1	2	7	1	—	—	6	15	—	13	—	0	0	—	—
S. Atlantic	27	48	84	65	56	806	1,392	2,085	1,372	2,891	4	8	22	8	22
Delaware	—	1	3	1	2	29	17	40	66	33	—	0	0	—	—
District of Columbia	—	1	6	—	—	—	40	67	34	104	—	0	0	—	—
Florida	21	18	40	33	22	252	386	493	549	666	1	2	12	4	7
Georgia	—	11	24	20	22	—	262	586	—	194	—	2	7	—	8
Maryland	6	4	11	11	7	22	132	243	204	295	2	1	5	3	4
North Carolina	N	0	0	N	N	474	272	730	474	808	1	1	11	1	2
South Carolina†	—	2	8	—	2	—	134	648	—	382	—	0	3	—	1
Virginia†	—	10	26	—	1	—	142	266	—	380	—	1	4	—	—
West Virginia	—	0	6	—	—	29	13	35	45	29	—	0	3	—	—
E.S. Central	4	7	19	9	8	273	501	868	481	1,087	—	2	7	—	4
Alabama†	4	4	13	9	3	—	156	491	—	462	—	0	2	—	—
Kentucky	N	0	0	N	N	97	55	107	166	164	—	0	2	—	—
Mississippi	—	0	0	—	—	—	137	299	—	166	—	0	0	—	—
Tennessee†	—	3	11	—	5	176	168	285	315	295	—	1	5	—	4
W.S. Central	—	5	23	—	1	240	821	1,195	303	2,033	—	2	7	—	2
Arkansas	—	1	5	—	—	142	85	188	155	176	—	0	2	—	—
Louisiana	—	1	5	—	—	25	153	461	42	440	—	0	4	—	1
Oklahoma	—	3	16	—	1	73	80	422	106	249	—	1	5	—	1
Texas†	N	0	0	N	N	—	484	843	—	1,168	—	0	1	—	—
Mountain	6	25	56	13	25	58	223	445	189	496	1	3	19	4	6
Arizona	—	3	12	—	1	—	72	166	64	168	—	1	9	—	—
Colorado	—	9	26	4	15	46	57	90	103	143	—	1	4	3	2
Idaho†	—	2	12	—	3	—	1	10	—	2	—	0	1	—	—
Montana	—	1	7	1	—	—	2	9	—	5	—	0	0	—	—
Nevada†	—	1	5	—	1	—	54	198	—	112	—	0	3	—	1
New Mexico†	—	1	6	—	1	—	19	46	—	49	—	0	3	—	1
Utah	6	7	28	8	3	10	14	22	14	16	1	0	2	1	1
Wyoming	—	0	2	—	1	2	2	6	8	1	—	0	2	—	1
Pacific	33	59	101	65	116	271	792	1,052	747	1,385	—	2	19	—	5
Alaska	—	2	6	—	2	—	10	23	—	10	—	0	19	—	1
California	30	41	69	56	96	190	646	800	590	1,221	—	1	7	—	—
Hawaii	1	1	6	1	7	—	19	36	—	32	—	0	2	—	1
Oregon†	2	6	21	8	11	14	30	58	30	38	—	0	4	—	3
Washington	—	5	26	—	—	67	71	210	127	84	—	0	4	—	—
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	3	14	—	1	8	6	14	10	9	—	0	1	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	20	—	2	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2005 and 2006 are provisional.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, NEDSS data from these states are not included this week.

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

	Hepatitis (viral, acute), by type										Legionellosis				
	A					B									
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	22	77	168	73	120	22	100	139	40	192	11	36	110	24	41
New England	1	8	23	1	20	—	4	12	2	7	—	1	11	—	—
Connecticut	1	1	3	1	5	—	0	5	—	—	—	0	8	—	—
Maine	—	0	1	—	—	—	0	2	—	—	—	0	1	—	—
Massachusetts	—	6	14	—	15	—	3	10	2	7	—	1	5	—	—
New Hampshire	—	1	12	—	—	—	0	3	—	—	—	0	1	—	—
Rhode Island	—	0	4	—	—	—	0	2	—	—	—	0	6	—	—
Vermont†	—	0	1	—	—	—	0	1	—	—	—	0	3	—	—
Mid. Atlantic	1	13	24	4	23	—	14	37	3	49	4	11	53	9	13
New Jersey	—	3	11	—	5	—	6	26	—	30	—	1	12	—	3
New York (Upstate)	—	2	8	—	2	—	2	7	—	1	1	3	25	1	2
New York City	—	6	12	2	13	—	2	7	—	5	—	1	20	—	—
Pennsylvania	1	2	6	2	3	—	4	9	3	13	3	5	17	8	8
E.N. Central	4	7	17	6	15	4	10	25	6	17	2	6	23	4	13
Illinois	—	1	9	—	5	—	2	7	—	4	—	0	3	—	3
Indiana	—	1	10	—	—	—	0	11	—	—	—	0	5	—	—
Michigan	1	2	11	2	6	—	4	7	1	8	2	2	6	4	4
Ohio	3	1	7	4	2	4	2	8	5	5	—	3	19	—	4
Wisconsin	—	1	4	—	2	—	0	6	—	—	—	0	2	—	2
W.N. Central	—	1	31	1	3	1	5	13	2	9	1	1	12	2	—
Iowa	—	0	2	—	1	—	0	2	—	—	—	0	1	—	—
Kansas	—	0	2	—	—	—	0	3	—	1	—	0	1	—	—
Minnesota	—	0	31	—	—	—	0	6	—	—	—	0	10	—	—
Missouri	—	0	5	1	1	1	3	7	2	5	1	0	4	2	—
Nebraska†	—	0	3	—	1	—	0	2	—	3	—	0	1	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	—	—	0	1	—	—	—	0	6	—	—
S. Atlantic	9	12	33	16	16	14	24	47	20	68	4	9	19	9	8
Delaware	—	0	1	—	—	—	1	6	—	3	—	0	4	—	—
District of Columbia	—	0	2	—	—	—	0	4	—	—	—	0	2	—	—
Florida	4	5	18	11	7	12	9	21	16	20	1	2	6	3	3
Georgia	—	2	6	—	6	—	2	9	—	16	—	1	3	—	—
Maryland	2	2	6	2	2	2	3	8	3	8	2	2	9	3	4
North Carolina	3	0	18	3	1	—	0	13	—	12	1	1	3	3	1
South Carolina†	—	1	3	—	—	—	2	9	1	3	—	0	2	—	—
Virginia†	—	1	6	—	—	—	2	10	—	6	—	0	4	—	—
West Virginia	—	0	2	—	—	—	0	11	—	—	—	0	3	—	—
E.S. Central	—	4	16	1	2	—	6	20	2	11	—	1	6	—	—
Alabama†	—	0	6	—	—	—	1	7	1	5	—	0	2	—	—
Kentucky	—	0	3	—	—	—	1	5	—	—	—	0	3	—	—
Mississippi	—	0	4	—	—	—	1	4	—	1	—	0	1	—	—
Tennessee†	—	2	13	1	2	—	2	13	1	5	—	0	4	—	—
W.S. Central	—	5	13	—	7	—	11	23	—	4	—	0	4	—	—
Arkansas	—	0	3	—	—	—	1	4	—	1	—	0	1	—	—
Louisiana	—	1	5	—	4	—	1	5	—	1	—	0	1	—	—
Oklahoma	—	0	1	—	—	—	0	5	—	—	—	0	3	—	—
Texas†	—	3	10	—	3	—	7	21	—	2	—	0	3	—	—
Mountain	—	6	21	1	14	—	10	38	1	7	—	1	8	—	1
Arizona	—	3	20	—	6	—	6	34	—	—	—	0	3	—	—
Colorado	—	1	5	—	2	—	1	4	1	1	—	0	3	—	—
Idaho†	—	0	3	—	1	—	0	2	—	—	—	0	2	—	—
Montana	—	0	2	—	2	—	0	2	—	—	—	0	1	—	—
Nevada†	—	0	2	—	—	—	0	2	—	2	—	0	2	—	—
New Mexico†	—	0	3	—	2	—	0	2	—	1	—	0	1	—	—
Utah	—	0	3	1	1	—	1	5	—	3	—	0	2	—	—
Wyoming	—	0	0	—	—	—	0	1	—	—	—	0	1	—	1
Pacific	7	14	145	43	20	3	10	24	4	20	—	1	6	—	6
Alaska	—	0	2	—	—	—	0	1	—	—	—	0	1	—	—
California	7	12	145	43	16	2	6	15	3	14	—	1	6	—	6
Hawaii	—	0	2	—	1	—	0	1	—	1	—	0	1	—	—
Oregon†	—	1	4	—	3	1	2	5	1	5	N	0	0	N	N
Washington	—	1	5	—	—	—	1	8	—	—	—	0	0	—	—
American Samoa	U	0	1	U	—	U	0	0	U	—	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	1	6	—	—	—	1	6	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

	Lyme disease					Malaria				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	17	286	1,302	42	345	4	23	45	9	37
New England	—	40	199	—	31	2	1	12	2	1
Connecticut	—	9	154	—	—	—	0	10	—	—
Maine	—	2	25	—	2	—	0	1	—	—
Massachusetts	—	10	131	—	29	2	0	4	2	1
New Hampshire	—	4	17	—	—	—	0	1	—	—
Rhode Island	—	0	12	—	—	—	0	1	—	—
Vermont†	—	0	5	—	—	—	0	2	—	—
Mid. Atlantic	10	178	919	20	251	—	6	14	1	10
New Jersey	—	39	307	—	77	—	1	6	—	2
New York (Upstate)	3	48	367	5	60	—	1	4	—	—
New York City	—	0	0	—	—	—	3	8	—	7
Pennsylvania	7	56	452	15	114	—	1	2	1	1
E.N. Central	—	11	150	—	11	—	2	6	—	5
Illinois	—	0	0	—	—	—	0	2	—	3
Indiana	—	0	4	—	—	—	0	1	—	—
Michigan	—	0	7	—	1	—	0	2	—	1
Ohio	—	1	5	—	4	—	0	3	—	1
Wisconsin	—	10	145	—	6	—	0	2	—	—
W.N. Central	—	13	99	—	2	—	1	5	1	—
Iowa	—	1	8	—	2	—	0	1	—	—
Kansas	—	0	3	—	—	—	0	1	—	—
Minnesota	—	9	96	—	—	—	0	3	—	—
Missouri	—	0	2	—	—	—	0	3	1	—
Nebraska†	—	0	1	—	—	—	0	2	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	1	—	—	—	0	0	—	—
S. Atlantic	2	31	125	17	49	2	6	15	3	3
Delaware	—	9	37	4	22	—	0	1	—	—
District of Columbia	—	0	2	—	—	—	0	2	—	—
Florida	—	1	8	—	2	1	1	6	2	—
Georgia	—	0	1	—	—	—	0	5	—	2
Maryland	2	15	84	11	24	1	1	9	1	1
North Carolina	—	0	5	2	—	—	0	8	—	—
South Carolina†	—	0	3	—	1	—	0	2	—	—
Virginia†	—	3	20	—	—	—	0	4	—	—
West Virginia	—	0	6	—	—	—	0	2	—	—
E.S. Central	—	1	4	—	—	—	0	2	—	—
Alabama†	—	0	1	—	—	—	0	1	—	—
Kentucky	—	0	1	—	—	—	0	2	—	—
Mississippi	—	0	0	—	—	—	0	0	—	—
Tennessee†	—	0	4	—	—	—	0	2	—	—
W.S. Central	—	1	8	—	—	—	1	9	1	3
Arkansas	—	0	2	—	—	—	0	2	—	—
Louisiana	—	0	2	—	—	—	0	1	—	—
Oklahoma	—	0	0	—	—	—	0	6	—	—
Texas†	—	0	7	—	—	—	1	9	1	3
Mountain	—	0	4	—	—	—	0	6	—	3
Arizona	—	0	4	—	—	—	0	4	—	1
Colorado	—	0	1	—	—	—	0	3	—	—
Idaho†	—	0	1	—	—	—	0	0	—	—
Montana	—	0	0	—	—	—	0	0	—	—
Nevada†	—	0	1	—	—	—	0	1	—	—
New Mexico†	—	0	1	—	—	—	0	1	—	—
Utah	—	0	1	—	—	—	0	2	—	1
Wyoming	—	0	1	—	—	—	0	1	—	1
Pacific	5	2	12	5	1	—	4	12	1	12
Alaska	—	0	1	—	—	—	0	1	—	—
California	5	2	12	5	1	—	2	9	1	11
Hawaii	N	0	0	N	N	—	0	4	—	—
Oregon†	—	0	2	—	—	—	0	2	—	1
Washington	—	0	3	—	—	—	0	4	—	—
American Samoa	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

Reporting area	Meningococcal disease, invasive: All serogroups: Current week	Previous 52 weeks: Med	Previous 52 weeks: Max	Cum 2006	Cum 2005	Serogroup unknown: Current week	Previous 52 weeks: Med	Previous 52 weeks: Max	Cum 2006	Cum 2005	Pertussis: Current week	Previous 52 weeks: Med	Previous 52 weeks: Max	Cum 2006	Cum 2005
United States	2	19	46	14	49	2	12	27	13	31	62	417	590	168	933
New England	—	1	5	—	7	—	0	2	—	3	—	26	46	9	64
Connecticut	—	0	3	—	—	—	0	2	—	—	—	1	4	—	5
Maine	—	0	1	—	—	—	0	1	—	—	—	0	5	—	2
Massachusetts	—	0	3	—	5	—	0	2	—	2	—	18	36	9	51
New Hampshire	—	0	2	—	—	—	0	2	—	—	—	1	15	—	—
Rhode Island	—	0	2	—	—	—	0	0	—	—	—	0	8	—	—
Vermont†	—	0	1	—	2	—	0	1	—	1	—	1	24	—	6
Mid. Atlantic	—	3	8	3	6	—	2	7	3	6	11	24	47	23	70
New Jersey	—	0	4	—	2	—	0	4	—	2	—	4	9	—	13
New York (Upstate)	—	1	3	—	1	—	0	2	—	1	4	11	29	4	10
New York City	—	0	2	1	2	—	0	2	1	2	—	2	6	—	5
Pennsylvania	—	1	3	2	1	—	1	3	2	1	7	7	28	19	42
E.N. Central	1	2	9	2	4	1	1	6	2	3	16	63	144	30	226
Illinois	—	0	4	—	—	—	0	4	—	—	—	14	30	—	32
Indiana	—	0	3	—	1	—	0	2	—	1	—	6	23	—	—
Michigan	—	0	3	—	2	—	0	3	—	1	1	4	26	1	15
Ohio	1	1	5	2	1	1	1	4	2	1	15	20	59	29	109
Wisconsin	—	0	2	—	—	—	0	2	—	—	—	21	54	—	70
W.N. Central	—	1	5	—	5	—	0	3	—	3	6	61	205	17	130
Iowa	—	0	2	—	—	—	0	2	—	—	—	13	91	—	57
Kansas	—	0	1	—	1	—	0	1	—	1	1	10	29	2	13
Minnesota	—	0	2	—	—	—	0	1	—	—	—	2	148	—	—
Missouri	—	0	3	—	4	—	0	2	—	2	5	9	39	15	18
Nebraska†	—	0	1	—	—	—	0	1	—	—	—	2	12	—	13
North Dakota	—	0	1	—	—	—	0	1	—	—	—	0	28	—	6
South Dakota	—	0	1	—	—	—	0	0	—	—	—	3	9	—	23
S. Atlantic	—	4	11	1	10	—	2	6	1	6	9	23	90	28	51
Delaware	—	0	1	—	—	—	0	1	—	—	—	0	3	—	4
District of Columbia	—	0	0	—	—	—	0	0	—	—	—	0	3	—	—
Florida	—	1	7	1	2	—	1	6	1	1	7	4	14	11	5
Georgia	—	0	2	—	4	—	0	2	—	4	—	1	3	—	5
Maryland	—	0	2	—	1	—	0	1	—	—	1	4	8	7	15
North Carolina	—	0	6	—	1	—	0	2	—	—	—	0	21	8	—
South Carolina†	—	0	2	—	2	—	0	1	—	1	1	7	17	2	22
Virginia†	—	0	3	—	—	—	0	1	—	—	—	2	72	—	—
West Virginia	—	0	1	—	—	—	0	1	—	—	—	0	12	—	—
E.S. Central	—	1	4	1	—	—	1	4	1	—	—	8	23	1	9
Alabama†	—	0	1	—	—	—	0	1	—	—	—	1	9	1	5
Kentucky	—	0	3	—	—	—	0	3	—	—	—	3	11	—	1
Mississippi	—	0	1	—	—	—	0	1	—	—	—	1	4	—	—
Tennessee†	—	0	2	1	—	—	0	1	1	—	—	4	17	—	3
W.S. Central	—	2	6	1	4	—	0	3	1	2	2	36	114	2	1
Arkansas	—	0	3	1	—	—	0	1	1	—	2	5	19	2	—
Louisiana	—	0	3	—	3	—	0	1	—	1	—	0	3	—	—
Oklahoma	—	0	3	—	—	—	0	3	—	—	—	0	0	—	—
Texas†	—	0	4	—	1	—	0	3	—	1	—	28	98	—	1
Mountain	—	1	7	4	2	—	1	5	3	1	17	77	143	57	127
Arizona	—	0	5	—	1	—	0	5	—	—	—	15	86	—	7
Colorado	—	0	3	3	1	—	0	2	2	1	—	24	55	32	89
Idaho†	—	0	2	—	—	—	0	2	—	—	—	3	19	—	3
Montana	—	0	0	—	—	—	0	0	—	—	2	9	58	4	17
Nevada†	—	0	2	—	—	—	0	1	—	—	—	0	6	—	—
New Mexico†	—	0	2	—	—	—	0	2	—	—	—	3	9	—	7
Utah	—	0	2	1	—	—	0	1	1	—	12	12	35	18	1
Wyoming	—	0	0	—	—	—	0	0	—	—	3	0	4	3	3
Pacific	1	3	27	2	11	1	3	13	2	7	1	56	170	1	255
Alaska	—	0	1	—	—	—	0	1	—	—	1	1	11	1	1
California	1	2	11	2	6	1	2	11	2	6	—	26	145	—	187
Hawaii	—	0	2	—	1	—	0	1	—	1	—	3	10	—	9
Oregon†	—	0	6	—	4	—	0	2	—	—	—	10	30	—	58
Washington	—	0	25	—	—	—	0	11	—	—	—	12	59	—	—
American Samoa	U	0	1	—	—	U	0	1	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	—	—	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	2	—	—	—	0	2	—	—	—	0	2	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

	Rabies, animal					Rocky Mountain spotted fever					Salmonellosis				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	12	104	160	30	356	46	29	98	76	12	256	773	1,430	508	779
New England	2	13	33	4	30	—	0	1	—	—	1	40	76	8	32
Connecticut	2	3	13	2	5	—	0	0	—	—	—	8	25	3	5
Maine	—	1	4	—	1	N	0	0	N	N	—	3	8	—	3
Massachusetts	—	5	22	2	20	—	0	1	—	—	1	20	38	5	19
New Hampshire	—	0	3	—	—	—	0	1	—	—	—	2	12	—	2
Rhode Island	—	0	3	—	—	—	0	1	—	—	—	0	12	—	—
Vermont†	—	1	7	—	4	—	0	0	—	—	—	1	10	—	3
Mid. Atlantic	—	18	40	8	22	—	2	8	—	2	15	91	185	39	97
New Jersey	N	0	0	N	N	—	0	6	—	1	—	14	45	—	23
New York (Upstate)	—	12	24	8	5	—	0	2	—	—	5	23	56	6	7
New York City	—	0	3	—	1	—	0	2	—	—	—	23	43	5	32
Pennsylvania	—	7	22	—	16	—	1	6	—	1	10	30	61	28	35
E.N. Central	—	2	19	1	2	1	0	3	1	—	20	91	243	49	95
Illinois	—	1	4	—	1	—	0	1	—	—	—	29	160	—	23
Indiana	—	0	3	—	—	—	0	1	—	—	—	9	71	—	—
Michigan	—	0	4	1	—	—	0	1	—	—	2	17	35	7	29
Ohio	—	0	13	—	1	1	0	3	1	—	18	22	52	40	26
Wisconsin	—	0	3	—	—	—	0	1	—	—	—	15	45	2	17
W.N. Central	1	7	23	1	3	—	1	16	—	1	28	40	90	41	44
Iowa	1	1	10	1	1	—	0	2	—	—	—	7	18	1	11
Kansas	—	1	5	—	—	—	0	2	—	—	—	7	17	—	7
Minnesota	—	1	5	—	—	—	0	1	—	—	8	10	31	8	1
Missouri	—	1	7	—	2	—	1	14	—	1	20	14	40	32	17
Nebraska†	—	0	0	—	—	—	0	2	—	—	—	2	8	—	5
North Dakota	—	0	4	—	—	—	0	0	—	—	—	0	5	—	2
South Dakota	—	1	6	—	—	—	0	2	—	—	—	2	11	—	1
S. Atlantic	8	30	49	14	266	45	13	94	74	8	128	252	516	236	234
Delaware	—	0	0	—	—	—	0	2	—	—	—	2	9	1	2
District of Columbia	—	0	0	—	—	—	0	1	—	—	—	1	7	—	—
Florida	4	0	4	4	201	—	0	1	—	2	55	99	230	95	89
Georgia	—	5	9	—	14	—	1	8	—	—	—	31	86	20	44
Maryland	—	6	16	—	12	1	1	7	1	1	15	14	40	19	18
North Carolina	4	9	19	10	16	43	5	87	72	5	53	26	114	90	65
South Carolina†	—	0	2	—	1	1	1	6	1	—	5	19	146	11	14
Virginia†	—	10	18	—	22	—	1	10	—	—	—	19	66	—	2
West Virginia	—	0	13	—	—	—	0	2	—	—	—	2	13	—	—
E.S. Central	1	2	9	1	1	—	4	25	1	1	11	52	134	27	39
Alabama†	1	1	5	1	1	—	0	9	—	—	11	12	39	17	10
Kentucky	—	0	3	—	—	—	0	1	—	—	—	6	28	1	2
Mississippi	—	0	1	—	—	—	0	2	—	—	—	13	66	—	6
Tennessee†	—	1	3	—	—	—	3	19	1	1	—	14	40	9	21
W.S. Central	—	14	42	1	25	—	1	32	—	—	14	55	139	16	36
Arkansas	—	0	3	1	5	—	0	32	—	—	5	12	67	6	7
Louisiana	—	0	0	—	—	—	0	2	—	—	—	13	42	—	22
Oklahoma	—	1	7	—	2	—	0	23	—	—	9	7	26	9	1
Texas†	—	12	39	—	18	—	0	7	—	—	—	25	82	1	6
Mountain	—	5	19	—	5	—	0	8	—	—	3	48	110	9	46
Arizona	—	3	11	—	4	—	0	8	—	—	—	13	28	—	16
Colorado	—	0	2	—	—	—	0	1	—	—	—	10	45	5	15
Idaho†	—	0	12	—	—	—	0	2	—	—	—	2	17	—	3
Montana	—	0	3	—	—	—	0	1	—	—	1	2	16	2	1
Nevada†	—	0	2	—	—	—	0	0	—	—	—	2	7	—	4
New Mexico†	—	0	1	—	—	—	0	1	—	—	—	4	11	—	3
Utah	—	0	5	—	—	—	0	2	—	—	1	6	31	1	2
Wyoming	—	0	2	—	1	—	0	1	—	—	1	1	12	1	2
Pacific	—	3	14	—	2	—	0	2	—	—	36	99	188	83	156
Alaska	—	0	1	—	—	—	0	0	—	—	5	1	5	6	3
California	—	3	14	—	2	—	0	1	—	—	29	75	148	71	132
Hawaii	—	0	0	—	—	—	0	0	—	—	2	5	33	3	13
Oregon†	—	0	1	—	—	—	0	1	—	—	—	7	23	3	8
Washington	U	0	0	U	U	—	0	0	—	—	—	9	31	—	—
American Samoa	U	0	0	U	U	U	0	0	U	U	U	0	2	U	—
C.N.M.I.	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	1	2	4	1	2	N	0	0	N	N	—	8	23	—	6
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2005 and 2006 are provisional.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, NEDSS data from these states are not included this week.

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

Reporting area	Shiga toxin-producing *E. coli* (STEC)†					Shigellosis					Streptococcal disease, invasive, group A				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2006	Cum 2005
United States	22	46	156	33	40	79	259	442	162	237	46	76	148	89	164
New England	—	4	14	—	2	1	5	15	4	7	1	3	8	2	7
Connecticut	—	1	4	—	—	—	1	4	1	—	U	0	0	U	U
Maine	—	0	5	—	—	—	0	1	—	—	—	0	2	—	1
Massachusetts	—	2	8	—	2	1	3	9	3	7	1	2	6	2	5
New Hampshire	—	0	2	—	—	—	0	4	—	—	—	0	1	—	—
Rhode Island	—	0	2	—	—	—	0	3	—	—	—	0	3	—	—
Vermont§	—	0	2	—	—	—	0	4	—	—	—	0	2	—	1
Mid. Atlantic	1	6	24	1	3	3	22	65	4	28	9	16	38	15	40
New Jersey	—	1	6	—	—	—	5	14	—	8	—	3	9	—	13
New York (Upstate)	1	3	13	1	—	2	5	21	2	—	4	4	16	5	10
New York City	—	0	2	—	1	—	7	22	—	17	—	3	9	—	7
Pennsylvania	—	2	8	—	2	1	2	48	2	3	5	5	12	10	10
E.N. Central	3	7	28	4	12	4	17	78	5	20	15	15	41	27	26
Illinois	—	1	6	—	1	—	4	21	—	5	—	3	10	1	6
Indiana	—	1	7	—	—	—	1	56	—	—	—	1	9	—	—
Michigan	—	1	8	—	3	1	4	14	1	10	5	6	15	12	15
Ohio	3	2	14	4	6	3	2	11	4	4	10	4	14	14	2
Wisconsin	—	2	15	—	2	—	3	9	—	1	—	1	8	—	3
W.N. Central	6	7	38	8	3	24	35	64	42	15	1	4	19	1	10
Iowa	—	1	10	1	2	—	1	9	—	3	N	0	0	N	N
Kansas	—	1	4	—	—	—	4	20	—	1	—	0	4	—	—
Minnesota	2	2	23	2	—	1	2	6	1	1	—	1	15	—	—
Missouri	4	2	7	5	1	23	22	45	41	10	1	1	6	1	4
Nebraska§	—	1	4	—	—	—	1	10	—	—	—	0	2	—	2
North Dakota	—	0	2	—	—	—	0	2	—	—	—	0	3	—	1
South Dakota	—	0	5	—	—	—	1	17	—	—	—	0	2	—	3
S. Atlantic	9	7	31	12	9	29	43	119	53	33	13	17	31	28	42
Delaware	—	0	2	—	—	—	0	2	—	1	—	0	2	—	—
District of Columbia	—	0	1	—	—	—	0	2	—	—	—	0	1	—	—
Florida	2	1	31	3	1	20	20	66	34	15	7	5	12	12	9
Georgia	—	0	6	—	2	—	10	32	7	12	—	3	9	5	8
Maryland	—	1	6	—	2	5	2	8	8	5	1	3	13	6	15
North Carolina	7	1	11	9	3	4	2	22	4	—	5	1	13	5	5
South Carolina§	—	0	2	—	—	—	2	6	—	—	—	0	2	—	3
Virginia§	—	1	9	—	1	—	2	9	—	—	—	1	6	—	2
West Virginia	—	0	1	—	—	—	0	1	—	—	—	0	5	—	—
E.S. Central	1	3	11	2	1	3	21	54	4	19	—	3	11	2	3
Alabama§	—	0	3	—	—	3	3	20	4	2	—	0	0	—	—
Kentucky	—	1	8	1	—	—	5	31	—	—	—	0	3	1	—
Mississippi	—	0	2	—	—	—	2	7	—	3	—	0	0	—	—
Tennessee§	1	1	4	1	1	—	7	45	—	14	—	2	8	1	3
W.S. Central	—	1	7	—	2	3	55	115	18	25	—	4	15	—	2
Arkansas	—	0	2	—	—	1	1	3	1	1	—	0	4	—	—
Louisiana	—	0	2	—	1	—	2	11	—	6	—	0	2	—	—
Oklahoma	—	0	3	—	—	2	11	41	2	5	—	2	13	—	2
Texas§	—	0	2	—	1	—	39	99	15	13	—	2	9	—	—
Mountain	—	5	15	1	3	2	17	46	8	20	6	11	24	13	27
Arizona	—	0	4	—	—	—	9	29	—	8	—	5	16	—	11
Colorado	—	1	6	—	1	—	3	17	5	5	—	4	11	7	11
Idaho§	—	0	7	—	1	—	0	4	—	—	—	0	2	—	—
Montana	—	0	2	—	—	—	0	1	—	—	—	0	0	—	—
Nevada§	—	0	4	—	—	—	1	4	—	4	—	0	6	—	—
New Mexico§	—	0	3	—	—	—	2	8	—	3	—	1	4	—	5
Utah	—	1	7	1	—	1	1	4	2	—	6	2	6	6	—
Wyoming	—	0	3	—	1	1	0	1	1	—	—	0	1	—	—
Pacific	2	7	56	5	5	10	40	98	24	70	1	2	8	1	7
Alaska	—	0	3	—	1	—	0	1	—	1	—	0	0	—	—
California	2	3	8	2	3	10	35	86	23	64	—	0	0	—	—
Hawaii	—	0	4	—	1	—	1	4	1	1	1	2	8	1	7
Oregon§	—	1	47	3	—	—	1	23	—	4	N	0	0	N	N
Washington	—	1	12	—	—	—	2	16	—	—	N	0	0	N	N
American Samoa	U	0	0	U	U	U	0	2	U	—	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	1	—	—	—	0	1	—	—	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2005 and 2006 are provisional.
† Includes *E. coli* O157:H7; Shiga toxin positive, serogroup non-0157; and Shiga toxin positive, not serogrouped.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, NEDSS data from these states are not included this week.

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

	Streptococcus pneumoniae, invasive disease Drug resistant, all ages					Syphilis, primary & secondary					Varicella (chickenpox)				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	33	45	91	66	94	52	160	210	92	256	614	512	1,768	973	767
New England	—	2	12	—	10	6	4	11	7	9	8	46	1,119	36	161
Connecticut	U	0	0	U	U	—	0	7	—	—	U	0	0	U	U
Maine	N	0	0	N	N	—	0	1	—	—	6	2	19	19	29
Massachusetts	—	1	6	—	10	5	2	7	6	9	—	34	86	—	128
New Hampshire	—	0	0	—	—	1	0	2	1	—	2	2	1,110	5	—
Rhode Island	—	0	7	—	—	—	0	6	—	—	—	0	0	—	—
Vermont†	—	0	2	—	—	—	0	1	—	—	—	1	14	12	4
Mid. Atlantic	—	3	10	2	9	7	20	31	14	33	145	110	211	229	36
New Jersey	N	0	0	N	N	—	2	7	—	4	—	0	0	—	—
New York (Upstate)	—	1	9	—	1	—	2	7	—	—	—	0	0	—	—
New York City	U	0	0	U	U	6	12	20	12	26	—	0	0	—	—
Pennsylvania	—	2	9	2	8	1	3	7	2	3	145	110	211	229	36
E.N. Central	18	11	31	28	9	12	16	40	15	17	393	124	460	457	296
Illinois	—	0	2	—	—	8	7	30	8	3	—	2	5	—	1
Indiana	—	3	16	—	—	—	1	5	—	1	—	0	245	—	—
Michigan	1	1	7	2	1	1	1	8	1	—	51	81	351	112	205
Ohio	17	7	20	26	8	3	4	11	6	12	342	27	342	342	63
Wisconsin	N	0	0	N	N	—	0	4	—	1	—	9	21	3	27
W.N. Central	1	1	15	1	3	4	4	10	4	13	41	11	70	111	3
Iowa	N	0	0	N	N	—	0	1	—	—	N	0	0	N	N
Kansas	N	0	0	N	N	—	0	2	—	—	—	0	0	—	—
Minnesota	—	0	15	—	—	—	1	5	—	1	—	0	0	—	—
Missouri	1	0	3	1	3	4	3	6	4	12	40	7	69	109	—
Nebraska†	—	0	1	—	—	—	0	1	—	—	—	0	0	—	—
North Dakota	—	0	1	—	—	—	0	1	—	—	—	0	25	—	—
South Dakota	—	0	1	—	—	—	0	1	—	—	1	1	23	2	3
S. Atlantic	14	19	40	35	52	11	39	87	27	61	17	45	194	42	77
Delaware	—	0	1	—	—	—	0	2	1	—	—	0	4	—	—
District of Columbia	—	0	4	—	—	—	2	9	1	3	—	0	6	—	—
Florida	14	11	34	29	29	8	16	29	21	34	—	0	0	—	—
Georgia	—	4	18	6	21	—	7	43	—	—	—	0	0	—	—
Maryland	—	0	0	—	—	—	6	18	—	12	—	0	0	—	—
North Carolina	N	0	0	N	N	3	4	17	4	11	—	0	0	—	—
South Carolina†	—	0	0	—	—	—	1	8	—	—	2	9	41	2	5
Virginia†	N	0	0	N	N	—	2	11	—	1	—	7	135	—	7
West Virginia	—	2	8	—	2	—	0	1	—	—	15	17	61	40	65
E.S. Central	—	3	12	—	3	7	9	18	8	16	—	0	0	—	—
Alabama†	—	0	0	—	—	—	3	10	—	9	—	0	0	—	—
Kentucky	—	0	5	—	—	4	1	4	5	—	N	0	0	N	N
Mississippi	—	0	0	—	—	—	0	5	—	—	—	0	0	—	—
Tennessee†	—	2	11	—	3	3	4	11	3	7	—	0	0	—	—
W.S. Central	—	1	13	—	7	4	24	38	5	45	6	133	304	57	49
Arkansas	—	0	2	—	1	1	1	6	1	1	2	0	11	2	—
Louisiana	—	1	11	—	6	1	3	17	1	7	—	0	32	—	1
Oklahoma	N	0	0	N	N	2	1	6	3	5	—	0	0	—	—
Texas†	N	0	0	N	N	—	17	30	—	32	4	128	304	55	48
Mountain	—	1	28	—	1	—	7	17	2	9	4	47	118	41	145
Arizona	N	0	0	N	N	—	3	13	2	2	—	0	0	—	—
Colorado	N	0	0	N	N	—	1	6	—	2	—	36	87	34	117
Idaho†	N	0	0	N	N	—	0	6	—	—	—	0	0	—	—
Montana	—	0	1	—	—	—	0	3	—	—	—	0	0	—	—
Nevada†	—	0	27	—	—	—	2	7	—	2	—	0	4	—	—
New Mexico†	—	0	0	—	—	—	1	3	—	3	—	3	15	—	4
Utah	—	0	6	—	1	—	0	1	—	—	4	7	38	5	22
Wyoming	—	0	3	—	—	—	0	0	—	—	—	0	8	2	2
Pacific	—	0	0	—	—	1	33	53	10	53	—	0	0	—	—
Alaska	—	0	0	—	—	—	0	2	—	—	—	0	0	—	—
California	N	0	0	N	N	1	28	51	1	51	—	0	0	—	—
Hawaii	—	0	0	—	—	—	0	2	—	—	—	0	0	—	—
Oregon†	N	0	0	N	N	—	0	6	1	—	—	0	0	—	—
Washington	N	0	0	N	N	—	2	11	8	2	N	0	0	N	N
American Samoa	—	0	0	—	—	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	—	0	0	—	—	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	1	3	15	1	3	—	9	47	—	10
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
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† Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, NEDSS data from these states are not included this week.

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending January 14, 2006, and January 15, 2005 (2nd Week)*

	West Nile virus disease†									
	Neuroinvasive					Non-neuroinvasive				
	Current	Previous 52 weeks		Cum	Cum	Current	Previous 52 weeks		Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	—	0	149	—	—	—	1	199	—	1
New England	—	0	3	—	—	—	0	2	—	—
Connecticut	—	0	2	—	—	—	0	1	—	—
Maine	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	3	—	—	—	0	1	—	—
New Hampshire	—	0	0	—	—	—	0	0	—	—
Rhode Island	—	0	1	—	—	—	0	0	—	—
Vermont§	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	—	0	6	—	—	—	0	4	—	—
New Jersey	—	0	1	—	—	—	0	2	—	—
New York (Upstate)	—	0	0	—	—	—	0	0	—	—
New York City	—	0	2	—	—	—	0	2	—	—
Pennsylvania	—	0	3	—	—	—	0	2	—	—
E.N. Central	—	0	39	—	—	—	0	18	—	—
Illinois	—	0	25	—	—	—	0	16	—	—
Indiana	—	0	2	—	—	—	0	1	—	—
Michigan	—	0	12	—	—	—	0	3	—	—
Ohio	—	0	9	—	—	—	0	4	—	—
Wisconsin	—	0	3	—	—	—	0	2	—	—
W.N. Central	—	0	24	—	—	—	0	73	—	—
Iowa	—	0	3	—	—	—	0	5	—	—
Kansas	—	0	2	—	—	N	0	2	N	N
Minnesota	—	0	5	—	—	—	0	5	—	—
Missouri	—	0	4	—	—	—	0	3	—	—
Nebraska§	—	0	8	—	—	—	0	20	—	—
North Dakota	—	0	3	—	—	—	0	15	—	—
South Dakota	—	0	7	—	—	—	0	33	—	—
S. Atlantic	—	0	5	—	—	—	0	4	—	—
Delaware	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	0	—	—
Florida	—	0	2	—	—	—	0	4	—	—
Georgia	—	0	3	—	—	—	0	3	—	—
Maryland	—	0	2	—	—	—	0	1	—	—
North Carolina	—	0	1	—	—	—	0	1	—	—
South Carolina§	—	0	1	—	—	—	0	0	—	—
Virginia§	—	0	0	—	—	—	0	0	—	—
West Virginia	—	0	0	—	—	N	0	0	N	N
E.S. Central	—	0	10	—	—	—	0	5	—	—
Alabama§	—	0	1	—	—	—	0	2	—	—
Kentucky	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	9	—	—	—	0	5	—	—
Tennessee§	—	0	3	—	—	—	0	1	—	—
W.S. Central	—	0	27	—	—	—	0	18	—	1
Arkansas	—	0	3	—	—	—	0	2	—	—
Louisiana	—	0	16	—	—	—	0	7	—	1
Oklahoma	—	0	6	—	—	—	0	3	—	—
Texas§	—	0	16	—	—	—	0	12	—	—
Mountain	—	0	16	—	—	—	0	38	—	—
Arizona	—	0	8	—	—	—	0	8	—	—
Colorado	—	0	5	—	—	—	0	13	—	—
Idaho§	—	0	2	—	—	—	0	3	—	—
Montana	—	0	3	—	—	—	0	9	—	—
Nevada§	—	0	3	—	—	—	0	8	—	—
New Mexico§	—	0	3	—	—	—	0	4	—	—
Utah	—	0	6	—	—	—	0	8	—	—
Wyoming	—	0	2	—	—	—	0	1	—	—
Pacific	—	0	50	—	—	—	0	89	—	—
Alaska	—	0	0	—	—	—	0	0	—	—
California	—	0	50	—	—	—	0	88	—	—
Hawaii	—	0	0	—	—	—	0	0	—	—
Oregon§	—	0	1	—	—	—	0	2	—	—
Washington	—	0	0	—	—	—	0	0	—	—
American Samoa	U	0	0	U	U	U	0	0	U	U
C.N.M.I.	U	0	0	U	U	U	0	0	U	U
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2005 and 2006 are provisional.
† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, NEDSS data from these states are not included this week.

TABLE III. Deaths in 122 U.S. cities,* week ending January 14, 2006 (2nd week)

Reporting Area	All causes, by age (years) All Ages	≥65	45-64	25-44	1-24	<1	P&I† Total
New England	469	317	99	34	11	8	44
Boston, MA	146	88	37	12	7	2	13
Bridgeport, CT	33	23	6	4	—	—	4
Cambridge, MA	18	14	3	1	—	—	3
Fall River, MA	26	19	4	2	—	1	4
Hartford, CT	47	29	12	4	—	2	1
Lowell, MA	22	14	6	1	—	1	2
Lynn, MA	11	7	1	2	1	—	2
New Bedford, MA	25	23	1	1	—	—	—
New Haven, CT	U	U	U	U	U	U	U
Providence, RI	65	42	17	4	1	1	5
Somerville, MA	6	6	—	—	—	—	—
Springfield, MA	40	32	5	2	—	1	6
Waterbury, CT	30	20	7	1	2	—	4
Worcester, MA	U	U	U	U	U	U	U
Mid. Atlantic	2,119	1,478	425	136	29	47	155
Albany, NY	51	39	9	2	—	1	5
Allentown, PA	24	21	1	2	—	—	2
Buffalo, NY	76	47	25	3	—	1	4
Camden, NJ	22	9	5	4	1	3	1
Elizabeth, NJ	20	14	4	2	—	—	2
Erie, PA	42	35	5	1	1	—	5
Jersey City, NJ	45	38	4	—	2	1	—
New York City, NY	1,158	811	242	76	15	10	89
Newark, NJ	62	30	14	12	3	3	3
Paterson, NJ	21	15	4	1	—	1	—
Philadelphia, PA	175	96	43	12	3	21	12
Pittsburgh, PA§	16	10	3	2	—	1	1
Reading, PA	26	22	2	1	1	—	1
Rochester, NY	147	105	32	6	—	4	10
Schenectady, NY	25	20	5	—	—	—	2
Scranton, PA	38	32	2	4	—	—	3
Syracuse, NY	101	82	13	4	1	1	10
Trenton, NJ	25	16	7	2	—	—	—
Utica, NY	23	17	3	2	1	—	1
Yonkers, NY	22	19	2	—	1	—	4
E.N. Central	2,240	1,481	514	143	42	58	140
Akron, OH	47	36	7	4	—	—	2
Canton, OH	36	26	8	2	—	—	4
Chicago, IL	374	209	100	42	8	13	25
Cincinnati, OH	12	6	4	—	—	2	—
Cleveland, OH	248	181	50	7	2	8	10
Columbus, OH	235	139	66	15	5	10	20
Dayton, OH	155	120	29	5	1	—	10
Detroit, MI	166	87	51	14	6	8	10
Evansville, IN	38	25	9	4	—	—	2
Fort Wayne, IN	82	61	15	2	3	1	6
Gary, IN	17	10	5	2	—	—	—
Grand Rapids, MI	41	22	9	3	4	3	2
Indianapolis, IN	230	155	47	12	7	9	15
Lansing, MI	38	30	7	—	—	1	3
Milwaukee, WI	144	91	38	11	3	1	6
Peoria, IL	36	29	5	1	1	—	2
Rockford, IL	55	38	13	3	1	—	6
South Bend, IN	70	48	15	7	—	—	6
Toledo, OH	151	116	26	7	—	2	10
Youngstown, OH	65	52	10	2	1	—	1
W.N. Central	695	469	147	45	17	16	47
Des Moines, IA	32	25	5	—	—	2	2
Duluth, MN	36	25	6	3	—	2	4
Kansas City, KS	26	14	11	1	—	—	2
Kansas City, MO	108	73	22	5	5	3	7
Lincoln, NE	30	27	2	1	—	—	1
Minneapolis, MN	63	42	12	6	1	2	1
Omaha, NE	122	74	34	7	7	—	12
St. Louis, MO	124	70	33	15	1	4	10
St. Paul, MN	57	45	8	3	1	—	6
Wichita, KS	97	74	14	4	2	3	2
S. Atlantic	1,509	929	378	118	54	29	90
Atlanta, GA	209	130	52	17	8	2	12
Baltimore, MD	171	90	53	16	8	3	18
Charlotte, NC	128	89	21	9	7	2	23
Jacksonville, FL	261	151	72	26	8	4	7
Miami, FL	U	U	U	U	U	U	U
Norfolk, VA	66	47	14	3	1	1	1
Richmond, VA	72	33	21	11	5	2	5
Savannah, GA	84	57	20	4	2	1	3
St. Petersburg, FL	72	48	17	4	1	2	4
Tampa, FL	219	146	48	13	7	5	15
Washington, D.C.	200	123	53	10	7	7	1
Wilmington, DE	27	15	7	5	—	—	1
E.S. Central	981	649	222	60	24	26	68
Birmingham, AL	207	142	47	9	4	5	15
Chattanooga, TN	104	71	22	5	1	5	10
Knoxville, TN	106	73	24	6	2	1	5
Lexington, KY	82	52	17	6	5	2	4
Memphis, TN	144	89	34	14	3	4	10
Mobile, AL	96	63	26	2	2	3	7
Montgomery, AL	66	44	12	6	2	2	5
Nashville, TN	176	115	40	12	5	4	12
W.S. Central	1,832	1,202	430	113	46	41	133
Austin, TX	115	84	25	5	1	—	16
Baton Rouge, LA	29	22	5	1	—	1	1
Corpus Christi, TX	U	U	U	U	U	U	U
Dallas, TX	226	130	64	21	5	6	14
El Paso, TX	119	93	15	8	2	1	10
Fort Worth, TX	166	105	42	11	4	4	11
Houston, TX	517	312	130	40	23	12	37
Little Rock, AR	91	52	26	5	4	4	4
New Orleans, LA¶	U	U	U	U	U	U	U
San Antonio, TX	288	206	60	9	5	8	27
Shreveport, LA	114	75	28	6	1	4	8
Tulsa, OK	167	123	35	7	1	1	5
Mountain	1,456	940	326	91	41	31	157
Albuquerque, NM	122	82	28	6	5	1	15
Boise, ID	55	44	7	2	—	2	10
Colorado Springs, CO	80	58	16	2	3	1	2
Denver, CO	103	57	24	9	5	8	10
Las Vegas, NV	341	226	81	25	8	1	32
Ogden, UT	44	32	7	3	—	2	7
Phoenix, AZ	299	150	72	27	13	10	33
Pueblo, CO	33	23	7	3	—	—	1
Salt Like City, UT	159	104	40	5	4	6	26
Tucson, AZ	220	164	44	9	3	—	21
Pacific	2,133	1,497	439	117	46	34	218
Berkeley, CA	14	10	3	—	—	1	4
Fresno, CA	U	U	U	U	U	U	U
Glendale, CA	22	21	1	—	—	—	4
Honolulu, HI	34	28	5	1	—	—	2
Long Beach, CA	103	71	27	4	1	—	17
Los Angeles, CA	394	267	89	22	11	5	34
Pasadena, CA	28	26	2	—	—	—	4
Portland, OR	202	145	36	12	3	6	15
Sacramento, CA	249	164	58	18	6	3	21
San Diego, CA	238	161	53	12	6	6	27
San Francisco, CA	152	94	46	7	2	3	16
San Jose, CA	274	204	41	13	10	6	37
Santa Cruz, CA	54	44	7	2	1	—	6
Seattle, WA	175	119	37	13	4	2	14
Spokane, WA	60	46	9	4	—	1	7
Tacoma, WA	134	97	25	9	2	1	10
Total	13,434**	8,962	2,980	857	310	290	1,052

U: Unavailable. —:No reported cases.

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

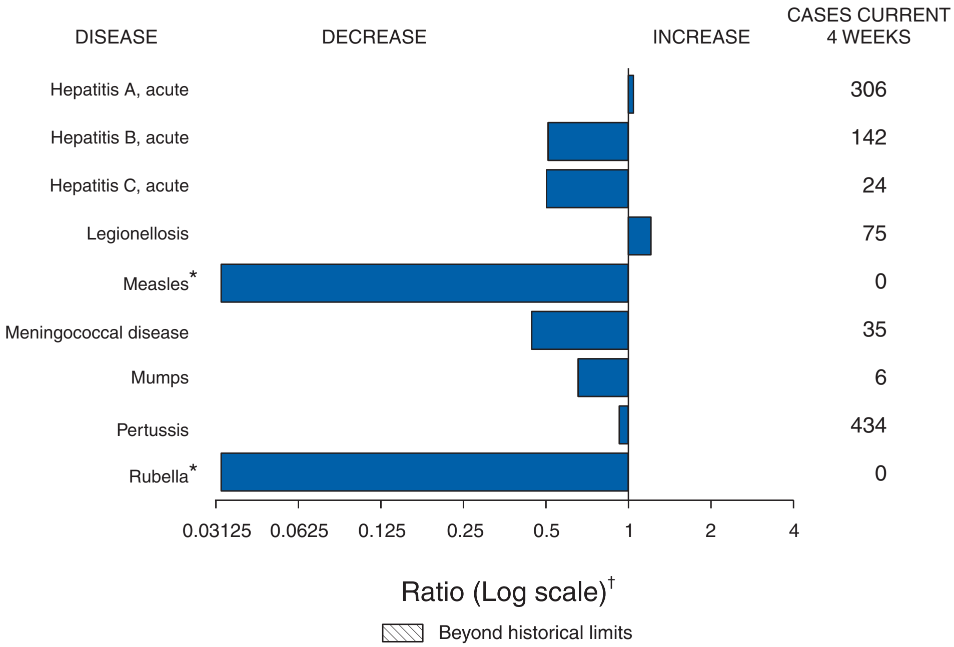
† Pneumonia and influenza.

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

¶ Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted.

** Total includes unknown ages.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals January 14, 2006, with historical data



* No measles or rubella cases were reported for the current 4-week period yielding a ratio for week 2 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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