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Progress Toward Interruption of Wild Poliovirus Transmission — Worldwide, 2009

In 1988, an estimated 350,000 cases of poliomyelitis were occurring annually worldwide. By 2005, because of global vaccination efforts, indigenous transmission of wild poliovirus (WPV) types 1 and 3 (WPV1 and WPV3) had been eliminated from all but four countries (Afghanistan, India, Nigeria, and Pakistan). No cases of WPV type 2 have been reported since 1999. This report describes progress toward global WPV eradication during 2009 and updates previous reports (*1–6*). During 2009 a total of 1,606 cases of WPV infection were reported, compared with 1,651 in 2008. WPV3 incidence increased 67%, to 1,124 cases, compared with 675 in 2008. However, WPV1 incidence decreased 51%, to 482 cases in 2009, compared with 976 cases in 2008. In India, nearly all polio cases in 2009 were reported in high-risk districts in western Uttar Pradesh and central Bihar. In Afghanistan and Pakistan, WPV circulation in high-risk districts continued because of difficulties vaccinating children in conflict-affected areas and operational limitations in parts of Pakistan (*5*). In Nigeria, cases decreased by 51%, to 388 cases in 2009, compared with 798 in 2008. During 2009, outbreaks from importation of WPV affected 19 previously polio-free African countries (*2*). Two key steps are needed to make further progress in polio eradication: 1) addressing local barriers to interrupting transmission, and 2) using bivalent oral poliovirus vaccine (bOPV) broadly for WPV 1 and 3 in supplemental immunization activities (SIAs).

Routine Vaccination

Global routine vaccination coverage of infants with 3 doses of trivalent oral poliovirus vaccine (tOPV) by age 12 months was estimated at 83% in 2008,* and coverage varied by World Health Organization (WHO) region: African (72%), South-East Asian (73%), Eastern Mediterranean (84%), Americas (92%), European (96%), and Western Pacific (97%). Estimated national 3-dose tOPV coverage for 2008 was 85% in Afghanistan, 81% in Pakistan, 67% in India, and 61% in Nigeria. However, routine 3-dose tOPV coverage of <40% was reported from the Indian states of Bihar and Uttar Pradesh, parts of Afghanistan and Pakistan, and the northern Nigerian states.†

Supplementary Immunization Activities

In 2009, a total of 270 oral polio vaccine (OPV) SIAs§ were conducted in 40 countries (101 national immunization days, 120 subnational immunization days, 21 child health days, and 28 mop-up rounds). An estimated 2.21 billion OPV doses were administered to approximately 360 million children aged <5 years. Of those doses, 39% were tOPV, 51% were monovalent OPV type 1 (mOPV1), 10% were monovalent OPV type 3, and <1% were bOPV. Of the 270 SIAs, 85 (32%) were conducted in the four polio-endemic countries (34 in India, 23 in Pakistan, 13 in Afghanistan, and 15 in Nigeria), 136 (50%) in countries where WPV was reintroduced in 2009 (15) or earlier (five), and 49 (18%) in 16 countries without confirmed WPV cases in 2009.

* The most recent year with data available; World Health Organization/UNICEF estimates; coverage data available at http://www.who.int/immunization_monitoring/en/globalsummary/countryprofileselect.cfm.

† Measure DHS (Demographic and Health Surveys) Project, Key Indicators Survey. Calverton, MD:ICF Macro; available at http://www.measuredhs.com; and unpublished data from National Polio Surveillance Project, India.

§ Mass campaigns conducted for a brief period (days to weeks) in which 1 dose of OPV is administered to all children aged <5 years, regardless of vaccination history. Campaigns can be conducted nationally or in portions of the country.

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Acute Flaccid Paralysis Surveillance

The acute flaccid paralysis (AFP) surveillance system is fundamental to monitoring progress toward polio eradication. The system tracks all AFP cases in children aged <15 years and all paralytic illness cases in persons of any age when polio is suspected. The quality of AFP surveillance is monitored by WHO performance indicators.¶ In 2009, each WHO region (except for the European Region) maintained the overall sensitivity of AFP surveillance at certification-standard levels (Table). Since 2005, an operational target for all countries reporting WPV and for neighboring countries has been to achieve a nonpolio AFP rate of >2 cases per 100,000 children aged <15 years. In 2009, all four polio-endemic countries and the 19 other countries with WPV circulation reached this target nationally, although subnational surveillance quality varied substantially.

¶ AFP surveillance quality is monitored by performance indicators that measure the sensitivity and specificity of detecting WPV transmission. Certification standard WHO targets are a nonpolio AFP detection rate of >1 case per 100,000 population aged <15 years and adequate stool specimen collection from >80% of AFP cases, in which two specimens are collected ≥24 hours apart, both within 14 days of paralysis onset, shipped on ice or frozen ice packs, and arriving in good condition to a WHO-accredited laboratory. National data might mask surveillance system weaknesses at subnational levels.

Wild Poliovirus Incidence

Of 1,606 WPV cases with onset of paralysis reported worldwide during 2009 (Table, Figure), 1,256 (78%) were from the four polio-endemic countries, 207(13%) were from 15 previously polio-free countries after WPV importation, and 143 (9%) were from four countries with reestablished transmission (transmission for >12 months after importation). WPV1 cases decreased from 976 in 2008 to 482 in 2009, whereas WPV3 cases increased from 675 in 2008 to 1,124 in 2009. The number of polio-affected districts decreased 3%, from 496 in 2008 to 481 in 2009.

India. India reported 741 WPV cases in 2009 (79 WPV1, 661 WPV3, and one mixed WPV1/WPV3), an increase compared with 559 cases in 2008. WPV transmission mainly occurred in the northern states of Uttar Pradesh (33 WPV1, 568 WPV3, and one mixed WPV1/WPV3) and Bihar (38 WPV1 and 79 WPV3). The remaining cases in six states and Delhi (eight WPV1 and 14 WPV3) resulted from importation from these two states. Environmental sampling in Mumbai detected one WPV1-positive sample in January 2009 and one WPV3-positive sample in December 2009, whereas sampling in 2008 detected two WPV1-positive

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TABLE. Acute flaccid paralysis (AFP) surveillance data and reported wild poliovirus (WPV) cases, by World Health Organization (WHO) region and country* — worldwide, 2009 and January–April 2010

WHO region and country	Reported AFP cases 2009		Non-polio AFP rate 2009†	AFP with adequate specimens§ 2009	Confirmed WPV cases 2009		Confirmed WPV cases Jan–Apr 2010	
	No.	(%)		(%)	No.	(%)	No.	(%)
Worldwide	**89,999**	**(100)**	**4.9**	**(86)**	**1,606**	**(100)**	**115**	**(100)**
African	**15,129**	**(17)**	**4.0**	**(89)**	**693**	**(43)**	**40**	**(35)**
Angola	333	(<1)	3.2	(92)	29	(2)	1	(1)
Benin	148	(<1)	3.3	(91)	20	(1)	0	—
Burkina Faso	257	(<1)	3.6	(83)	15	(1)	0	—
Burundi	169	(<1)	4.3	(80)	2	(<1)	0	—
Cameroon	198	(<1)	2.1	(87)	3	(<1)	0	—
Central African Republic	163	(<1)	8.0	(90)	14	(1)	0	—
Chad	351	(<1)	5.0	(83)	66	(4)	12	(10)
Cote d'Ivoire	332	(<1)	3.0	(73)	26	(2)	0	—
Democratic Republic of the Congo	1,628	(2)	5.0	(85)	3	(<1)	0	—
Guinea	173	(<1)	2.3	(92)	42	(3)	0	—
Kenya	464	(1)	2.5	(83)	19	(1)	0	—
Liberia	59	(<1)	2.7	(100)	11	(1)	1	(1)
Mali	154	(<1)	2.4	(94)	2	(<1)	1	(1)
Mauritania	71	(<1)	4.4	(97)	13	(1)	4	(3)
Niger	348	(<1)	4.7	(79)	15	(1)	2	(2)
Nigeria	5,501	(6)	7.1	(95)	388	(24)	2	(2)
Senegal	184	(<1)	3.2	(95)	0	—	16	(14)
Sierra Leone	187	(<1)	6.3	(91)	11	(1)	1	(1)
Togo	100	(<1)	3.4	(89)	6	—	0	—
Uganda	609	(1)	3.8	(87)	8	—	0	—
Eastern Mediterranean	**10,607**	**(12)**	**4.4**	**(91)**	**172**	**(11)**	**23**	**(20)**
Afghanistan	1,477	(2)	8.6	(93)	38	(8)	8	(7)
Pakistan	5,161	(6)	6.1	(90)	89	(14)	15	(13)
Sudan	624	(1)	2.8	(93)	45	(3)	0	—
European	**1,359**	**(2)**	**0.9**	**(84)**	**0**	—	**32**	**(28)**
Tajikistan	35	(<1)	1.4	(86)	0	—	32	(28)
South-East Asian	**54,948**	**(61)**	**8.4**	**(84)**	**741**	**(46)**	**20**	**(17)**
India	50,400	(56)	11.0	(83)	741	(46)	19	(17)
Nepal	451	(1)	4.1	(87)	0	—	1	(1)
Americas	**1,866**	**(2)**	**1.1**	**(79)**	**0**	—	**0**	—
Western Pacific	**6,090**	**(7)**	**1.5**	**(87)**	**0**	—	**0**	—

* Based on data reported to WHO as of May 5, 2010; only countries reporting WPV cases in 2009 or 2010 are listed. Cases are reported by date of onset of paralysis.

† Per 100,000 children aged <15 years.

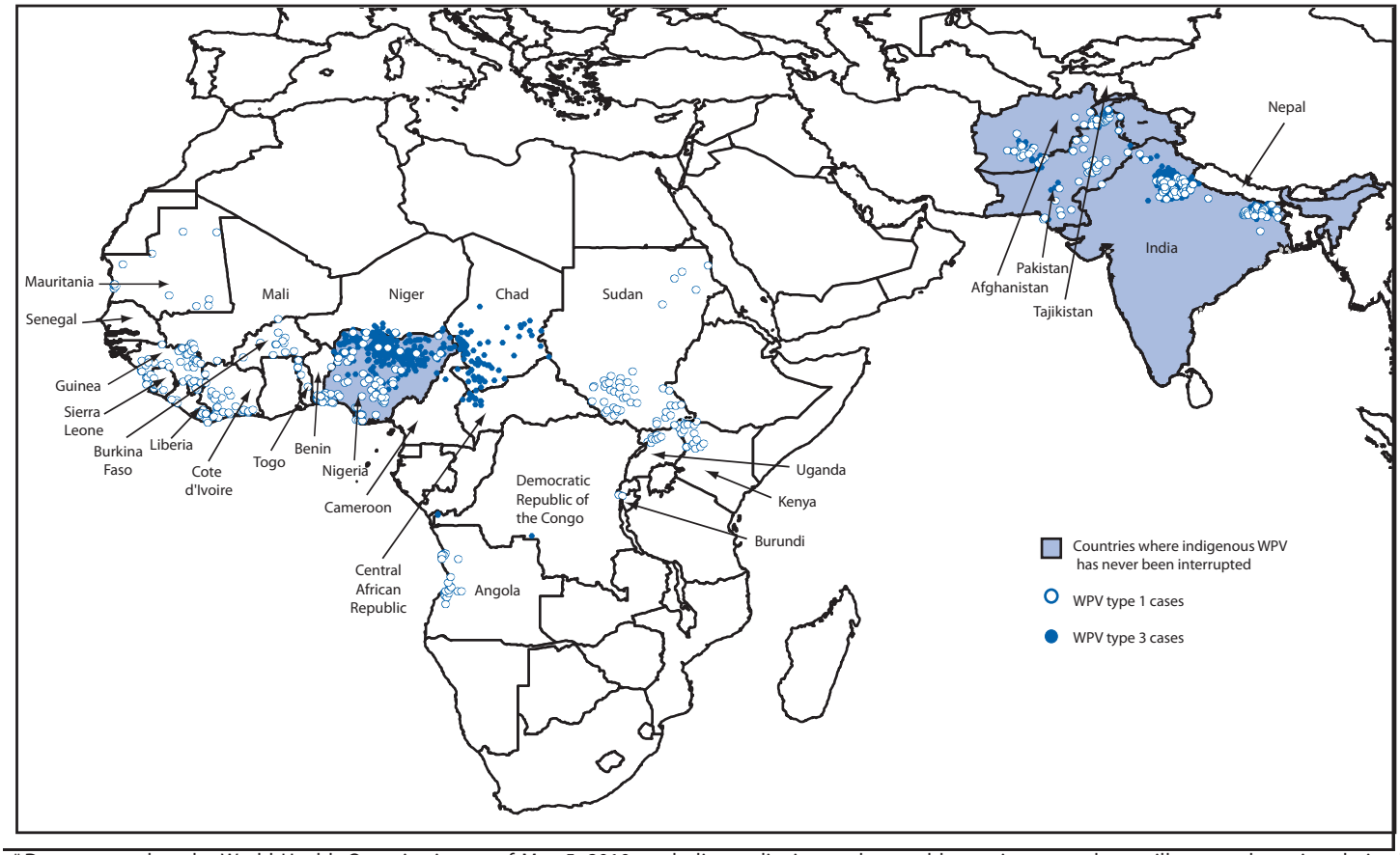
§ The proportion of AFP cases with adequate stool specimens, with a target for certification of >80%. Adequate specimens are two stool specimens, collected at least 24 hours apart, within 14 days of onset of paralysis, and shipped on ice or frozen ice packs to a WHO-accredited laboratory, arriving at the laboratory in good condition.

samples and 31 WPV3-positive samples. All positive samples in 2008–2009 were of Bihar origin.

Afghanistan and Pakistan. Afghanistan reported 38 WPV cases in 2009 (15 WPV1 and 23 WPV3), compared with 31 WPV cases in 2008, and Pakistan reported 89 WPV cases (60 WPV1, 28 WPV3, and one mixed WPV1/WPV3), compared with 117 cases in 2008. WPV transmission was restricted primarily to previously affected districts in both countries (*5*). In Afghanistan, 34 (90%) WPV cases occurred in 12 high-risk districts in the conflict-affected southern region. Pakistan experienced continued WPV transmission in security-compromised areas of the Northwest Frontier Province, and in accessible areas of Balochistan and Sindh provinces, where managerial and operational limitations continued to affect vaccination coverage. During 2009, both countries continued to conduct coordinated SIAs and used multiple strategies to reach previously unvaccinated children.

Nigeria. Reported WPV cases in Nigeria decreased from 798 in 2008 (721 WPV1, 76 WPV3, and one mixed WPV1/WPV3) to 388 in 2009 (75 WPV1 and 313 WPV3). After increased involvement of state and local authorities and traditional leaders in 2008–2009,

FIGURE. Distribution and location of wild poliovirus (WPV) cases (N = 1,606) — worldwide, 2009*



*Data reported to the World Health Organization as of May 5, 2010, excluding polioviruses detected by environmental surveillance and vaccine-derived polioviruses.

community acceptance and indicators of SIA quality improved in some previously high-incidence states in northern Nigeria. In addition, a sustained decrease in the weekly incidence of cases (particularly WPV1) occurred in the second half of 2009, especially in the northern states (*4*). However, surveillance monitoring for 2009 indicated that among children aged 6–35 months, up to 50% received <3 doses OPV and up to 20% received no doses in previously high-incidence northern states.

Importations. In 2009, as a consequence of importations that occurred in 2008 or earlier, WPV transmission was confirmed to be reestablished in Angola and Chad and suspected to be reestablished, based on virologic data, in the Democratic Republic of the Congo (DRC) and southern Sudan (*2*). During August 2008–December 2009, WPV endemic to Nigeria was exported, mostly through intermediate countries, to 10 countries in west Africa and two countries in central Africa and resulted in 178 cases in 2009.** In 2009, WPV3 transmission occurred in the Central Africa Republic through importations from Chad (transmission since 2007, originating from Nigeria) and from DRC (after transmission in Angola in 2008, originating from India) (*2*). WPV1 outbreaks in Kenya and Uganda in 2009 resulted from importations from southern Sudan (genetic linkage to WPV1 isolated during the outbreak in Sudan during 2004–2005, originating from Nigeria). In Burundi, two WPV1 cases were detected with genetic linkage to WPV1 isolated in DRC in 2008 (after transmission in Angola in 2008, originating from India).

** Benin, Burkina Faso, Cameroon, Central African Republic, Cote d'Ivoire, Guinea, Liberia, Mali, Mauritania, Niger, Sierra Leone, Togo.

Vaccine-Derived Polioviruses

In 2009, 175 circulating vaccine-derived polioviruses (cVDPVs) were detected from persons with AFP in six countries, including northern Nigeria (153 type 2 cVDPVs), where transmission of cVDPVs has continued since 2005; Guinea (one type 2 cVDPV, imported from Nigeria) (*4,6*); DRC (four type 2 cVDPVs); Ethiopia (one type 2 cVDPV, one type 3 cVDPV); Somalia (four type 2 cVDPVs); and India (11 type 2 cVDPVs).

Reported by

Polio Eradication Dept, World Health Organization, Geneva, Switzerland. Div of Viral Diseases and Global Immunization Div, National Center for Immunization and Respiratory Diseases, CDC.

Editorial Note

The 1,606 WPV cases reported in 2009 were within the range of cases reported annually since 2005 (1,315 to 1,997 cases). The predominant use of mOPV1 in SIAs since 2006 resulted in reduced numbers of WPV1 cases in 2007 (321) and 2009 (482) but were accompanied by an increase in WPV3 cases, from 994 in 2007 to 1,124 in 2009. These cyclic alternating increases in WPV1 and WPV3 incidence, combined with stagnation in the level of total annual reported cases, prompted development of bOPV in 2007, which became available at the end of 2009. This vaccine is designed to be used for SIAs in countries or areas where both serotypes are circulating, and as supplies allow, currently is in large-scale use in most SIAs in all endemic countries.

In 2009, in response to ongoing WPV1 and WPV3 transmission in all endemic countries and recognition of reestablished transmission in some previously polio-free countries, WHO requested an independent, external evaluation to identify and evaluate barriers to interrupting WPV transmission (*7*). This evaluation showed that improvements in SIA operations will be required in local, high-risk areas of each country to achieve further progress toward polio eradication. The evaluation also found that the greatest challenges to further progress include funding shortages that limit implementation of SIAs, complacency or continued nonengagement by local health or political authorities, surveillance weaknesses (especially at the subnational level), and continued inability to access children in insecure areas.

The Global Polio Eradication Initiative (GPEI) is using a new strategic plan for 2010–2012, which incorporates lessons learned since GPEI began in 1988, and introduces specific new strategies, milestones for monitoring progress, enhanced oversight, and defined mechanisms for taking corrective actions, with the objective of interrupting poliovirus transmission by the end of 2012 (Box) (*8*).

GPEI and national authorities are trying to improve the accountability of local leaders, increase the reliability of SIA quality monitoring, better address the needs of migrant and other underserved populations, and strengthen routine immunization systems. The justification for further financing of GPEI to complete polio eradication is sound, both from a humanitarian and economic perspective. A decision to change course from eradication to polio control has been shown by mathematical modeling to be a more costly option over a 20-year period and also will lead to an upsurge to as many as 200,000 polio cases per year in low-income countries (*9*).

Despite persistence of WPV transmission and importation outbreaks during 2009, as of May 5, 2010, the reported number of WPV cases has declined since the latter part of 2009 in historically high-risk areas of many affected countries. During October–April, when occurrences are seasonally lower, no WPV1 cases were reported from either of the two endemic areas of India (last case in November 2009), and only three WPV3 cases and two WPV1 cases were reported from Nigeria. Also, no WPV cases have been reported since November 2009 from 11 of the 15 African countries affected by new importations in 2009. As of May 5, a total of 115 WPV cases had been reported globally in 2010, compared with 396 in 2009 in this same period, a 71% decline in large part accounted for by the decrease in cases in Nigeria. These trends should be interpreted with caution because of the expected decreased incidence during the low season for poliovirus transmission and occasional delays in confirmation of WPV cases. The notably low WPV incidence in Nigeria has highlighted the opportunity to interrupt WPV transmission in that country in the near future if recent improvements in vaccinating children are maintained and further strengthened.

What is already known on this topic?

The Global Polio Eradication Initiative (GPEI) has reduced poliomyelitis >99% worldwide, from an estimated 350,000 cases of polio in 125 countries in 1988, to 1,606 cases in 23 countries in 2009.

What is added by this report?

The 1,606 WPV cases reported in 2009 were within the range of cases reported annually since 2005 (1,315 to 1,997 cases); 78% were from the four polio-endemic countries, 13% were from 15 previously polio-free countries after WPV importation, and 9% were from four countries with reestablished transmission after importation.

What are the implications for public health practice?

A new GPEI strategic plan for 2010–2012 is being implemented, with the objective of interrupting poliovirus transmission by the end of 2012.

BOX. Main points from the World Health Organization (WHO) Global Polio Eradication Initiative (GPEI) Strategic Plan 2010–2012*

Major lessons		What's different in 2010–2012?
Population immunity thresholds needed to stop poliovirus transmission differ and are higher in Asia than in Africa	→	WHO will use a new "geographic" strategy and tailor oral polio vaccine (OPV) campaign strategy and monitoring activities more closely to local circumstances than previously, thereby increasing program efficiency.
Immunity gaps allow virus to persist in smaller areas and population subgroups than previously thought	→	WHO systematically is developing district- and population-specific strategies and capacity, and special tactics for underserved populations, to address heterogeneity in OPV coverage. Improved real-time and independent monitoring of supplemental immunization activities (SIAs) has been developed where needed, and results of monitoring will be posted internationally within 2 weeks of each campaign.
Routes of poliovirus spread and risks for outbreaks are now largely predictable	→	WHO will target immunization systems strengthening and preplanned, synchronized SIAs to reduce the risk for outbreaks after wild poliovirus (WPV) importation, and use a two-pronged approach to enhance the speed, quality, and effectiveness of response activities reported, should an outbreak occur.
Optimizing the balance of use of monovalent OPVs is much more difficult than anticipated	→	WHO will use bivalent OPV in those areas where WPV types 1 and 3 are circulating, and implement a balance of monovalent, bivalent, and trivalent OPV SIAs to interrupt WPV transmission and maintain population immunity.

* Adapted from the WHO GPEI 2010–2012 strategic plan, available at http://www.polioeradication.org/content/publications/stratplan.2010-12.asp.

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Acute Antimicrobial Pesticide-Related Illnesses Among Workers in Health-Care Facilities — California, Louisiana, Michigan, and Texas, 2002–2007

Antimicrobial pesticides (e.g., sterilizers, disinfectants, and sanitizers) are chemicals used to destroy or suppress the growth of harmful microorganisms on inanimate objects and surfaces (*1*). Health-care facilities use antimicrobial pesticides to prevent pathogen transmission from contaminated environmental surfaces (*2*). Occupational exposures to antimicrobial pesticides are known to cause adverse health effects. To assess the nature and frequency of such exposures in health-care settings, CDC analyzed data from pesticide poisoning surveillance programs in California, Louisiana, Michigan, and Texas (the only four states that regularly collect data on antimicrobial pesticide-related illness) for the period 2002–2007. This report summarizes the results of that analysis, which identified 401 cases of work-related illness associated with antimicrobial pesticide exposures in health-care facilities. Most cases were identified through workers compensation systems (61%) and occurred among females (82%) and persons aged 25–54 years (73%). The most frequent occupations reported were janitors/housekeepers (24%) and nursing/medical assistants (16%). The reported mechanism of injury usually was splashes/spills (51%). The eyes were the most common organ/system affected (55%); only 15% of the 265 persons who had exposures while handling antimicrobial pesticides reported using eye protection. Reported symptoms were mostly mild and temporary. One fatality due to acute asthma and subsequent cardiopulmonary collapse was identified. Health-care facilities should educate workers about antimicrobial pesticide hazards, promote the use of personal protective equipment (PPE) as appropriate, and implement effective risk communication strategies for antimicrobial pesticide use to prevent bystander exposure. Improved design of handling equipment might prevent handler and bystander exposure.

Approximately 5,000 antimicrobial pesticide products are registered with the U.S. Environmental Protection Agency, and approximately 60% of these are targeted to control infectious microorganisms in health-care settings (*1*). Antimicrobial pesticide products are formulated into sprays, liquids, concentrated powders, and gases (*1*). Occupational exposure to disinfectants (e.g., glutaraldehyde), cleaning products (e.g., bleach), or sanitizers (e.g., quarternary ammonium compounds [QACs]) can cause acute irritant symptoms, respiratory and skin sensitization, and asthma (*3*–*5*). Although information on the risks for occupational exposure to antimicrobial pesticides is available, little is known about the magnitude and characteristics of acute antimicrobial pesticide illnesses among workers in health-care facilities.

The four states require health-care providers to report pesticide-related illness to designated state agencies. State surveillance programs collect data on acute pesticide illness cases from various sources (e.g., physicians, poison control centers, workers compensation systems, and state and local government agencies) and classify cases based on the strength of evidence for pesticide exposure, health effects, and their causal relationship (*6*) (Table 1). CDC obtained data for the California cases from the California Department of Pesticide Regulation (CDPR), and data for the other three states from the Sentinel Event Notification System for Occupational Risks (SENSOR)-Pesticides program.* Case categories of definite, probable, possible, and suspicious from SENSOR-Pesticides and definite, probable, and possible from CDPR were included in the data analysis. An antimicrobial pesticide-related illness was defined as any acute adverse health effect resulting from exposure to an antimicrobial pesticide product. Health-care facilities were defined as hospitals, nursing and personal-care facilities, medical clinics, and other health service settings involving patient care.† Home health-care services were excluded. Data were analyzed for demographics, occupation, health effects,

* Among 12 states participating in the SENSOR-Pesticides program, Louisiana, Michigan, and Texas collect data on antimicrobial pesticide illness. The California Department of Public Health (CDPH) participates in SENSOR-Pesticides but started to collect data on antimicrobial pesticide illnesses only in 2007. Thus, data from CDPH were not included in the analyses.

† Health-care facility cases initially were identified by the location of the incident or the employed industry. Health-care industry was identified using Standard Industrial Classification codes for CDPR cases (801, 802, 803, 804, 805, 806, 807, and 809) and 1990 Census Industry Codes for SENSOR-Pesticides cases (812, 820, 821, 822, 830, 831, 832, and 840). Cases not meeting the definition of health-care facilities were excluded after a review of case information.

TABLE 1. Case classification matrix for acute pesticide-related illnesses by the SENSOR*-Pesticides program

Classification criteria†	Classification category§				
	Definite	Probable¶		Possible	Suspicious
Exposure	1	1	2	2	1 or 2
Health effects	1	2	1	2	1 or 2
Causal relationship	1	1	1	1	4

Source: CDC. Case definition for acute pesticide-related illness and injury cases reportable to the national public health surveillance system. Available at http://www.cdc.gov/niosh/topics/pesticides/pdfs/casedef2003_revAPR2005.pdf.

* Sentinel Event Notification System for Occupational Risks.

† Cases are classified as definite, probable, possible, or suspicious based on scores for exposure, health effects, and causal relationship. Exposure score (E): 1 = laboratory, clinical, or environmental evidence for exposure; 2 = evidence of exposure based solely on written or verbal report from the patient, a witness, or applicator. Health effects scores (H): 1 = two or more new postexposure signs or laboratory findings reported by a licensed health professional; 2 = two or more postexposure symptoms reported by the patient. Causal relationship scores (C): 1 = the observed health effects are consistent with the known toxicology of the antimicrobial pesticide; 4 = insufficient toxicologic information available to determine the causal relationship.

§ Case classifications are slightly different between the SENSOR-Pesticides program and the California Department of Pesticide Regulation (CDPR) Pesticide Illness Surveillance system. CDPR classifies cases as definite, probable, and possible based on the relationship between exposure and health effects: definite = both physical and medical evidence document exposure and consequent health effects; probable = limited or circumstantial evidence supports a relationship to pesticide exposure; possible = evidence neither supports nor contradicts a relationship. Additional information is available at http://www.cdpr.ca.gov/docs/whs/pisp/brochure.pdf.

¶ The probable category is assigned to the following two conditions: E = 1, H = 2, C = 1; or E = 2, H = 1, C = 1.

severity,§ outcomes (e.g., hospitalization and lost work time), pesticide toxicity, active ingredients, and nature of exposure (e.g., type of activity, type of exposure, and PPE use).

During 2002–2007, a total of 401 acute illnesses associated with work-related antimicrobial pesticide exposures in health-care facilities were reported: 287 cases (72%) in California, 56 (14%) in Texas, 43 (11%) in Michigan, and 15 (4%) in Louisiana (Table 2). These antimicrobial pesticide exposure cases accounted for 87% of all work-related pesticide illnesses reported in health-care facilities. The annual number of cases increased from 51 in 2002 to 77 in 2007. The majority of cases were among females (82%) and persons aged 25–54 years (73%). Occupations with the most cases were janitors/housekeepers (24%), followed by nursing/medical assistants (16%) and technicians (15%).

§ Severity of illness was coded using standardized criteria (available at http://www.cdc.gov/niosh/topics/pesticides). Low-severity illness refers to mild health effects that generally resolve without treatment and where minimal time (<3 days) is lost from work. Moderate-severity illness refers to non–life-threatening health effects that generally are systemic and require medical treatment. These might require hospitalization (≤3 days) and time lost from work is ≤5 days. No residual disability is expected. High-severity illness refers to life-threatening or serious health effects, which usually require hospitalization (>3 days), involve substantial time lost from work (>5 days), and can result in permanent impairment or disability.

Most cases (85%) had low-severity illness. Fifty-six cases (14%) had moderate-severity illness, two cases had high-severity illness, and one death occurred. Eight cases (2%) were hospitalized, and 68 persons (17%) experienced ≥1 day of lost time from work. Ocular symptoms/signs (e.g., eye irritation/pain and conjunctivitis) were the most commonly experienced health effects (55%), followed by neurologic (e.g., headache and dizziness) (32%), respiratory (e.g., throat irritation/pain, cough, and dyspnea) (30%), and dermal (e.g., irritation and rash) (24%) symptoms/signs. Among the 121 cases with respiratory symptoms/signs, 11 (9%) were in persons with asthma who had acute asthma, and six (5%) were in persons without asthma who experienced wheezing; all 17 were classified with moderate or higher severity illness.

The fatal case occurred in a woman aged 52 years employed as a laundry worker at a Michigan nursing home who had a 2-year history of non–steroid-dependent asthma and chronic bronchitis. She smoked two packs of cigarettes and some marijuana daily. In February 2007, she was exposed to nondiluted bleach fumes from an open pail near a running clothes dryer for 10–15 minutes. She complained of shortness of breath, used her albuterol inhaler, but collapsed. 9-1-1 was called, and cardiopulmonary resuscitation and intubation were performed at the scene. She never regained consciousness and died 5 days later in the hospital.

The most common active ingredients responsible for illnesses were QACs (38%), glutaraldehyde (25%), and sodium hypochlorite (18%). Sixty-six percent of cases were in persons exposed while they handled antimicrobial pesticides and 18% were in bystanders (16% had unknown activity at time of exposure). Inadvertent exposure by splashes/spills/leaks accounted for 51% of cases. Among 265 persons who handled antimicrobial pesticides, 74% were wearing some type of PPE, including primarily work clothes or gowns (60%) and gloves (55%). Only 15% wore eye protection, including safety glasses, goggles, or face shield, and 5% wore surgical masks or respirators.

Reported by

L Mehler, MD, California Dept of Pesticide Regulation. A Schwartz, MPH, Michigan Dept of Community Health. B Diebolt-Brown, MA, Texas Dept of State Health Svcs. R Badakhsh, MPH, Louisiana Dept of Health and Hospitals. GM Calvert, MD, Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health; SJ Lee, PhD, EIS Officer, CDC.

TABLE 2. Number and percentage of acute illnesses associated with work-related antimicrobial pesticide exposures in health-care facilities, by selected characteristics — California, Louisiana, Michigan, and Texas, 2002–2007

	Total		California		Louisiana		Michigan		Texas	
Characteristic	No	(%)*	No	(%)	No	(%)	No	(%)	No	(%)
Total	**401**	**(100)**	**287**	**(100)**	**15**	**(100)**	**43**	**(100)**	**56**	**(100)**
Type of facility										
Hospital	268	(67)	185	(65)	12	(80)	30	(70)	41	(73)
Medical and dental clinic	63	(16)	49	(17)	0	—	7	(16)	7	(13)
Nursing and personal-care facility	38	(10)	28	(10)	1	(7)	6	(14)	3	(5)
Other (e.g., dialysis center, specialty outpatient facility, medical laboratory)	32	(8)	25	(9)	2	(13)	0	—	5	(9)
Reporting source										
Health-care provider	14	(4)	14	(5)	0	—	0	—	0	—
Poison control center	126	(31)	16†	(6)	15	(100)	42	(98)	53	(95)
Workers compensation	245	(61)	242	(84)	—§	—	—§	—	3	(5)
Other	16	(4)	15	(5)	0	—	1	(2)	0	—
Year										
2002	51	(13)	46	(16)	0	—	5	(12)	0	—
2003	60	(15)	54	(19)	1	(7)	3	(7)	2	(4)
2004	74	(19)	64	(22)	1	(7)	4	(9)	5	(9)
2005	65	(16)	39	(14)	2	(13)	12	(28)	12	(21)
2006	74	(19)	35	(12)	1	(7)	13	(30)	25	(45)
2007	77	(19)	49	(17)	10	(67)	6	(14)	12	(21)
Status										
Definite	88	(22)	64	(22)	3	(20)	10	(23)	11	(20)
Probable	219	(55)	181	(63)	3	(20)	12	(28)	23	(41)
Possible	94	(23)	42	(15)	9	(60)	21	(49)	22	(39)
Suspicious	0	—	—¶	—	0	—	0	—	0	—
Age (yrs)										
15–24	58	(15)	37	(13)	3	(20)	8	(19)	10	(18)
25–34	93	(23)	79	(28)	2	(13)	3	(7)	9	(16)
35–44	118	(29)	83	(29)	5	(33)	15	(35)	15	(27)
45–54	80	(20)	51	(18)	5	(33)	10	(23)	14	(25)
55–64	40	(10)	32	(11)	0	—	2	(5)	6	(11)
Unknown	12	(3)	5	(2)	0	—	5	(12)	2	(4)
Sex										
Female	329	(82)	235	(82)	15	(100)	36	(84)	43	(77)
Male	72	(18)	52	(18)	0	—	7	(16)	13	(23)
Maximum toxicity**										
I (Danger)	308	(77)	221	(77)	6	(40)	34	(79)	47	(84)
II (Warning)	15	(4)	8	(3)	2	(13)	1	(2)	4	(7)
III (Caution)	65	(16)	48	(17)	7	(47)	7	(16)	3	(5)
Unknown/Missing	13	(3)	10	(4)	0	—	1	(2)	2	(4)
Most common active ingredient††										
Quaternary ammonium compounds	151	(38)	104	(36)	11	(73)	15	(35)	21	(38)
Glutaraldehyde	101	(25)	84	(29)	2	(13)	8	(19)	7	(13)
Sodium hypochlorite	71	(18)	55	(19)	0	—	6	(14)	10	(18)
Isopropyl alcohol	36	(9)	31	(11)	1	(7)	2	(5)	2	(4)
Peroxyacetic acid	24	(6)	23	(8)	0	—	1	(2)	0	—
Phenolic disinfectants	23	(6)	7	(2)	2	(13)	6	(14)	8	(14)
Hydrogen peroxide	16	(4)	16	(6)	0	—	0	—	0	—
Body system/organ affected††										
Eye	222	(55)	159	(55)	6	(40)	18	(42)	39	(70)
Neurologic	130	(32)	90	(31)	9	(60)	15	(35)	16	(29)
Respiratory	121	(30)	83	(29)	8	(53)	18	(42)	12	(21)
Skin	96	(24)	72	(25)	2	(13)	13	(30)	9	(16)
Gastrointestinal	63	(16)	45	(16)	4	(27)	9	(21)	5	(9)
Cardiovascular	19	(5)	11	(4)	0	—	2	(5)	6	(11)
Other	17	(4)	14	(5)	0	—	2	(5)	1	(2)

TABLE 2. (*Continued*) Number and percentage of acute illnesses associated with work-related antimicrobial pesticide exposures in health-care facilities, by selected characteristics — California, Louisiana, Michigan, and Texas, 2002—2007

	Total		California		Louisiana		Michigan		Texas	
Characteristic	No	(%)*	No	(%)	No	(%)	No	(%)	No	(%)
Illness severity[§§]										
Fatal	**1**	**(<1)**	**0**	**—**	**0**	**—**	**1**	**2)**	**0**	**—**
High	2	(<1)	1	(<1)	0	—	1	(2)	0	—
Moderate	56	(14)	36	(13)	1	(7)	8	(19)	11	(20)
Low	342	(85)	250	(87)	14	(93)	33	(77)	45	(80)
Hospitalization (≥1 day)										
Yes	8	(2)	2	(1)	0	—	5	(12)	1	(2)
Lost work time (≥1 day)										
Yes	68	(17)	35	(12)	0	—	14	(33)	19	(34)
Occupation										
Janitors/Housekeepers	95	(24)	50	(17)	2	(13)	20	(47)	23	(41)
Nursing/Medical assistants	64	(16)	47	(16)	4	(27)	5	(12)	8	(14)
Health technicians	59	(15)	45	(16)	2	(13)	7	(16)	5	(9)
Nurses	43	(11)	38	(13)	0	—	1	(2)	4	(7)
Food services	12	(3)	6	(2)	1	(7)	1	(2)	4	(7)
Other	32	(8)	18	(6)	2	(13)	5	(12)	7	(13)
Unknown	96	(24)	83	(29)	4	(27)	4	(9)	5	(9)
Type of activity										
Application/handling of antimicrobials or maintenance of equipment	265	(66)	189	(66)	10	(67)	24	(56)	42	(75)
Routine activities not involved with application/handling	73	(18)	42	(15)	4	(27)	13	(30)	14	(25)
Unknown	63	(16)	56	(20)	1	(7)	6	(14)	0	—
Splash, spill, leak exposures[††]										
Yes	206	(51)	141	(49)	6	(40)	19	(44)	40	(71)
Ocular exposure	169	(42)	119	(42)	5	(33)	12	(28)	33	(59)
Dermal exposure	58	(15)	43	(15)	2	(13)	5	(12)	8	(14)
Respiratory exposure	7	(2)	1	(0.3)	0	—	4	(9)	2	(4)
Use of personal protective equipment (n = 265)										
Eye protection	40	(15)	39	(21)	0	—	0	—	1	(2)
Goggles/Safety glasses	19	(7)	18	(10)	0	—	0	—	1	(2)
Face shield	21	(8)	21	(11)	0	—	0	—	0	—
Gloves	**145**	**(55)**	**125**	**(66)**	**0**	**—**	**2**	**(8)**	**18**	**(43)**
Chemical-resistant gloves	92	(35)	73	(39)	0	—	2	(8)	17	(41)
Other	53	(20)	52	(28)	0	—	0	—	1	(2)
Work clothes or gown[¶¶]	**160**	**(60)**	**160**	**(85)**	**0**	**—**	**0**	**—**	**0**	**—**
Respirator/Surgical mask	**13**	**(5)**	**10**	**(5)**	**0**	**—**	**1**	**(4)**	**2**	**(5)**

Source: Data for Louisiana, Michigan, and Texas were from the Sentinel Event Notification System for Occupational Risks (SENSOR)-Pesticides program of CDC's National Institute for Occupational Safety and Health (NIOSH). Data for California were from the California Department of Pesticide Regulation (CDPR).

* Percentages might not sum to 100% because of rounding.

† The contract between CDPR and the California Poison Control System lapsed during December 2002–September 2006.

§ The Louisiana Department of Health and Hospitals and the Michigan Department of Community Health do not have access to workers compensation claim data in their respective states.

¶ CDPR does not use the status category "suspicious."

** The U.S. Environmental Protection Agency classifies pesticide products into one of four categories based on established criteria (40 CFR part 156). Category I is given for pesticides with the greatest toxicity and category IV for pesticides with the least toxicity. No cases exposed to toxicity category IV antimicrobials occurred.

†† A case can have chemicals, symptoms, exposures, and personal protective equipment in more than one category. Thus, the sum of categories exceeds the total number of cases.

§§ Low-severity illness refers to mild health effects that generally resolve without treatment and where minimal time (<3 days) is lost from work. Moderate-severity illness refers to non–life-threatening health effects that generally are systemic and require medical treatment. These might require hospitalization (≤3 days) and time lost from work is ≤5 days. No residual disability is expected. High-severity illness refers to life-threatening or serious health effects, which usually require hospitalization (>3 days), involve substantial time lost from work (>5 days), and can result in permanent impairment or disability.

¶¶ Numbers for Louisiana, Michigan, and Texas represent use of chemical-resistant clothing only. The number for California includes chemical-resistant clothing and other types of work clothing (e.g., plastic apron, surgical gown, cloth or disposable coveralls, and laboratory coat).

What is already known on this topic?

Use of antimicrobial pesticides is an important component of infection control practices in health-care facilities, and occupational exposures can cause adverse health effects.

What is added by this report?

During 2002–2007, a total of 401 work-related illnesses associated with antimicrobial pesticide exposures in health-care facilities were identified in four states; most cases occurred among janitors/housekeepers and nursing/medical assistants, usually due to splashes or spills, and the eyes were the most common organ/system affected.

What are the implications for public health practice?

Hazardous exposure to antimicrobial pesticides and subsequent illnesses should be minimized through safe work practices and effective communication, including greater emphasis on use of protective eyewear..

Editorial Note

This is the first multistate report on the magnitude and characteristics of acute antimicrobial pesticide illness among workers in health-care facilities. Although no data are available on the level of exposure of these workers to antimicrobial pesticides, these chemicals are used very commonly in health-care facilities. The findings indicate that, during 2002–2007 in the four states, exposure to antimicrobial pesticides used in health-care facilities likely posed a low risk for health effects, and the effects generally were mild and temporary. Health-care workers have a higher prevalence of asthma compared with the general working population (6.0% versus 3.7%) (*7*), and because of their potential for occupational exposure, they might more often experience severe illness after antimicrobial pesticide. Users of antimicrobial products, especially health-care workers, should take precautions to prevent or minimize exposure to themselves as well as bystanders.

Ocular symptoms were the most common adverse health effect, usually from splashes while not wearing eye protection. A report on occupational disinfectant-related illness among youths also found that ocular symptoms were the most commonly observed (in 51% of cases) (*8*). These findings suggest the importance of using eye protection and the need to improve product design or handling equipment to prevent splashes.

The chemicals responsible for most health-care facility cases were QACs, glutaraldehyde, and sodium hypochlorite (i.e., bleach). QACs are widely used to disinfect environmental surfaces or medical equipment designed for skin contact (e.g., blood pressure cuffs). Glutaraldehyde is used as an immersion chemical in disinfecting heat-sensitive medical equipment (e.g., endoscopes). Sodium hypochlorite is used in environmental sanitization and decontaminating blood spills (*3*). These chemicals can cause irritant symptoms involving the eyes, skin, and respiratory tract; QACs and glutaraldehyde are known sensitizers (*4*). While using these chemicals, eye and skin protection is required to prevent irritant health effects and splash hazards. For glutaraldehyde, local exhaust ventilation and general room ventilation with a minimum rate of 10 air exchanges per hour is recommended to minimize respiratory exposure (*5*).¶

The findings in this report are subject to at least two limitations. First, the findings likely underestimate the actual magnitude of work-related illnesses associated with antimicrobial pesticide exposures in health-care facilities. Case identification relies on passive surveillance systems in which many cases might be missed by underreporting; also, minor illnesses not requiring medical attention are unlikely to be captured. The extent of underestimation might differ by state because of variations in data sources across states. For example, unlike some other states, California uses workers compensation records as a major source for case identification. Additionally, CDPR's longstanding experience in antimicrobial surveillance and higher staffing levels might have contributed to greater capture of cases. Second, the data might include false-positive cases because clinical findings of pesticide illness are nonspecific and diagnostic tests are not available or rarely performed.

Hazardous exposure to antimicrobial pesticides and subsequent illnesses can be minimized through safe work practices and effective communication. Health-care facilities should be reminded to 1) choose less hazardous antimicrobial pesticide products, if available; 2) inform employees of the health hazards of antimicrobials used in their facilities; 3) provide training on the safe handling of antimicrobial pesticides in accordance with label instructions (e.g., using appropriate quantities/dilution); 4) furnish appropriate PPE, ensure that it is conveniently located, and promote its use; 5) improve risk communication

¶ CDC's National Institute for Occupational Safety and Health set the recommended exposure limit at 0.2 ppm, and the American Conference of Governmental Industrial Hygienists set the threshold limit value at 0.05 ppm for glutaraldehyde, but irritant symptoms were reported at concentrations as low as 0.005–0.050 ppm (*6*).

when antimicrobial pesticides are used (e.g., posting signs where antimicrobials are used); and 6) encourage employees to report and seek treatment for any illness/injury arising from antimicrobial pesticide exposure. Additionally, to prevent inadvertent splashes or spills, manufacturers should improve the design of containers, delivery systems, and handling equipment (e.g., adding a pump dispenser rather than pouring from a large container). Finally, greater use of workers compensation records for case identification would enhance surveillance activities.

Acknowledgments

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Two Multistate Outbreaks of Shiga Toxin–Producing *Escherichia coli* Infections Linked to Beef from a Single Slaughter Facility — United States, 2008

During May–August 2008, state and local health and agriculture departments, the U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS), and CDC investigated two multistate outbreaks of Shiga toxin–producing *Escherichia coli* O157 (STEC O157) with distinct pulsed-field gel electrophoresis (PFGE) patterns. Investigations into each outbreak included epidemiologic analysis of food exposures, microbiologic testing, and food distribution tracebacks. This report summarizes the results of those investigations. During May 27–August 25, 2008, a total of 99 persons (64 from the first outbreak and 35 from the second outbreak) from 18 states had confirmed illness with an STEC O157 isolate indistinguishable from the outbreak PFGE patterns. A case-control study conducted as part of the first investigation found a statistically significant association with purchase of ground beef from one large grocery chain (matched odds ratio [mOR] = 9.3). Traceback investigations for both outbreaks led to the same slaughter facility, resulting in multiple nationwide recalls of ground beef, intact beef, and beef products used to produce ground beef. This is the first report of two distinct STEC O157 outbreaks traced to a single slaughter facility and the first documented report of outbreaks linked to STEC O157 contamination of intact beef cuts ground by a retail chain. To help reduce the risk for outbreaks of STEC O157, the public health community should continue to educate consumers regarding the proper measures to take when handling and consuming ground beef.

Outbreak 1

On June 14, 2008, the Ohio Department of Health posted a cluster of seven STEC O157 isolates with an indistinguishable PFGE pattern (pattern 1)* on PulseNet, the national molecular subtyping network for foodborne disease surveillance. Most of the ill patients resided in an urban area of central Ohio. At approximately the same time, the Michigan Department of Community Health was interviewing patients in an STEC O157 cluster with the same PFGE pattern as the patients in Ohio. Several Michigan patients reported consuming ground beef before their illness, and some reported purchasing it at one of several stores belonging to a large national retail grocery chain (chain A). On June 18, state and local health and agriculture departments, FSIS, and CDC's OutbreakNet Team initiated an investigation to determine the extent and source of the outbreak.

A confirmed case was defined as illness in a person with an STEC O157 isolate having both a PFGE pattern indistinguishable from PFGE pattern 1 and multiple-locus variable-number tandem repeat analysis (MLVA) pattern 1,† and illness onset (or specimen collection date, if onset date was unavailable) after May 26. Sixty-four confirmed cases were identified in 12 states: Alabama (one case), Florida (one), Georgia (eight), Indiana (three), Kentucky (one), Michigan (23), New Jersey (one), New York (one), Ohio (21), Texas (one), Utah (two), and West Virginia (one). Illness onset dates ranged from May 27 to August 7 (Figure). Median age of patients was 21 years (range: 1–71 years); 40 (63%) were female. Thirty-two (59%) of 54 patients with available information were hospitalized, and two developed hemolytic uremic syndrome. No deaths were reported.

During June 20–25, the Ohio and Michigan state health departments and CDC conducted a case-control study examining ground beef and several other exposures linked to STEC O157 infections in previous outbreaks. All patients in Ohio and Michigan identified through June 25 were eligible for interview. Controls were identified through reverse-digit directory and matched on neighborhood, as identified by reverse directory, and age group (<18, 18–60, and >60 years); controls were asked about their food exposures for the week preceding the onset date of their matched case-patient. Data were analyzed using a conditional logistic regression model with exact methodologies because of the small sample size. Twenty-five case-patients and 65 controls from Michigan and Ohio were interviewed

* *Xba*I/*Bln*I pattern EXHX01.0047/EXHA26.0332.

† Included were isolates that were either indistinguishable from MLVA pattern 1 or different at a single locus by one repeat. MLVA testing was included as a criterion because PFGE pattern 1 was commonly reported to PulseNet.

with a goal of three controls per case. Twenty-one case-patients were matched: 18 with three controls, two with two controls, and one with one control. Illness was significantly associated with purchasing ground beef from a store owned by chain A (mOR = 9.3) (Table). Seven samples of ground beef purchased at chain A stores, collected from patient homes, yielded STEC O157 with PFGE pattern 1 and MLVA pattern 1.

Traceback investigation of the ground beef from chain A identified a single large beef slaughter facility in Nebraska that supplied beef to chain A stores in outbreak-associated areas of Michigan and Ohio. On June 25, chain A issued a recall of all ground beef sold by its Michigan and Ohio stores in the regions where patients resided.[§] On June 30, the slaughter facility initiated a nationwide recall, which was expanded July 3 to encompass beef products used to produce ground beef totaling 5.3 million pounds.[¶]

[§] USDA Food Safety Inspection Service. Retail recall release FSIS-R01-2008. Available at http://www.fsis.usda.gov/news_&_events/r01-2008_release/index.asp.

[¶] USDA Food Safety Inspection Service. Recall release FSIS-RC-022-2008. Available at http://www.fsis.usda.gov/news_&_events/recall_022_2008_release/index.asp.

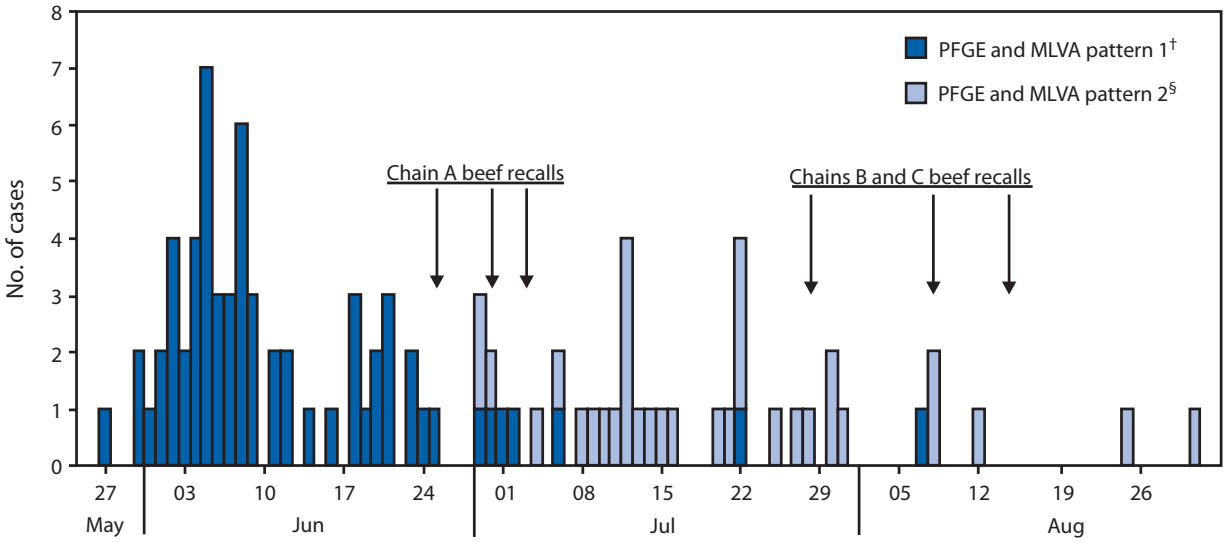
Outbreak 2

On July 28, 2008, PulseNet alerted CDC regarding a cluster of STEC O157 isolates from eight states with an indistinguishable PFGE pattern (pattern 2).** Initial telephone calls by local and state health departments revealed that several patients reported consuming undercooked ground beef. On July 29, local and state health and agriculture departments, FSIS, and CDC initiated an investigation to determine the extent and source of the outbreak.

A confirmed case was defined as illness in a person with an STEC O157 isolate indistinguishable from both PFGE pattern 2 and MLVA pattern 2 with an isolation date on or after July 1. Thirty-five cases were identified in eight states: Colorado (one case), Connecticut (one), Massachusetts (eight), New Jersey (two), New York (two), Ohio (seven), Pennsylvania (eight), and Virginia (six), with illness onset dates ranging from June 29 to August 25 (Figure). Median age was 18.5 years (range: 1–70 years). Median age was 18.5 years (range: 1–70 years). Of the 35 patients, 19 (54%) were female. Nineteen (63%) of 30 patients with available information were hospitalized, and one developed hemolytic uremic syndrome. No deaths were reported.

** *Xba*I/*Bln*I pattern EXHX01.0008/EXHA26.0569.

FIGURE. Cases of Shiga toxin–producing *Escherichia coli* O157 (STEC O157) in two outbreaks linked to a single beef slaughter facility, by subtype pattern and onset date* — United States, June–August 2008



Abbreviations: PFGE = pulsed-field gel electrophoresis, MLVA = multiple-locus variable-number tandem repeat analysis.

* For patients with unreported onset dates (n = 8), onset dates were estimated using the date of STEC O157 isolation minus 3 days. Two patients were excluded because no reliable onset or isolation dates were available.

† Sixty-four confirmed cases were identified in 12 states: Alabama (one case), Florida (one), Georgia (eight), Indiana (three), Kentucky (one), Michigan (23), New Jersey (one), New York (one), Ohio (21), Texas (one), Utah (two), and West Virginia (one).

§ Thirty-five cases were identified in eight states: Colorado (one case), Connecticut (one), Massachusetts (eight), New Jersey (two), New York (two), Ohio (seven), Pennsylvania (eight), and Virginia (six).

TABLE. Findings in a case-control study of an outbreak of Shiga toxin–producing *Escherichia coli* O157 linked to a single beef slaughter facility — Ohio and Michigan, June 2008

Exposure	No. case-patients exposed/no. with available information*	(%)	No. matched controls exposed/no. with available information*	(%)	Matched odds ratio†	(95% CI§)	p value
Ground beef							
Ground beef purchased only at chain A	14/22	(64)	18/57	(32)	9.3	(1.9–89.0)	0.002
Raw, bloody, or pink ground beef eaten in a home	9/25	(36)	8/64	(13)	3.4	(0.8–16.6)	0.1
Ground beef eaten in a home	21/25	(84)	53/65	(82)	2.1	(0.4–23.2)	0.6
Any exposure to ground beef	24/25	(96)	58/63	(92)	1.4	(0.1–78.7)	1.0
Other exposure							
Lettuce on a sandwich or burger	12/20	(60)	26/63	(41)	3.5	(0.8–21.0)	0.1
Leafy greens	20/22	(91)	49/63	(78)	2.9	(0.5–30.3)	0.3
Prebagged leafy greens	15/23	(65)	34/62	(55)	1.3	(0.4–4.7)	0.9
House pet contact	18/25	(72)	48/65	(74)	0.9	(0.3–4.0)	1.0
Spinach	6/25	(24)	18/63	(29)	0.9	(0.2–3.7)	1.0
Farm animal contact	3/25	(12)	4/65	(6)	1.6	(0.1–14.6)	1.0
Day care center	2/24	(8)	6/64	(9)	0.7	(<0.1–8.7)	1.0
Chain A exposure							
Ever shopped at chain A	23/24	(96)	43/63	(68)	8.8	(1.4–∞)	0.02
Only shopped at chain A	7/24	(29)	16/63	(25)	1.5	(0.3–7.5)	0.8

* Information was not available because the respondent either did not know or was not sure of an exposure or because no response was recorded by the interviewer.
† Case-patients = 21; matched controls = 59. Case-patients and controls were matched on neighborhood as identified by reverse directory and age group (<18, 18-60, and >60 years); controls were asked about their food exposures for the week preceding the onset date of their matched case-patient. Because of the small sample size, data were analyzed using a conditional logistic regression model with exact methodologies.
§ Confidence interval.

Thirty patients were interviewed using the questionnaire used in outbreak 1. Twenty-four (80%) patients reported eating ground beef in the home, and 13 (54%) of those reporting ground beef consumption indicated that it was raw, bloody, or pink. Seventeen (57%) of 30 patients had exposure to ground beef purchased from one of two grocery chains (chain B and chain C). One sample of raw ground beef purchased at chain B (a regional upscale chain) and three samples of ground beef purchased at chain C (a national upscale chain), all collected from patient homes, and one sample of intact beef collected from chain B before grinding yielded STEC O157 with PFGE pattern 2 and MLVA pattern 2.

Traceback investigations indicated that the same slaughter facility linked to outbreak 1 was the sole source of the contaminated beef from chain B and was one of multiple suppliers to chain C. On July 28, chain B announced a retail-level recall of ground beef products.[††] Chain C announced a recall on August 8,[§§] and the slaughter facility initiated a nationwide recall of beef products linked to outbreak 2. This recall was expanded on August 14 to include approximately 1.36 million pounds of additional intact beef cuts.[¶¶]

Slaughter Facility Control Measures

In addition to the traceback investigations and recall actions described above, FSIS also performed investigations of the slaughter facility. During both outbreaks, FSIS concluded that the production practices employed by the slaughter facility were insufficient to effectively control STEC O157 and that the products subject to recall in both outbreaks might have been produced under unsanitary conditions. As a result of the outbreaks, FSIS microbiologists evaluated beef testing procedures at the facility. Recommendations were made to modify testing procedures to improve the ability to detect contamination in beef products produced by the facility. In addition, the facility implemented corrective and preventative measures regarding its production practices.

Reported by

S Nowicki, MPH, E Brandt, Ohio Dept of Health. K Sheline, MPH, S Bidol, MPH, J Collins, MPH, Michigan Dept of Community Health. M Toblin-D'Angelo, MD, C Drenzek, DVM, J Jenkins, Georgia Div of Public Health. E Harvey, Massachusetts Dept of Public Health. J Marsden, MA,

†† Dorothy Lane Market. Recalled products. Available at http://www.dorothylane.com/company/product%20recalls/2008-07-28_groundbeef.html.

§§ Whole Foods. Whole Foods Market voluntarily recalls fresh ground beef. August 8, 2008. Available at http://www.wholefoodsmarket.com/nutrition/product-recalls.php#self.

¶¶ USDA Food Safety Inspection Service. Recall release FSIS-RC-029-2008. Available at http://www.fsis.usda.gov/news_&_events/recall_029_2008_release/index.asp.

What is already known on this topic?

Infection with Shiga toxin-producing *Escherichia coli* O157 (STEC O157) has been linked to consumption of undercooked ground beef.

What is added by this report?

Two separate outbreaks of STEC O157 were linked to the same beef slaughter facility, and contamination was found in intact beef that was intended for grinding at a retail grocery chain.

What are the implications for public health practice?

To help reduce the risk for outbreaks of STEC O157, the public health community should continue to educate consumers regarding the proper measures to take when handling and consuming ground beef.

Montgomery County Health Dept, Norristown; A Weltman, MD, Pennsylvania Dept of Health. B Kissler, MPH, WS Chen, MD, S Seys, MPH, Food Safety and Inspection Svc, US Dept of Agriculture. E Hyytia-Trees, PhD, DVM, M Leeper, M Viray, MD, E Cavallaro, MD, K Wannemuehler, PhD, MJ Sotir, PhD, Div of Foodborne, Bacterial, and Mycotic Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases, CDC.

Editorial Note

Continued advances in the ability to detect and identify STEC O157 outbreaks and their sources of contamination have provided opportunities to improve food safety. However, despite beef testing and monitoring (*1*) and interventions at beef slaughtering and processing facilities aimed at preventing STEC O157 contamination, contaminated beef continues to cause outbreaks (*2*). In the two outbreaks described in this report, 99 cases were identified. Because an estimated 20 STEC illnesses occur for every one reported, the number of cases reported in the outbreaks likely represent a small proportion of the actual number of persons who became ill (*3*).

The outbreaks were notable because of two findings. First was the discovery in outbreak 2 of STEC O157 bacterial contamination of an intact cut of beef intended for grinding at a retail chain. Ground beef (and mechanically tenderized steaks) can be contaminated during processing throughout the product, resulting in a risk to consumers if ground beef is only cooked at the surface. STEC O157 is considered an adulterant in nonintact products such as ground beef, and FSIS considers its presence unacceptable in intact products intended for use as ground beef (*4*). Contamination of intact cuts of beef generally occurs as a consequence of handling during hide removal and dressing of carcasses. Meat contamination at slaughter facilities can indicate that the facility is not adequately addressing contamination from hides.

The second notable finding was that the two outbreaks caused widespread illness and were linked to multiple contaminated meat products, but were traced to a single beef slaughter facility. The detection of two STEC O157 outbreaks linked to the same beef slaughter facility suggests that improved processing controls were needed within the plant. FSIS recommended changes designed to improve the ability to detect contamination events, both within that facility and industrywide, including the initiation of a testing program at establishments processing trim derived from intact cuts, because trim is often converted into ground beef, and institution of new verification procedures by inspectors aimed at further minimizing contamination during slaughter.

Public health agencies should continue to educate consumers regarding the dangers associated with handling raw ground beef and consuming undercooked ground beef or other undercooked nonintact beef products. Consumers should know that preventive measures include thorough hand washing after handling raw beef; washing any surfaces that have come into contact with raw beef with hot, soapy water; keeping raw beef separate from other food products; and cooking ground beef to 160.0°F (71.1°C), as measured by a food thermometer.***

Acknowledgment

This report is based, in part, on contributions by J Achenbach, MPH, CM Baysinger, MPH, J Daly, P Lawn, K Smith, Montgomery County Health Dept, Norristown, Pennsylvania; M Moore, P Neves, Massachusetts Dept of Public Health Bur of Environmental Health — Food Protection Program, Jamaica Plain, Massachusetts; and KG Holt, DVM, US Dept of Agriculture Food Safety and Inspection Svc, Atlanta, Georgia.

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1. Naugle AL, Holt KG, Levine P, et al. Food safety and inspection service regulatory testing program for *Escherichia coli* O157:H7 in raw ground beef. J Food Prot 2005;68:462–8.
2. CDC. Multistate outbreak of *Escherichia coli* O157:H7 infections associated with eating ground beef—United States, June–July 2002. MMWR 2002;51:637–9.
3. Mead PS, Slutsker L, Dietz V, et al. Food-related illness and death in the United States. Emerg Infect Dis 1999;5:607–25.
4. US Department of Agriculture. Microbiological testing program and other verification activities for *Escherichia coli* O157:H7 in raw ground beef products and raw ground beef components and beef patty components. FSIS Directive 10,010.1. Washington, DC: US Department of Agriculture, Food Safety Inspection Service; 2004.

*** USDA Food Safety Inspection Service. Food safety education: is it done yet? Available at http://www.fsis.usda.gov/is_it_done_yet.

Announcement

Better Hearing and Speech Month — May 2010

May is Better Hearing and Speech Month. Hearing loss occurs in as many as three of 1,000 live births each year (*1*). Without intervention at an early age, hearing loss can delay a person's speech, language, and social skills development as well as academic achievement. Because of this, all infants should be screened for hearing loss no later than age 1 month, preferably before leaving the birth hospital (*2*). All states and territories now offer hearing screening for newborn babies. Any baby who does not pass the hearing screening should have a full hearing evaluation no later than age 3 months. Any child who has a confirmed hearing loss should be referred for further testing and should begin intervention services no later than age 6 months (*2*). Following this 1-3-6 months plan can maximize communication and language development for affected children (*3,4*). Additional information is available at http://www.cdc.gov/ncbddd/ehdi. Educational materials on newborn and infant hearing are available free of charge at http://www.cdc.gov/ncbddd/ehdi/edmaterials.htm.

References

1. CDC. Identifying infants with hearing loss—United States, 1999–2007. MMWR 2010;59;220–3.
2. Joint Committee on Infant Hearing. Year 2007 position statement: principles and guidelines for early hearing detection and intervention programs. Pediatrics 2007;120:898–921.
3. US Preventive Services Task Force. Universal screening for hearing loss in newborns: U.S. Preventive Services Task Force recommendation statement. Pediatrics 2008;122:143–8.
4. Nelson HD, Bougatsos C, Nygren P. Universal newborn hearing screening: systematic review to update the 2001 U.S. Preventive Services Task Force recommendation. Pediatrics 2008;122:e266–76.

Errata

Vol. 58, No. SS-8

In "Abortion Surveillance — United States, 2006," two errors occurred in the tables. In Table 2, on page 14, under the columns titled "Residence," the abortion rate for Vermont should read **11.9**. In Table 3, on page 15, the total abortion rate for all reporting areas should read **14.9**.

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In the report, "Interim Results: State-Specific Seasonal Influenza Vaccination Coverage — United States, August 2009–January 2010," an error occurred in the second sentence of the second full paragraph on page 480. The sentence should read, "Coverage ranged from 33.7% (Florida) to 56.3% (Hawaii) for adults aged 50–64 years and from 59.3% (Idaho) to **81.6% (Alaska)** for adults aged ≥65 years (Table 1). Also, errors occurred in the final column of the "Range" row and the §§ footnote of Table 1 on page 480. The footnote should read, "Child estimates were significantly **different from** adult estimates in the following states: Maine, Massachusetts, Maryland, Pennsylvania, Florida, North Carolina, Arkansas, Kansas, Montana, Hawaii, and Nevada." The row item should read, "59.3–**81.6**."

Vol. 59, No. 12

In the report, "Interim Results: State-Specific Influenza A (H1N1) 2009 Monovalent Vaccination Coverage — United States, October 2009–January 2010," an error occurred in the third sentence of the second full paragraph on page 364. The sentence should read, "Child and adult coverage were **positively** correlated (r = **0.61**)."

Notifiable Diseases and Mortality Tables

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending May 8, 2010 (18th week)*

Disease	Current week	Cum 2010	5-year weekly average†	Total cases reported for previous years 2009	2008	2007	2006	2005	States reporting cases during current week (No.)
Anthrax	—	—	—	1	—	1	1	—	
Botulism, total	2	17	2	108	145	144	165	135	
foodborne	—	—	0	12	17	32	20	19	
infant	2	16	1	71	109	85	97	85	NY (1), WA (1)
other (wound and unspecified)	—	1	0	25	19	27	48	31	
Brucellosis	—	28	3	119	80	131	121	120	
Chancroid	—	21	1	35	25	23	33	17	
Cholera	—	2	—	9	5	7	9	8	
Cyclosporiasis§	—	22	14	133	139	93	137	543	
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup virus disease	—	—	0	54	62	55	67	80	
Eastern equine encephalitis virus disease	—	—	—	4	4	4	8	21	
Powassan virus disease	—	—	—	6	2	7	1	1	
St. Louis encephalitis virus disease	—	—	0	12	13	9	10	13	
Western equine encephalitis virus disease	—	—	—	—	—	—	—	—	
Haemophilus influenzae,** invasive disease (age <5 yrs):									
serotype b	1	7	0	31	30	22	29	9	WV (1)
nonserotype b	1	60	4	233	244	199	175	135	OH (1)
unknown serotype	1	87	4	232	163	180	179	217	MO (1)
Hansen disease§	1	15	2	76	80	101	66	87	CA (1)
Hantavirus pulmonary syndrome§	—	1	1	14	18	32	40	26	
Hemolytic uremic syndrome, postdiarrheal§	—	38	4	248	330	292	288	221	
HIV infection, pediatric (age <13 yrs)††	—	—	1	—	—	—	—	380	
Influenza-associated pediatric mortality§,§§	—	48	2	360	90	77	43	45	
Listeriosis	5	161	10	808	759	808	884	896	NY (1), VA (2), TN (1), CA (1)
Measles¶¶	2	16	2	67	140	43	55	66	OH (1), CA (1)
Meningococcal disease, invasive***:									
A, C, Y, and W-135	1	86	6	286	330	325	318	297	CO (1)
serogroup B	3	38	3	147	188	167	193	156	VT (1), NY (1), OH (1)
other serogroup	1	4	1	24	38	35	32	27	FL (1)
unknown serogroup	7	157	13	504	616	550	651	765	NY (1), PA (1), OH (1), NE (2), OR (1), CA (1)
Mumps	17	1,058	125	1,885	454	800	6,584	314	NY (6), OH (1), MO (1), NE (3), MD (1), TX (4), CO (1)
Novel influenza A virus infections†††	—	—	0	43,771	2	4	NN	NN	
Plague	—	—	0	8	3	7	17	8	
Poliomyelitis, paralytic	—	—	—	—	—	—	—	1	
Polio virus Infection, nonparalytic§	—	—	—	—	—	—	NN	NN	
Psittacosis§	—	4	0	8	8	12	21	16	
Q fever, total§,§§§	3	20	3	104	120	171	169	136	
acute	1	13	2	82	106	—	—	—	CA (1)
chronic	2	7	0	22	14	—	—	—	NY (1), MO (1)
Rabies, human	—	—	—	4	2	1	3	2	
Rubella¶¶¶	—	1	0	3	16	12	11	11	
Rubella, congenital syndrome	—	—	—	1	—	—	1	1	
SARS-CoV§,****	—	—	—	—	—	—	—	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	2	57	4	152	157	132	125	129	NY (1), PA (1)
Syphilis, congenital (age <1 yr)††††	—	36	7	385	431	430	349	329	
Tetanus	—	—	0	19	19	28	41	27	
Toxic-shock syndrome (staphylococcal)§	1	28	1	74	71	92	101	90	PA (1)
Trichinellosis	—	1	0	12	39	5	15	16	
Tularemia	1	6	2	92	123	137	95	154	TN (1)
Typhoid fever	7	115	7	373	449	434	353	324	CT (3), MD (1), TX (1), CA (2)
Vancomycin-intermediate *Staphylococcus aureus*§	—	19	1	76	63	37	6	2	
Vancomycin-resistant *Staphylococcus aureus*§	—	1	—	—	—	2	1	3	
Vibriosis (noncholera *Vibrio* species infections)§	3	53	4	730	588	549	NN	NN	GA (1), FL (1), CA (1)
Viral hemorrhagic fever§§§§	—	1	—	NN	NN	NN	NN	NN	
Yellow fever	—	—	—	—	—	—	—	—	

See Table I footnotes on next page.

TABLE I. (*Continued*) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending May 8, 2010 (18th week)*

—: No reported cases. N: Not reportable. NN: Not Nationally Notifiable Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2009 and 2010 are provisional, whereas data for 2005 through 2008 are finalized.

† Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. Additional information is available at http://www.cdc.gov/ncphi/disss/nndss/phs/files/5yearweeklyaverage.pdf.

§ Not reportable in all states. Data from states where the condition is not reportable are excluded from this table, except starting in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/ncphi/disss/nndss/phs/infdis.htm.

¶ Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.

** Data for *H. influenzae* (all ages, all serotypes) are available in Table II.

†† Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Updates of pediatric HIV data have been temporarily suspended until upgrading of the national HIV/AIDS surveillance data management system is completed. Data for HIV/AIDS, when available, are displayed in Table IV, which appears quarterly.

§§ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Since April 26, 2009, a total of 282 influenza-associated pediatric deaths associated with 2009 influenza A (H1N1) virus infection have been reported. Since August 30, 2009, a total of 273 influenza-associated pediatric deaths occurring during the 2009–10 influenza season have been reported. A total of 134 influenza-associated pediatric deaths occurring during the 2008-09 influenza season have been reported.

¶¶ Of the two measles cases reported for the current week, one was imported, and one was indigenous.

*** Data for meningococcal disease (all serogroups) are available in Table II.

††† CDC discontinued reporting of individual confirmed and probable cases of 2009 pandemic influenza A (H1N1) virus infections on July 24, 2009. CDC will report the total number of 2009 pandemic influenza A (H1N1) hospitalizations and deaths weekly on the CDC H1N1 influenza website (http://www.cdc.gov/h1n1flu). In addition, three cases of novel influenza A virus infections, unrelated to the 2009 pandemic influenza A (H1N1) virus, were reported to CDC during 2009.

§§§ In 2009, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.

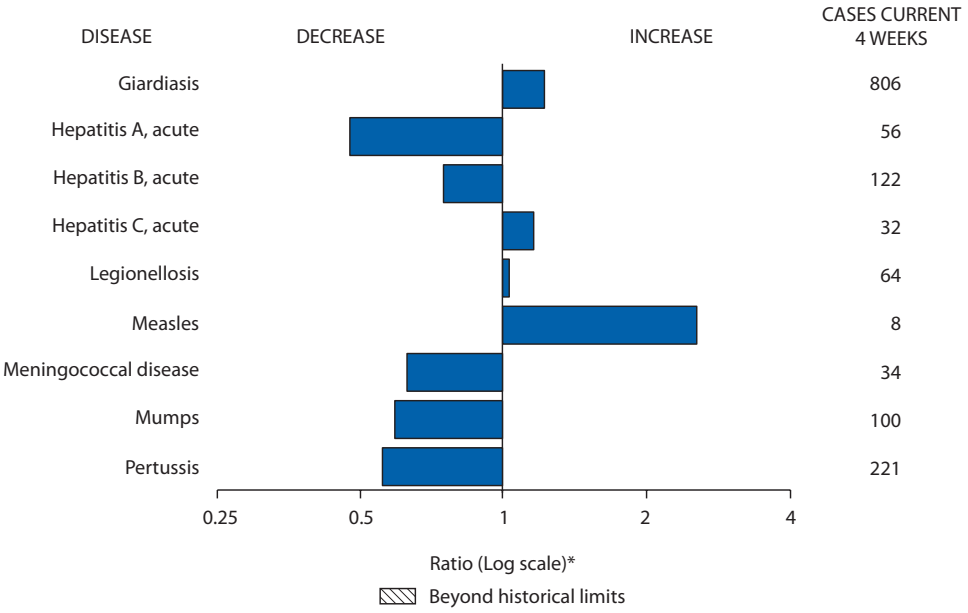
¶¶¶ No rubella cases were reported for the current week.

**** Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.

†††† Updated weekly from reports to the Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.

§§§§ There was one case of viral hemorrhagic fever reported during week 12. The one case report was confirmed as lassa fever. See Table II for dengue hemorrhagic fever.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals May 8, 2010, with historical data



* Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

Notifiable Disease Data Team and 122 Cities Mortality Data Team

Patsy A. Hall-Baker

Deborah A. Adams
Willie J. Anderson
Jose Aponte
Lenee Blanton
Rosaline Dhara
Pearl C. Sharp
Michael S. Wodajo

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	*Chlamydia trachomatis* infection					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max		
United States	8,799	23,266	27,397	333,470	436,732	57	121	272	1,579	1,655
New England	679	704	1,396	11,377	13,978	—	5	28	80	126
Connecticut	317	210	736	2,157	4,051	—	0	24	24	40
Maine†	—	49	75	801	895	—	1	4	17	10
Massachusetts	272	376	767	6,603	6,595	—	1	15	—	38
New Hampshire	3	35	60	204	735	—	1	5	15	18
Rhode Island†	71	67	130	1,207	1,277	—	0	8	8	2
Vermont†	16	23	63	405	425	—	1	9	16	18
Mid. Atlantic	2,922	3,088	4,519	57,177	55,798	12	14	38	188	193
New Jersey	511	440	629	7,463	9,023	—	0	5	—	10
New York (Upstate)	657	618	2,415	11,300	10,427	5	3	16	42	46
New York City	1,231	1,179	2,291	22,804	21,215	—	1	5	15	33
Pennsylvania	523	832	1,055	15,610	15,133	7	9	19	131	104
E.N. Central	938	3,347	4,235	35,589	70,700	6	29	55	342	403
Illinois	—	889	1,428	146	20,841	—	3	8	53	39
Indiana	—	353	602	3,964	8,214	—	4	10	40	89
Michigan	692	883	1,404	17,379	17,095	1	6	11	94	75
Ohio	246	918	1,033	11,306	17,390	5	8	16	113	102
Wisconsin	—	345	480	2,794	7,160	—	7	24	42	98
W.N. Central	118	1,311	1,713	20,741	25,242	3	20	62	233	227
Iowa	19	178	300	3,487	3,553	1	4	13	57	55
Kansas	—	178	573	2,532	3,690	—	2	6	25	21
Minnesota	—	263	337	4,155	5,237	—	5	31	74	42
Missouri	99	498	638	8,613	9,224	—	3	12	39	42
Nebraska†	—	92	237	1,549	1,871	1	2	9	29	22
North Dakota	—	31	93	405	583	1	0	5	3	1
South Dakota	—	50	82	—	1,084	—	2	13	6	44
S. Atlantic	1,174	4,522	6,200	55,050	89,895	15	20	50	303	294
Delaware	84	88	145	1,495	1,718	—	0	2	1	—
District of Columbia	—	115	178	1,610	2,540	—	0	1	1	3
Florida	566	1,406	1,677	24,187	26,362	8	8	24	123	92
Georgia	6	608	1,323	926	14,851	5	6	31	120	115
Maryland†	—	436	1,031	6,199	7,624	1	1	5	9	11
North Carolina	—	739	1,291	—	14,793	—	0	8	11	35
South Carolina†	—	536	1,421	9,119	10,328	—	1	7	13	17
Virginia†	518	602	924	10,336	10,242	1	1	7	20	16
West Virginia	—	65	137	1,178	1,437	—	0	2	5	5
E.S. Central	—	1,664	2,264	25,387	32,091	1	4	10	62	50
Alabama†	—	456	606	7,094	9,188	—	1	5	21	15
Kentucky	—	290	642	5,032	3,772	1	2	4	22	14
Mississippi	—	430	640	4,813	8,635	—	0	3	4	4
Tennessee†	—	561	734	8,448	10,496	—	1	5	15	17
W.S. Central	527	2,954	5,788	51,759	56,081	5	8	39	88	71
Arkansas†	304	271	416	5,154	5,199	—	1	5	12	10
Louisiana	—	400	1,055	2,922	10,675	—	0	6	11	7
Oklahoma	223	231	2,730	5,331	2,567	1	2	9	13	20
Texas†	—	2,044	3,229	38,352	37,640	4	6	30	52	34
Mountain	404	1,414	2,092	20,416	24,213	5	10	25	138	121
Arizona	151	469	713	4,530	8,645	1	0	3	8	11
Colorado	—	382	689	6,020	3,553	2	2	10	44	29
Idaho†	—	64	185	913	1,325	2	2	7	26	15
Montana†	19	57	72	1,019	1,180	—	1	4	16	12
Nevada†	216	168	478	3,244	3,745	—	0	2	5	7
New Mexico†	—	180	453	2,213	2,721	—	2	8	21	31
Utah	—	113	171	1,847	2,322	—	1	4	13	5
Wyoming†	18	34	70	630	722	—	0	2	5	11
Pacific	2,037	3,453	5,314	55,974	68,734	10	13	27	145	170
Alaska	—	99	137	1,765	1,950	—	0	1	1	2
California	1,399	2,651	4,406	43,548	52,780	6	9	20	87	85
Hawaii	—	118	143	1,779	2,142	—	0	0	—	1
Oregon	—	184	468	1,367	3,786	2	2	10	35	64
Washington	638	397	501	7,515	8,076	2	1	8	22	18
American Samoa	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	1	27	51	—	—	0	0	—	—
Puerto Rico	90	122	331	2,041	2,623	N	0	0	N	N
U.S. Virgin Islands	—	9	21	52	168	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Dengue Virus Infection									
	Dengue Fever					Dengue Hemorrhagic Fever†				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max		
United States	—	0	1	3	NN	—	0	0	—	NN
New England	—	0	1	2	NN	—	0	0	—	NN
Connecticut	—	0	0	—	NN	—	0	0	—	NN
Maine§	—	0	1	2	NN	—	0	0	—	NN
Massachusetts	—	0	0	—	NN	—	0	0	—	NN
New Hampshire	—	0	0	—	NN	—	0	0	—	NN
Rhode Island§	—	0	0	—	NN	—	0	0	—	NN
Vermont§	—	0	0	—	NN	—	0	0	—	NN
Mid. Atlantic	—	0	1	1	NN	—	0	0	—	NN
New Jersey	—	0	0	—	NN	—	0	0	—	NN
New York (Upstate)	—	0	0	—	NN	—	0	0	—	NN
New York City	—	0	0	—	NN	—	0	0	—	NN
Pennsylvania	—	0	1	1	NN	—	0	0	—	NN
E.N. Central	—	0	0	—	NN	—	0	0	—	NN
Illinois	—	0	0	—	NN	—	0	0	—	NN
Indiana	—	0	0	—	NN	—	0	0	—	NN
Michigan	—	0	0	—	NN	—	0	0	—	NN
Ohio	—	0	0	—	NN	—	0	0	—	NN
Wisconsin	—	0	0	—	NN	—	0	0	—	NN
W.N. Central	—	0	0	—	NN	—	0	0	—	NN
Iowa	—	0	0	—	NN	—	0	0	—	NN
Kansas	—	0	0	—	NN	—	0	0	—	NN
Minnesota	—	0	0	—	NN	—	0	0	—	NN
Missouri	—	0	0	—	NN	—	0	0	—	NN
Nebraska§	—	0	0	—	NN	—	0	0	—	NN
North Dakota	—	0	0	—	NN	—	0	0	—	NN
South Dakota	—	0	0	—	NN	—	0	0	—	NN
S. Atlantic	—	0	0	—	NN	—	0	0	—	NN
Delaware	—	0	0	—	NN	—	0	0	—	NN
District of Columbia	—	0	0	—	NN	—	0	0	—	NN
Florida	—	0	0	—	NN	—	0	0	—	NN
Georgia	—	0	0	—	NN	—	0	0	—	NN
Maryland§	—	0	0	—	NN	—	0	0	—	NN
North Carolina	—	0	0	—	NN	—	0	0	—	NN
South Carolina§	—	0	0	—	NN	—	0	0	—	NN
Virginia§	—	0	0	—	NN	—	0	0	—	NN
West Virginia	—	0	0	—	NN	—	0	0	—	NN
E.S. Central	—	0	0	—	NN	—	0	0	—	NN
Alabama§	—	0	0	—	NN	—	0	0	—	NN
Kentucky	—	0	0	—	NN	—	0	0	—	NN
Mississippi	—	0	0	—	NN	—	0	0	—	NN
Tennessee§	—	0	0	—	NN	—	0	0	—	NN
W.S. Central	—	0	0	—	NN	—	0	0	—	NN
Arkansas§	—	0	0	—	NN	—	0	0	—	NN
Louisiana	—	0	0	—	NN	—	0	0	—	NN
Oklahoma	—	0	0	—	NN	—	0	0	—	NN
Texas§	—	0	0	—	NN	—	0	0	—	NN
Mountain	—	0	0	—	NN	—	0	0	—	NN
Arizona	—	0	0	—	NN	—	0	0	—	NN
Colorado	—	0	0	—	NN	—	0	0	—	NN
Idaho§	—	0	0	—	NN	—	0	0	—	NN
Montana§	—	0	0	—	NN	—	0	0	—	NN
Nevada§	—	0	0	—	NN	—	0	0	—	NN
New Mexico§	—	0	0	—	NN	—	0	0	—	NN
Utah	—	0	0	—	NN	—	0	0	—	NN
Wyoming§	—	0	0	—	NN	—	0	0	—	NN
Pacific	—	0	0	—	NN	—	0	0	—	NN
Alaska	—	0	0	—	NN	—	0	0	—	NN
California	—	0	0	—	NN	—	0	0	—	NN
Hawaii	—	0	0	—	NN	—	0	0	—	NN
Oregon	—	0	0	—	NN	—	0	0	—	NN
Washington	—	0	0	—	NN	—	0	0	—	NN
American Samoa	—	0	0	—	NN	—	0	0	—	NN
C.N.M.I.	—	—	—	—	NN	—	—	—	—	NN
Guam	—	0	0	—	NN	—	0	0	—	NN
Puerto Rico	—	0	0	—	NN	—	0	0	—	NN
U.S. Virgin Islands	—	0	0	—	NN	—	0	0	—	NN

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† DHF includes cases that meet criteria for dengue shock syndrome (DSS), a more severe form of DHF.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Ehrlichiosis/Anaplasmosis†														
	Ehrlichia chaffeensis					*Anaplasma phagocytophilum*					Undetermined				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	—	11	131	34	71	—	13	294	11	55	—	1	30	5	14
New England	—	0	4	1	3	—	2	21	5	17	—	0	2	—	—
Connecticut	—	0	0	—	—	—	0	11	—	—	—	0	1	—	—
Maine§	—	0	1	1	—	—	0	3	2	1	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
New Hampshire	—	0	1	—	—	—	0	3	1	4	—	0	1	—	—
Rhode Island§	—	0	4	—	3	—	0	20	2	12	—	0	1	—	—
Vermont§	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	—	1	15	8	12	—	2	23	1	19	—	0	2	1	—
New Jersey	—	0	0	—	1	—	0	0	—	—	—	0	0	—	—
New York (Upstate)	—	1	15	4	5	—	2	22	1	17	—	0	1	1	—
New York City	—	0	3	3	5	—	0	1	—	2	—	0	2	—	—
Pennsylvania	—	0	1	1	1	—	0	0	—	—	—	0	0	—	—
E.N. Central	—	0	8	—	13	—	2	22	1	13	—	1	9	1	7
Illinois	—	0	4	—	6	—	0	1	—	—	—	0	1	—	—
Indiana	—	0	0	—	—	—	0	0	—	—	—	0	8	1	4
Michigan	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Ohio	—	0	2	—	2	—	0	1	—	—	—	0	1	—	—
Wisconsin	—	0	5	—	5	—	2	22	1	13	—	0	3	—	3
W.N. Central	—	2	23	2	6	—	0	257	—	—	—	0	28	2	—
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	2	—	—	—	0	1	—	—	—	0	0	—	—
Minnesota	—	0	11	—	2	—	0	257	—	—	—	0	28	—	—
Missouri	—	1	22	2	4	—	0	2	—	—	—	0	4	2	—
Nebraska§	—	0	1	—	—	—	0	1	—	—	—	0	0	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
S. Atlantic	—	4	18	19	28	—	0	2	4	5	—	0	2	—	—
Delaware	—	0	2	3	2	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Florida	—	0	1	2	2	—	0	1	—	—	—	0	0	—	—
Georgia	—	0	2	3	5	—	0	1	1	—	—	0	0	—	—
Maryland§	—	1	4	4	7	—	0	1	1	1	—	0	0	—	—
North Carolina	—	0	4	7	9	—	0	1	1	4	—	0	0	—	—
South Carolina§	—	0	1	—	1	—	0	0	—	—	—	0	0	—	—
Virginia§	—	0	13	—	2	—	0	1	1	—	—	0	2	—	—
West Virginia	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
E.S. Central	—	1	11	3	6	—	0	1	—	1	—	0	5	1	7
Alabama§	—	0	3	1	—	—	0	1	—	—	—	0	0	—	—
Kentucky	—	0	2	—	—	—	0	0	—	—	—	0	1	—	—
Mississippi	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Tennessee§	—	1	10	2	6	—	0	1	—	1	—	0	5	1	7
W.S. Central	—	0	91	1	1	—	0	16	—	—	—	0	0	—	—
Arkansas§	—	0	5	—	—	—	0	0	—	—	—	0	0	—	—
Louisiana	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oklahoma	—	0	84	—	1	—	0	15	—	—	—	0	0	—	—
Texas§	—	0	2	1	—	—	0	1	—	—	—	0	0	—	—
Mountain	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Arizona	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Colorado	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Idaho§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Montana§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Nevada§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
New Mexico§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Utah	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Wyoming§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Pacific	—	0	1	—	2	—	0	0	—	—	—	0	0	—	—
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
California	—	0	1	—	2	—	0	0	—	—	—	0	0	—	—
Hawaii	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oregon	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Washington	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Cumulative total *E. ewingii* cases reported as of this week = 0.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive† All ages, all serotypes				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	278	325	641	4,991	5,423	1,947	5,393	6,898	74,663	104,236	21	57	158	981	1,226
New England	1	27	66	263	445	197	88	188	1,452	1,687	1	3	19	23	75
Connecticut	—	6	15	94	88	170	43	122	581	777	—	0	13	9	24
Maine§	1	4	13	65	65	—	3	11	75	55	—	0	2	2	9
Massachusetts	—	11	36	—	186	22	39	81	639	684	—	1	8	—	35
New Hampshire	—	3	12	33	37	2	2	6	53	39	—	0	2	6	4
Rhode Island§	—	1	6	19	20	3	6	19	95	110	—	0	2	4	1
Vermont§	—	4	14	52	49	—	1	5	9	22	1	0	1	2	2
Mid. Atlantic	30	58	103	817	1,042	541	634	918	11,195	10,676	2	12	27	222	204
New Jersey	—	0	9	—	149	96	89	133	1,528	1,664	—	2	7	30	29
New York (Upstate)	20	24	81	348	353	105	97	397	1,765	1,909	1	3	19	60	48
New York City	5	16	26	249	310	185	220	422	4,227	3,797	1	2	11	44	39
Pennsylvania	5	15	37	220	230	155	198	275	3,675	3,306	—	4	10	88	88
E.N. Central	25	44	75	691	812	227	1,019	1,471	9,924	21,973	4	9	23	132	293
Illinois	—	11	22	151	181	—	281	417	48	6,518	—	3	12	38	61
Indiana	N	0	7	N	N	—	103	183	1,146	2,708	—	1	5	24	34
Michigan	4	13	25	201	216	161	249	502	4,829	5,608	—	0	4	13	10
Ohio	21	16	28	290	266	66	305	357	3,328	5,326	4	2	6	44	36
Wisconsin	—	6	17	49	149	—	84	146	573	1,813	—	1	15	13	152
W.N. Central	89	26	158	474	507	26	270	369	4,162	5,287	1	2	22	62	61
Iowa	2	6	15	79	79	4	31	51	541	594	—	0	1	1	—
Kansas	—	3	14	61	45	—	40	85	477	910	—	0	2	7	9
Minnesota	75	0	135	136	137	—	41	64	637	802	—	0	17	17	13
Missouri	7	9	27	114	156	22	123	172	2,138	2,322	1	1	6	29	26
Nebraska§	2	4	9	69	44	—	22	55	345	482	—	0	3	3	10
North Dakota	3	0	8	9	4	—	2	14	24	40	—	0	2	5	3
South Dakota	—	1	10	6	42	—	4	16	—	137	—	0	0	—	—
S. Atlantic	65	72	144	1,247	1,190	389	1,351	1,793	15,328	26,096	7	14	30	249	301
Delaware	—	0	3	9	9	25	19	37	346	277	—	0	1	3	3
District of Columbia	—	1	4	8	21	—	45	86	616	998	—	0	1	—	1
Florida	46	36	87	607	630	210	388	482	6,473	7,528	2	4	10	78	106
Georgia	8	13	52	314	254	—	200	494	407	4,922	3	3	9	65	66
Maryland§	5	6	12	102	88	—	125	237	1,759	2,005	—	1	6	18	36
North Carolina	N	0	0	N	N	—	235	386	—	4,894	—	0	17	20	20
South Carolina§	—	2	7	35	35	—	161	412	2,612	2,921	—	2	7	37	28
Virginia§	6	9	37	159	137	154	161	271	2,953	2,338	—	1	5	20	28
West Virginia	—	1	5	13	16	—	8	19	162	213	2	0	5	8	13
E.S. Central	1	7	22	87	123	—	472	649	6,958	9,205	2	3	12	62	69
Alabama§	—	4	13	46	60	—	133	187	2,141	2,619	—	0	4	7	22
Kentucky	N	0	0	N	N	—	84	156	1,279	1,106	—	0	5	10	7
Mississippi	N	0	0	N	N	—	129	198	1,356	2,633	—	0	2	4	3
Tennessee§	1	4	18	41	63	—	144	206	2,182	2,847	2	2	10	41	37
W.S. Central	3	7	19	107	106	140	879	1,554	13,740	16,120	1	2	19	51	51
Arkansas§	—	2	9	32	37	92	86	139	1,454	1,543	—	0	3	7	8
Louisiana	—	1	7	39	45	—	132	343	910	3,428	—	0	2	11	8
Oklahoma	3	3	10	36	24	48	65	616	1,386	918	1	1	15	29	33
Texas§	N	0	0	N	N	—	565	964	9,990	10,231	—	0	2	4	2
Mountain	16	31	64	483	427	67	160	254	2,303	3,101	3	5	14	139	109
Arizona	2	4	7	49	64	19	57	109	550	952	—	2	10	54	36
Colorado	12	11	26	236	125	—	40	99	752	955	3	1	6	37	31
Idaho§	—	4	10	70	42	—	1	8	24	37	—	0	2	6	2
Montana§	1	3	11	43	35	1	2	6	42	33	—	0	1	1	1
Nevada§	1	2	11	18	28	47	26	94	611	678	—	0	2	5	10
New Mexico§	—	1	8	19	37	—	19	41	238	317	—	1	5	19	17
Utah	—	5	13	33	77	—	6	14	75	111	—	1	4	12	12
Wyoming§	—	1	5	15	19	—	1	7	11	18	—	0	2	5	—
Pacific	48	53	133	822	771	360	540	651	9,601	10,091	—	2	8	41	63
Alaska	—	2	7	30	21	—	20	36	422	314	—	0	3	9	3
California	34	34	61	514	540	276	448	544	7,978	8,241	—	0	4	1	21
Hawaii	—	0	2	—	7	—	11	24	207	236	—	0	3	—	16
Oregon	9	9	17	170	114	—	15	43	106	403	—	1	5	28	20
Washington	5	9	76	108	89	84	43	64	888	897	—	0	3	3	3
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	1	—	—	0	3	4	—	—	0	0	—	—
Puerto Rico	—	1	10	9	54	14	4	24	92	73	—	0	1	1	—
U.S. Virgin Islands	—	0	0	—	—	—	1	7	8	52	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Hepatitis (viral, acute), by type														
	A					B					C				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	22	33	62	435	648	26	57	200	870	1,252	6	15	48	238	266
New England	—	1	5	15	40	—	1	4	18	19	—	1	5	9	20
Connecticut	—	0	2	9	9	—	0	3	5	5	—	1	4	9	16
Maine†	—	0	1	2	1	—	0	2	8	3	—	0	1	—	—
Massachusetts	—	1	4	—	22	—	0	2	—	10	—	0	1	—	3
New Hampshire	—	0	1	—	4	—	0	2	4	1	—	0	0	—	—
Rhode Island†	—	0	4	4	3	—	0	0	—	—	—	0	0	—	—
Vermont†	—	0	1	—	1	—	0	1	1	—	—	0	0	—	1
Mid. Atlantic	1	4	10	65	87	2	5	10	90	148	—	2	4	26	38
New Jersey	—	0	5	8	26	—	1	4	17	45	—	0	1	—	4
New York (Upstate)	1	1	3	17	15	—	1	6	16	24	—	1	3	17	16
New York City	—	2	5	21	21	—	1	5	29	28	—	0	1	—	1
Pennsylvania	—	1	6	19	25	2	1	5	28	51	—	0	4	9	17
E.N. Central	1	4	19	50	98	3	7	13	117	189	—	2	6	42	34
Illinois	—	1	13	10	35	—	2	6	21	39	—	0	1	—	3
Indiana	—	0	4	3	8	—	1	5	18	30	—	0	4	6	5
Michigan	—	1	4	20	28	1	2	6	37	48	—	1	3	34	10
Ohio	1	0	4	12	20	2	2	4	41	49	—	0	3	2	14
Wisconsin	—	0	2	5	7	—	0	1	—	23	—	0	2	—	2
W.N. Central	1	1	9	19	38	—	3	15	47	43	—	0	10	10	4
Iowa	—	0	3	4	12	—	1	3	7	10	—	0	4	1	2
Kansas	—	0	2	5	3	—	0	2	2	4	—	0	0	—	1
Minnesota	—	0	8	1	7	—	0	13	2	6	—	0	9	3	—
Missouri	1	0	3	8	8	—	1	5	28	14	—	0	1	5	—
Nebraska†	—	0	3	1	7	—	0	2	8	8	—	0	1	—	1
North Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	1	—	0	1	—	1	—	0	1	1	—
S. Atlantic	7	7	15	103	143	12	15	39	259	382	3	3	12	53	68
Delaware	—	0	1	4	2	U	1	2	U	U	U	0	0	U	U
District of Columbia	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Florida	2	3	8	38	74	9	5	11	103	114	2	1	4	21	8
Georgia	—	1	3	12	12	—	3	7	51	49	—	0	2	3	17
Maryland†	3	0	3	7	17	—	1	6	22	40	—	0	3	8	16
North Carolina	—	0	7	11	15	—	0	9	4	107	—	0	10	9	9
South Carolina†	—	1	4	18	13	—	1	4	13	11	—	0	1	—	—
Virginia†	2	1	3	12	10	3	2	14	35	29	1	0	2	6	6
West Virginia	—	0	2	1	—	—	0	19	20	20	—	0	3	6	12
E.S. Central	1	1	3	15	13	2	7	13	95	131	1	2	6	43	40
Alabama†	—	0	2	4	1	—	1	5	22	37	—	0	2	1	5
Kentucky	1	0	2	8	1	1	2	6	32	33	—	1	5	33	22
Mississippi	—	0	1	—	6	—	0	3	5	9	—	0	0	—	—
Tennessee†	—	0	2	3	5	1	2	6	36	52	1	0	3	9	13
W.S. Central	1	3	19	47	63	4	9	107	115	185	1	1	12	16	15
Arkansas†	—	0	2	—	4	—	0	4	3	20	—	0	1	—	1
Louisiana	—	0	1	3	2	—	0	3	13	18	—	0	1	2	3
Oklahoma	—	0	3	—	1	1	2	18	20	38	1	0	11	7	2
Texas†	1	3	18	44	56	3	6	87	79	109	—	0	4	7	9
Mountain	1	3	8	47	49	—	2	6	31	50	—	1	4	15	20
Arizona	—	1	5	25	16	—	0	3	12	23	—	0	0	—	—
Colorado	1	1	4	8	16	—	0	2	1	11	—	0	3	2	12
Idaho†	—	0	1	2	—	—	0	2	3	1	—	0	2	5	1
Montana†	—	0	1	3	2	—	0	1	—	—	—	0	0	—	—
Nevada†	—	0	2	6	7	—	0	3	11	7	—	0	1	1	1
New Mexico†	—	0	1	2	5	—	0	1	2	4	—	0	2	5	4
Utah	—	0	2	1	3	—	0	1	2	4	—	0	1	2	2
Wyoming†	—	0	1	—	—	—	0	2	—	—	—	0	0	—	—
Pacific	9	5	16	74	117	3	6	20	98	105	1	1	6	24	27
Alaska	—	0	0	—	3	—	0	1	1	1	—	0	2	—	—
California	8	4	15	60	88	2	4	16	72	75	—	1	4	7	12
Hawaii	—	0	1	—	6	—	0	1	—	2	—	0	0	—	—
Oregon	—	0	2	8	5	1	1	4	15	14	1	0	3	10	7
Washington	1	0	4	6	15	—	0	4	10	13	—	0	6	7	8
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	6	7	—	—	1	6	20	—	—	1	4	12	—
Puerto Rico	—	0	2	2	13	1	0	5	7	10	—	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 May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Legionellosis					Lyme disease					Malaria				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	21	57	169	538	557	90	452	2,466	2,852	4,401	9	24	83	322	321
New England	1	3	18	16	24	23	128	851	327	1,459	—	1	4	4	14
Connecticut	1	1	5	8	6	—	40	295	6	673	—	0	3	—	1
Maine†	—	0	3	1	—	21	13	76	102	46	—	0	1	1	—
Massachusetts	—	1	9	—	16	—	40	397	—	510	—	0	3	—	11
New Hampshire	—	0	2	1	—	—	17	93	184	195	—	0	1	1	—
Rhode Island†	—	0	4	5	1	2	1	29	10	4	—	0	1	1	1
Vermont†	—	0	1	1	1	—	5	42	25	31	—	0	1	1	1
Mid. Atlantic	5	16	72	120	144	39	217	1,170	1,694	1,866	2	7	13	87	71
New Jersey	—	1	13	—	23	1	31	389	365	581	—	0	1	—	—
New York (Upstate)	4	5	29	40	47	28	52	430	366	442	1	1	4	21	17
New York City	—	3	19	29	15	—	13	59	2	146	—	4	12	48	44
Pennsylvania	1	6	25	51	59	10	107	652	961	697	1	1	4	18	10
E.N. Central	3	11	41	99	113	—	21	224	61	209	—	2	11	30	46
Illinois	—	1	11	7	13	—	1	12	3	7	—	1	4	13	20
Indiana	—	1	5	8	15	—	1	7	8	8	—	0	4	2	6
Michigan	—	3	13	26	20	—	1	9	4	3	—	0	3	4	6
Ohio	3	5	17	56	50	—	1	5	5	4	—	0	6	11	12
Wisconsin	—	1	5	2	15	—	16	205	41	187	—	0	1	—	2
W.N. Central	3	2	18	20	19	1	4	1,381	10	40	—	1	11	21	10
Iowa	—	0	3	—	8	—	0	15	—	6	—	0	1	6	4
Kansas	—	0	1	1	3	—	0	2	1	6	—	0	1	3	1
Minnesota	3	0	16	9	—	—	0	1,381	6	26	—	0	11	3	1
Missouri	—	1	5	6	4	—	0	1	1	1	—	0	1	3	3
Nebraska†	—	0	2	2	3	1	0	3	2	—	—	0	2	6	—
North Dakota	—	0	1	2	1	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	—	—	0	0	—	1	—	0	0	—	1
S. Atlantic	6	11	23	121	118	23	68	256	649	760	6	6	15	92	118
Delaware	1	0	5	5	1	4	12	65	177	174	1	0	1	2	1
District of Columbia	—	0	5	1	4	—	0	7	2	4	—	0	3	5	5
Florida	4	4	10	55	46	1	2	11	22	9	2	2	7	41	30
Georgia	1	1	4	16	14	—	0	6	2	7	—	0	6	2	24
Maryland†	—	2	12	23	23	9	29	134	277	418	2	1	13	20	30
North Carolina	—	0	5	2	17	—	0	14	12	16	—	0	3	5	16
South Carolina†	—	0	2	1	2	—	1	3	10	9	—	0	1	1	1
Virginia†	—	1	6	16	11	6	12	79	133	107	1	1	5	16	10
West Virginia	—	0	2	2	—	3	0	33	14	16	—	0	2	—	1
E.S. Central	—	2	12	23	25	1	1	4	13	7	—	0	3	5	10
Alabama†	—	0	2	3	5	—	0	1	—	1	—	0	3	1	2
Kentucky	—	1	3	8	11	—	0	1	1	1	—	0	3	2	1
Mississippi	—	0	2	2	—	—	0	0	—	—	—	0	1	—	—
Tennessee†	—	1	9	10	9	1	1	4	12	5	—	0	1	2	7
W.S. Central	—	2	13	17	27	—	4	44	16	14	—	1	31	38	8
Arkansas†	—	0	1	1	2	—	0	0	—	—	—	0	1	1	—
Louisiana	—	0	2	1	1	—	0	0	—	—	—	0	1	—	1
Oklahoma	—	0	4	—	1	—	0	2	—	—	—	0	1	2	—
Texas†	—	1	9	15	23	—	4	42	16	14	—	1	30	35	7
Mountain	1	3	8	32	35	—	1	4	4	9	—	0	6	12	4
Arizona	1	1	4	13	13	—	0	1	—	—	—	0	2	6	1
Colorado	—	0	4	2	4	—	0	1	1	—	—	0	3	1	1
Idaho†	—	0	2	—	1	—	0	3	1	3	—	0	1	—	—
Montana†	—	0	1	1	4	—	0	1	—	1	—	0	3	—	—
Nevada†	—	0	2	10	6	—	0	2	1	3	—	0	1	2	—
New Mexico†	—	0	2	2	—	—	0	1	—	—	—	0	0	—	—
Utah	—	0	4	3	6	—	0	1	1	2	—	0	1	3	2
Wyoming†	—	0	2	1	1	—	0	1	—	—	—	0	0	—	—
Pacific	2	4	19	90	52	3	4	10	78	37	1	2	19	33	40
Alaska	—	0	0	—	1	—	0	1	1	2	—	0	1	1	1
California	2	3	19	82	44	1	3	9	50	22	1	2	13	24	29
Hawaii	—	0	0	—	1	N	0	0	N	N	—	0	0	—	1
Oregon	—	0	3	1	3	1	1	4	26	12	—	0	1	2	5
Washington	—	0	4	7	3	1	0	3	1	1	—	0	5	6	4
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	1	—	—	N	0	0	N	N	—	0	2	1	1
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	—	0	0	—	—

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Meningococcal disease, invasive† All groups					Pertussis					Rabies, animal				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009
United States	12	16	39	285	402	60	269	1,741	2,973	4,476	24	64	113	785	1,289
New England	1	0	2	3	16	—	8	24	29	228	3	5	24	77	104
Connecticut	—	0	2	—	2	—	1	4	14	12	3	1	22	36	44
Maine§	—	0	1	—	2	—	1	10	5	30	—	1	4	18	18
Massachusetts	—	0	1	—	9	—	4	12	—	150	—	0	0	—	—
New Hampshire	—	0	1	—	1	—	1	7	3	23	—	0	3	3	10
Rhode Island§	—	0	1	—	1	—	0	8	4	7	—	0	5	3	11
Vermont§	1	0	1	3	1	—	0	1	3	6	—	1	5	17	21
Mid. Atlantic	3	2	4	30	45	9	18	40	210	395	10	10	23	211	226
New Jersey	—	0	2	8	6	—	2	8	26	87	—	0	0	—	—
New York (Upstate)	2	0	3	6	8	6	5	27	85	60	10	8	22	151	106
New York City	—	0	2	7	9	—	0	11	3	35	—	0	11	60	2
Pennsylvania	1	1	2	9	22	3	9	22	96	213	—	0	5	—	118
E.N. Central	2	2	7	41	73	10	52	100	730	916	1	2	19	14	22
Illinois	—	0	4	7	16	—	9	29	101	241	—	1	9	5	9
Indiana	—	0	3	9	15	—	6	15	52	110	—	0	7	—	4
Michigan	—	0	5	6	11	2	16	41	233	191	—	1	6	5	9
Ohio	2	1	2	16	19	8	19	49	339	324	1	0	5	4	—
Wisconsin	—	0	1	3	12	—	1	12	5	50	N	0	0	N	N
W.N. Central	2	1	6	18	30	4	28	626	224	842	6	6	16	71	108
Iowa	—	0	2	3	2	—	4	11	53	64	—	0	4	—	9
Kansas	—	0	2	1	6	—	4	12	39	80	—	1	4	22	36
Minnesota	—	0	2	2	6	—	0	601	—	168	—	0	11	12	18
Missouri	—	0	3	8	10	2	12	35	102	442	2	1	5	14	9
Nebraska§	2	0	1	4	3	2	2	5	27	78	4	1	6	20	28
North Dakota	—	0	1	—	—	—	0	12	—	2	—	0	7	3	4
South Dakota	—	0	2	—	3	—	1	6	3	8	—	0	1	—	4
S. Atlantic	1	3	10	61	70	11	24	65	298	558	1	25	43	330	644
Delaware	—	0	1	2	2	—	0	2	—	5	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	1	1	3	—	0	0	—	—
Florida	1	1	5	32	27	8	6	29	72	151	—	0	28	49	161
Georgia	—	0	2	5	13	—	4	8	64	95	—	5	16	—	148
Maryland§	—	0	1	2	2	—	3	8	40	42	—	8	15	114	118
North Carolina	—	0	10	5	9	—	0	21	—	152	N	0	4	N	N
South Carolina§	—	0	1	4	5	—	4	18	75	55	—	0	0	—	—
Virginia§	—	0	2	10	8	3	3	15	39	50	—	10	26	141	184
West Virginia	—	0	2	1	4	—	0	6	7	5	1	2	6	26	33
E.S. Central	—	0	4	14	17	—	15	30	245	230	3	0	2	10	57
Alabama§	—	0	2	3	4	—	5	19	64	64	3	0	2	10	—
Kentucky	—	0	2	5	3	—	4	15	92	89	—	0	2	—	22
Mississippi	—	0	1	2	2	—	1	6	14	22	—	0	1	—	1
Tennessee§	—	0	2	4	8	—	4	10	75	55	—	0	0	—	34
W.S. Central	—	1	9	33	35	9	68	752	818	617	—	0	17	10	16
Arkansas§	—	0	2	3	5	—	5	30	30	87	—	0	10	6	12
Louisiana	—	0	3	7	9	—	0	8	8	37	—	0	0	—	—
Oklahoma	—	0	7	12	2	2	0	41	5	9	—	0	15	4	4
Texas§	—	1	7	11	19	7	61	681	775	484	—	0	1	—	—
Mountain	1	1	4	24	35	6	17	41	258	380	—	2	8	15	38
Arizona	—	0	2	7	6	1	6	12	108	68	N	0	5	N	N
Colorado	1	0	3	6	10	3	3	13	38	99	—	0	0	—	—
Idaho§	—	0	1	3	5	2	1	19	51	34	—	0	2	1	—
Montana§	—	0	2	1	3	—	0	6	5	9	—	0	4	—	11
Nevada§	—	0	1	4	3	—	0	6	1	6	—	0	1	—	—
New Mexico§	—	0	1	2	3	—	1	6	27	30	—	0	3	4	14
Utah	—	0	1	1	1	—	2	6	27	120	—	0	2	—	—
Wyoming§	—	0	1	—	4	—	0	3	1	14	—	0	3	10	13
Pacific	2	3	16	61	81	11	26	186	161	310	—	4	12	47	74
Alaska	—	0	2	—	3	—	0	4	8	25	—	0	2	10	14
California	1	2	13	46	48	2	12	162	21	98	—	3	11	33	60
Hawaii	—	0	1	—	3	—	0	3	—	11	—	0	0	—	—
Oregon	1	0	5	11	19	3	4	12	87	78	—	0	2	4	—
Washington	—	0	7	4	8	6	4	24	45	98	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	1	—	—	—	0	0	—	1	—	1	3	19	17
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N

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† Data for meningococcal disease, invasive caused by serogroups A, C, Y, and W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Salmonellosis					Shiga toxin-producing *E. coli* (STEC)†					Shigellosis				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	354	910	1,412	8,192	11,533	39	87	170	680	1,033	182	279	507	3,779	5,145
New England	1	26	125	224	1,001	2	3	30	23	109	—	4	27	25	103
Connecticut	—	0	120	120	429	—	0	10	10	67	—	0	14	14	43
Maine§	1	2	7	22	37	2	0	3	3	3	—	0	2	3	2
Massachusetts	—	18	47	—	327	—	1	7	—	23	—	2	27	—	47
New Hampshire	—	3	10	37	146	—	1	3	8	12	—	0	4	3	1
Rhode Island§	—	2	11	33	46	—	0	26	—	—	—	0	7	4	7
Vermont§	—	1	5	12	16	—	0	3	2	4	—	0	1	1	3
Mid. Atlantic	52	95	207	1,026	1,330	3	7	24	89	117	19	41	89	525	1,061
New Jersey	—	10	47	74	271	—	1	5	3	35	—	5	23	67	291
New York (Upstate)	36	23	77	285	288	2	3	17	43	26	9	4	19	58	55
New York City	3	22	48	287	325	—	0	4	8	28	1	7	16	94	171
Pennsylvania	13	28	66	380	446	1	2	8	35	28	9	23	63	306	544
E.N. Central	22	76	160	863	1,546	7	11	36	82	195	6	29	229	636	1,104
Illinois	—	25	52	282	429	—	2	6	9	63	—	9	223	478	246
Indiana	—	9	24	35	121	—	1	9	5	21	—	1	5	7	31
Michigan	3	15	34	191	306	1	2	7	28	30	1	3	10	58	101
Ohio	19	24	52	321	416	6	2	11	34	28	5	9	46	81	551
Wisconsin	—	9	30	34	274	—	3	21	6	53	—	3	22	12	175
W.N. Central	13	44	87	543	827	9	10	40	101	117	50	41	88	898	183
Iowa	2	7	16	80	116	—	2	14	15	29	—	0	5	15	35
Kansas	—	7	20	84	91	—	1	5	10	12	—	3	14	62	64
Minnesota	—	10	31	145	187	—	2	17	25	30	—	1	6	14	20
Missouri	9	13	30	170	132	7	2	10	37	26	49	32	75	800	51
Nebraska§	2	4	12	49	162	2	1	6	13	17	1	0	3	7	10
North Dakota	—	0	21	8	13	—	0	3	—	—	—	0	2	—	1
South Dakota	—	1	10	7	126	—	0	13	1	3	—	0	2	—	2
S. Atlantic	116	279	446	2,404	2,657	6	12	22	138	184	37	39	73	545	752
Delaware	—	3	9	27	16	—	0	2	1	4	1	3	10	30	15
District of Columbia	—	2	6	17	28	—	0	1	2	1	—	0	3	7	8
Florida	65	132	277	1,149	1,095	1	3	7	56	53	18	10	18	209	144
Georgia	18	42	105	360	424	—	1	4	16	18	11	12	23	193	205
Maryland§	12	15	32	198	215	—	1	6	18	24	5	4	17	33	126
North Carolina	—	8	90	230	426	—	0	8	4	44	—	2	27	15	128
South Carolina§	7	17	66	162	192	—	0	3	2	8	—	1	6	25	60
Virginia§	13	20	68	204	213	5	3	13	37	25	2	3	15	32	61
West Virginia	1	4	23	57	48	—	0	5	2	7	—	0	2	1	5
E.S. Central	14	52	113	420	631	—	4	10	37	55	10	12	47	151	281
Alabama§	1	14	40	137	202	—	1	4	11	8	—	2	10	15	64
Kentucky	6	7	18	90	127	—	1	4	2	16	9	4	25	69	47
Mississippi	—	14	45	50	142	—	0	1	3	6	—	1	4	7	11
Tennessee§	7	14	33	143	160	—	1	8	21	25	1	5	16	60	159
W.S. Central	39	104	511	753	1,010	—	5	53	31	58	36	49	163	586	911
Arkansas§	—	10	25	54	117	—	0	4	5	8	—	4	15	12	98
Louisiana	—	10	43	160	130	—	0	1	4	—	—	1	7	36	62
Oklahoma	9	10	30	89	141	—	0	12	1	5	5	6	19	101	53
Texas§	30	59	477	450	622	—	4	41	21	45	31	35	144	437	698
Mountain	22	51	133	621	849	6	8	26	76	108	5	16	48	161	356
Arizona	1	18	50	218	301	2	1	4	17	12	4	11	42	88	242
Colorado	6	11	33	175	172	2	2	11	16	57	—	2	6	26	31
Idaho§	1	3	10	39	52	—	1	7	11	7	1	0	1	4	1
Montana§	3	2	7	30	41	1	0	7	11	4	—	0	2	4	9
Nevada§	11	4	13	53	82	1	0	4	6	6	—	1	7	9	26
New Mexico§	—	5	26	65	83	—	1	3	9	12	—	1	9	26	37
Utah	—	5	14	27	96	—	1	11	6	9	—	0	4	4	10
Wyoming§	—	1	9	14	22	—	0	2	—	1	—	0	2	—	—
Pacific	75	122	299	1,338	1,682	6	9	46	103	90	19	21	64	252	394
Alaska	—	1	7	23	17	—	0	0	—	—	—	0	2	—	1
California	54	92	227	975	1,273	4	5	35	55	59	15	16	51	211	307
Hawaii	—	4	61	—	79	—	0	2	—	3	—	0	4	—	6
Oregon	2	9	41	193	128	—	1	11	10	9	—	1	5	22	21
Washington	19	13	60	147	185	2	3	19	38	19	4	2	9	19	59
American Samoa	—	1	1	1	—	—	0	0	—	—	1	0	0	1	3
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	9	39	67	170	—	0	0	—	—	—	0	2	—	5
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Spotted Fever Rickettsiosis (including RMSF)†									
	Confirmed					Probable				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max		
United States	1	2	12	14	21	2	11	279	88	285
New England	—	0	1	—	—	—	0	1	1	4
Connecticut	—	0	0	—	—	—	0	0	—	—
Maine§	—	0	0	—	—	—	0	1	1	3
Massachusetts	—	0	1	—	—	—	0	1	—	1
New Hampshire	—	0	0	—	—	—	0	1	—	—
Rhode Island§	—	0	0	—	—	—	0	0	—	—
Vermont§	—	0	1	—	—	—	0	0	—	—
Mid. Atlantic	1	0	3	3	—	—	1	6	9	11
New Jersey	—	0	0	—	—	—	0	0	—	—
New York (Upstate)	—	0	1	—	—	—	0	3	1	1
New York City	—	0	1	—	—	—	0	4	6	7
Pennsylvania	1	0	2	3	—	—	0	2	2	3
E.N. Central	—	0	2	—	1	—	0	7	—	14
Illinois	—	0	1	—	—	—	0	6	—	9
Indiana	—	0	2	—	—	—	0	2	—	—
Michigan	—	0	1	—	1	—	0	1	—	—
Ohio	—	0	0	—	—	—	0	4	—	5
Wisconsin	—	0	0	—	—	—	0	1	—	—
W.N. Central	—	0	3	1	2	—	2	23	14	25
Iowa	—	0	1	—	—	—	0	1	—	1
Kansas	—	0	1	—	—	—	0	0	—	—
Minnesota	—	0	1	—	—	—	0	1	—	—
Missouri	—	0	1	1	—	—	2	22	14	24
Nebraska§	—	0	2	—	2	—	0	1	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	0	—	—
S. Atlantic	—	1	7	7	14	—	4	25	42	172
Delaware	—	0	1	1	—	—	0	3	4	2
District of Columbia	—	0	0	—	—	—	0	1	—	—
Florida	—	0	1	—	—	—	0	1	2	1
Georgia	—	0	6	5	13	—	0	0	—	—
Maryland§	—	0	1	—	—	—	0	3	3	15
North Carolina	—	0	1	1	—	—	1	24	27	129
South Carolina§	—	0	1	—	1	—	0	1	2	11
Virginia§	—	0	1	—	—	—	0	5	4	14
West Virginia	—	0	0	—	—	—	0	1	—	—
E.S. Central	—	0	2	2	1	2	2	15	16	41
Alabama§	—	0	1	—	—	—	1	7	2	8
Kentucky	—	0	1	1	—	—	0	0	—	—
Mississippi	—	0	0	—	1	—	0	1	1	—
Tennessee§	—	0	2	1	—	2	2	14	13	33
W.S. Central	—	0	3	1	—	—	1	272	6	13
Arkansas§	—	0	0	—	—	—	0	14	—	3
Louisiana	—	0	0	—	—	—	0	1	—	1
Oklahoma	—	0	3	—	—	—	0	250	2	2
Texas§	—	0	1	1	—	—	0	11	4	7
Mountain	—	0	2	—	3	—	0	3	—	5
Arizona	—	0	2	—	1	—	0	2	—	2
Colorado	—	0	1	—	—	—	0	0	—	—
Idaho§	—	0	0	—	—	—	0	1	—	—
Montana§	—	0	1	—	2	—	0	2	—	1
Nevada§	—	0	0	—	—	—	0	1	—	—
New Mexico§	—	0	0	—	—	—	0	0	—	1
Utah	—	0	0	—	—	—	0	0	—	1
Wyoming§	—	0	1	—	—	—	0	1	—	—
Pacific	—	0	1	—	—	—	0	0	—	—
Alaska	—	0	0	—	—	—	0	0	—	—
California	—	0	1	—	—	—	0	0	—	—
Hawaii	—	0	0	—	—	—	0	0	—	—
Oregon	—	0	0	—	—	—	0	0	—	—
Washington	—	0	0	—	—	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

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U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Illnesses with similar clinical presentation that result from Spotted fever group rickettsia infections are reported as Spotted fever rickettsioses. Rocky Mountain spotted fever (RMSF) caused by *Rickettsia rickettsii*, is the most common and well-known spotted fever.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	*Streptococcus pneumoniae*,† invasive disease										Syphilis, primary and secondary				
	All ages					Age <5									
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	181	57	421	5,886	1,460	18	48	139	953	1,081	42	240	409	3,350	4,798
New England	1	2	97	314	31	—	1	23	24	33	3	7	21	140	120
Connecticut	—	0	94	139	—	—	0	22	14	—	2	1	9	24	25
Maine§	—	1	5	45	6	—	0	2	4	—	—	0	3	13	1
Massachusetts	—	0	1	—	1	—	0	5	—	25	1	5	12	87	81
New Hampshire	1	0	6	53	5	—	0	2	3	5	—	0	1	4	9
Rhode Island§	—	0	7	40	11	—	0	1	2	1	—	0	5	10	4
Vermont§	—	0	6	37	8	—	0	1	1	2	—	0	2	2	—
Mid. Atlantic	21	5	39	387	87	4	6	48	114	132	20	33	47	588	660
New Jersey	—	0	4	32	—	—	1	3	21	24	4	4	12	80	90
New York (Upstate)	6	2	12	76	36	4	2	19	55	63	2	2	11	30	35
New York City	4	1	15	77	3	—	1	28	16	38	12	19	39	352	415
Pennsylvania	11	2	20	202	48	—	0	5	22	7	2	7	14	126	120
E.N. Central	15	13	75	821	323	1	8	18	152	182	—	23	55	212	468
Illinois	—	0	7	43	—	—	1	5	37	27	—	10	36	7	230
Indiana	—	5	20	195	126	—	1	6	25	33	—	2	9	32	58
Michigan	5	1	26	294	14	—	1	6	37	31	—	3	13	64	77
Ohio	10	8	19	198	183	1	2	7	44	63	—	7	13	109	81
Wisconsin	—	0	20	91	—	—	0	2	9	28	—	0	3	—	22
W.N. Central	15	4	182	391	94	1	3	12	74	81	—	5	12	69	112
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	2	10
Kansas	—	1	7	48	38	—	0	2	8	12	—	0	3	2	6
Minnesota	—	0	179	211	14	—	1	10	35	23	—	1	4	13	31
Missouri	2	1	8	53	31	1	0	3	22	31	—	3	8	49	58
Nebraska§	3	0	7	59	—	—	0	2	8	3	—	0	2	3	5
North Dakota	10	0	4	16	9	—	0	1	—	4	—	0	1	—	2
South Dakota	—	0	2	4	2	—	0	2	1	8	—	0	0	—	—
S. Atlantic	46	27	142	1,603	671	6	12	27	260	267	4	60	218	850	1,093
Delaware	2	0	3	15	10	—	0	2	—	—	—	0	3	3	14
District of Columbia	—	0	3	14	—	—	0	1	3	—	—	3	8	41	63
Florida	27	16	89	782	405	4	4	18	102	100	—	19	30	297	412
Georgia	3	8	28	243	197	1	4	12	74	68	—	13	167	111	177
Maryland§	13	0	25	220	4	1	1	7	29	37	—	6	12	84	101
North Carolina	—	0	0	—	—	—	0	0	—	—	2	9	31	167	179
South Carolina§	1	0	25	262	—	—	1	4	28	26	—	2	6	42	43
Virginia§	—	0	3	19	—	—	1	3	17	25	2	6	22	105	100
West Virginia	—	1	21	48	55	—	0	4	7	11	—	0	2	—	4
E.S. Central	15	4	50	558	137	1	2	8	53	66	—	19	40	253	420
Alabama§	—	0	0	—	—	—	0	0	—	—	—	6	18	79	175
Kentucky	1	1	15	67	46	—	0	2	4	7	—	1	13	29	22
Mississippi	—	0	5	24	3	—	0	2	5	8	—	3	17	36	70
Tennessee§	14	2	44	467	88	1	2	7	44	51	—	7	15	109	153
W.S. Central	46	2	87	806	48	4	6	39	134	147	6	45	75	552	971
Arkansas§	—	1	8	63	26	—	0	4	9	18	5	6	16	83	54
Louisiana	—	0	8	38	22	—	0	3	12	16	—	9	27	64	320
Oklahoma	—	0	5	29	—	—	1	5	29	25	1	1	6	18	36
Texas§	46	0	80	676	—	4	4	34	84	88	—	29	46	387	561
Mountain	19	3	82	884	67	1	5	12	125	157	3	9	18	93	186
Arizona	4	0	51	428	—	—	2	7	56	72	2	3	11	20	90
Colorado	13	0	20	256	—	1	1	4	34	23	—	2	5	36	36
Idaho§	—	0	1	5	—	—	0	2	2	2	—	0	1	2	2
Montana§	1	0	1	8	—	—	0	0	—	—	—	0	1	—	—
Nevada§	1	1	4	33	27	—	0	1	4	6	1	1	10	27	33
New Mexico§	—	0	8	75	—	—	0	4	12	19	—	1	4	7	17
Utah	—	1	9	71	33	—	1	4	15	34	—	0	2	1	8
Wyoming§	—	0	2	8	7	—	0	1	2	1	—	0	1	—	—
Pacific	3	0	14	122	2	—	0	7	17	16	6	40	59	593	768
Alaska	—	0	9	52	—	—	0	5	14	9	—	0	0	—	—
California	3	0	12	70	—	—	0	2	3	—	6	35	54	512	680
Hawaii	—	0	1	—	2	—	0	1	—	7	—	0	3	11	16
Oregon	—	0	0	—	—	—	0	0	—	—	—	1	5	6	15
Washington	—	0	0	—	—	—	0	0	—	—	—	3	7	64	57
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	5	3	17	67	63
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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* Incidence data for reporting years 2009 and 2010 are provisional.
† Includes drug resistant and susceptible cases of invasive *Streptococcus pneumoniae* disease among children <5 years and among all ages. Case definition: Isolation of *S. pneumoniae* from a normally sterile body site (e.g., blood or cerebrospinal fluid).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 8, 2010, and May 9, 2009 (18th week)*

Reporting area	Varicella (chickenpox)§					West Nile virus disease†									
						Neuroinvasive					Nonneuroinvasive¶				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009
United States	316	296	704	5,571	9,678	—	1	46	2	2	—	0	49	—	1
New England	15	16	37	251	389	—	0	0	—	—	—	0	0	—	—
Connecticut	12	7	23	95	189	—	0	0	—	—	—	0	0	—	—
Maine§	2	4	15	89	68	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	0	—	2	—	0	0	—	—	—	0	0	—	—
New Hampshire	1	3	10	47	86	—	0	0	—	—	—	0	0	—	—
Rhode Island§	—	0	3	8	4	—	0	0	—	—	—	0	0	—	—
Vermont§	—	0	3	12	40	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	16	23	56	390	755	—	0	2	—	—	—	0	1	—	—
New Jersey	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
New York (Upstate)	N	0	0	N	N	—	0	1	—	—	—	0	1	—	—
New York City	—	0	0	—	—	—	0	1	—	—	—	0	0	—	—
Pennsylvania	16	23	56	390	755	—	0	0	—	—	—	0	0	—	—
E.N. Central	90	108	205	2,131	3,317	—	0	4	—	—	—	0	3	—	—
Illinois	13	27	56	559	840	—	0	3	—	—	—	0	0	—	—
Indiana§	7	7	26	219	233	—	0	1	—	—	—	0	1	—	—
Michigan	14	37	84	685	932	—	0	1	—	—	—	0	0	—	—
Ohio	56	28	81	599	1,064	—	0	0	—	—	—	0	2	—	—
Wisconsin	—	6	57	69	248	—	0	1	—	—	—	0	0	—	—
W.N. Central	6	13	42	228	764	—	0	5	—	—	—	0	11	—	—
Iowa	N	0	0	N	N	—	0	0	—	—	—	0	1	—	—
Kansas§	2	5	22	80	340	—	0	1	—	—	—	0	2	—	—
Minnesota	—	0	0	—	—	—	0	1	—	—	—	0	1	—	—
Missouri	4	6	24	125	352	—	0	2	—	—	—	0	1	—	—
Nebraska§	N	0	0	N	N	—	0	2	—	—	—	0	6	—	—
North Dakota	—	0	26	21	37	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	7	2	35	—	0	3	—	—	—	0	2	—	—
S. Atlantic	80	33	123	819	1,340	—	0	4	—	—	—	0	2	—	—
Delaware§	—	0	3	8	2	—	0	0	—	—	—	0	0	—	—
District of Columbia	—	0	4	5	20	—	0	1	—	—	—	0	0	—	—
Florida§	49	15	54	446	651	—	0	1	—	—	—	0	1	—	—
Georgia	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Maryland§	N	0	0	N	N	—	0	0	—	—	—	0	1	—	—
North Carolina	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
South Carolina§	—	0	34	56	154	—	0	2	—	—	—	0	0	—	—
Virginia§	8	10	65	127	316	—	0	2	—	—	—	0	0	—	—
West Virginia	23	8	25	177	197	—	0	0	—	—	—	0	0	—	—
E.S. Central	10	5	29	92	273	—	0	6	2	—	—	0	4	—	—
Alabama§	10	5	27	92	270	—	0	0	—	—	—	0	0	—	—
Kentucky	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	2	—	3	—	0	5	2	—	—	0	4	—	—
Tennessee§	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
W.S. Central	76	68	261	1,174	2,039	—	0	19	—	2	—	0	6	—	—
Arkansas§	—	0	31	69	64	—	0	1	—	1	—	0	0	—	—
Louisiana	—	0	7	20	30	—	0	2	—	—	—	0	4	—	—
Oklahoma	N	0	0	N	N	—	0	2	—	—	—	0	2	—	—
Texas§	76	65	245	1,085	1,945	—	0	16	—	1	—	0	4	—	—
Mountain	23	20	57	474	742	—	0	12	—	—	—	0	17	—	1
Arizona	—	0	0	—	—	—	0	4	—	—	—	0	2	—	—
Colorado§	15	8	22	193	274	—	0	7	—	—	—	0	14	—	—
Idaho§	N	0	0	N	N	—	0	3	—	—	—	0	5	—	—
Montana§	5	0	17	86	88	—	0	1	—	—	—	0	1	—	—
Nevada§	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
New Mexico§	—	0	6	38	63	—	0	2	—	—	—	0	1	—	—
Utah	—	6	29	148	317	—	0	1	—	—	—	0	0	—	1
Wyoming§	3	0	2	9	—	—	0	1	—	—	—	0	2	—	—
Pacific	—	1	5	12	59	—	0	12	—	—	—	0	12	—	—
Alaska	—	0	4	12	32	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	8	—	—	—	0	6	—	—
Hawaii	—	0	2	—	27	—	0	0	—	—	—	0	0	—	—
Oregon	N	0	0	N	N	—	0	1	—	—	—	0	4	—	—
Washington	N	0	0	N	N	—	0	6	—	—	—	0	3	—	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	4	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	3	7	30	101	216	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).
¶ Not reportable in all states. Data from states where the condition is not reportable are excluded from this table, except starting in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/ncphi/disss/nndss/phs/infdis.htm.

TABLE III. Deaths in 122 U.S. cities,* week ending May 8, 2010 (18th week)

Reporting area	All causes, by age (years)						P&I†
	All Ages	≥65	45–64	25–44	1–24	<1	Total
New England	503	332	121	25	12	13	46
Boston, MA	127	72	36	12	5	2	10
Bridgeport, CT	25	17	6	2	—	—	3
Cambridge, MA	15	11	3	1	—	—	3
Fall River, MA	29	21	7	—	1	—	3
Hartford, CT	42	25	10	1	2	4	5
Lowell, MA	18	9	7	2	—	—	1
Lynn, MA	7	4	1	2	—	—	—
New Bedford, MA	16	14	2	—	—	—	1
New Haven, CT	28	19	8	—	1	—	6
Providence, RI	74	55	15	2	—	2	7
Somerville, MA	6	4	2	—	—	—	—
Springfield, MA	29	20	6	—	2	1	1
Waterbury, CT	30	26	4	—	—	—	2
Worcester, MA	57	35	14	3	1	4	4
Mid. Atlantic	2,097	1,415	497	120	33	31	102
Albany, NY	48	35	13	—	—	—	4
Allentown, PA	28	23	4	1	—	—	3
Buffalo, NY	77	49	24	1	2	1	3
Camden, NJ	34	26	7	1	—	—	—
Elizabeth, NJ	6	5	1	—	—	—	1
Erie, PA	51	42	7	1	1	—	1
Jersey City, NJ	6	4	2	—	—	—	—
New York City, NY	1,004	685	232	60	14	12	44
Newark, NJ	45	22	9	9	2	3	3
Paterson, NJ	12	6	4	2	—	—	2
Philadelphia, PA	467	287	127	30	12	11	20
Pittsburgh, PA§	28	22	6	—	—	—	4
Reading, PA	31	24	6	—	—	1	2
Rochester, NY	73	48	17	7	—	1	5
Schenectady, NY	23	17	6	—	—	—	—
Scranton, PA	22	12	7	1	2	—	1
Syracuse, NY	75	60	12	2	—	1	6
Trenton, NJ	36	24	8	4	—	—	—
Utica, NY	14	11	3	—	—	—	2
Yonkers, NY	17	13	2	1	—	1	1
E.N. Central	1,914	1,282	437	112	38	45	119
Akron, OH	57	30	21	1	—	5	4
Canton, OH	39	27	7	2	1	2	—
Chicago, IL	275	179	60	22	10	4	8
Cincinnati, OH	75	51	19	2	1	2	9
Cleveland, OH	250	168	65	10	4	3	16
Columbus, OH	226	144	50	17	7	8	24
Dayton, OH	115	87	24	4	—	—	9
Detroit, MI	154	72	52	19	7	4	4
Evansville, IN	40	33	6	—	—	1	3
Fort Wayne, IN	63	40	18	2	1	2	4
Gary, IN	7	2	3	1	—	1	1
Grand Rapids, MI	46	33	9	2	—	2	5
Indianapolis, IN	139	96	30	5	3	5	8
Lansing, MI	31	27	3	1	—	—	3
Milwaukee, WI	98	65	22	10	—	1	3
Peoria, IL	38	34	3	—	—	1	1
Rockford, IL	54	34	16	3	1	—	2
South Bend, IN	44	37	4	1	1	1	4
Toledo, OH	82	55	14	9	2	2	1
Youngstown, OH	81	68	11	1	—	1	10
W.N. Central	482	318	113	27	11	13	26
Des Moines, IA	49	35	9	4	1	—	1
Duluth, MN	30	21	8	1	—	—	1
Kansas City, KS	19	13	4	2	—	—	3
Kansas City, MO	100	68	20	6	2	4	6
Lincoln, NE	36	29	5	1	1	—	1
Minneapolis, MN	63	36	17	2	3	5	6
Omaha, NE	78	52	18	2	3	3	4
St. Louis, MO	10	4	4	2	—	—	—
St. Paul, MN	44	28	10	5	1	—	4
Wichita, KS	53	32	18	2	—	1	—
S. Atlantic	1,035	679	254	56	25	20	62
Atlanta, GA	132	83	33	8	4	4	11
Baltimore, MD	138	81	43	6	4	4	9
Charlotte, NC	95	73	16	4	2	—	9
Jacksonville, FL	96	68	22	4	1	1	6
Miami, FL	98	60	27	7	4	—	5
Norfolk, VA	49	30	13	3	2	1	1
Richmond, VA	56	31	18	4	1	1	2
Savannah, GA	56	38	11	4	1	2	4
St. Petersburg, FL	59	38	17	1	2	1	2
Tampa, FL	180	131	35	8	4	2	6
Washington, D.C.	67	42	15	6	—	4	7
Wilmington, DE	9	4	4	1	—	—	—
E.S. Central	889	569	243	44	14	19	64
Birmingham, AL	182	116	52	7	3	4	15
Chattanooga, TN	79	48	20	6	4	1	5
Knoxville, TN	91	62	28	—	1	—	9
Lexington, KY	55	37	13	3	—	2	1
Memphis, TN	176	105	48	14	3	6	16
Mobile, AL	106	77	28	1	—	—	4
Montgomery, AL	63	41	19	2	—	1	4
Nashville, TN	137	83	35	11	3	5	10
W.S. Central	1,129	737	272	71	19	28	64
Austin, TX	19	11	6	2	—	—	2
Baton Rouge, LA	60	42	10	4	2	2	—
Corpus Christi, TX	52	35	10	6	—	1	4
Dallas, TX	204	113	64	13	6	8	8
El Paso, TX	91	73	10	6	2	—	5
Fort Worth, TX	U	U	U	U	U	U	U
Houston, TX	172	102	50	9	1	10	10
Little Rock, AR	96	54	31	8	2	1	7
New Orleans, LA	U	U	U	U	U	U	U
San Antonio, TX	236	164	45	17	5	4	14
Shreveport, LA	67	51	12	3	1	—	5
Tulsa, OK	132	92	34	3	—	2	9
Mountain	1,110	755	257	60	23	13	86
Albuquerque, NM	128	83	29	9	5	2	22
Boise, ID	44	31	11	1	—	1	4
Colorado Springs, CO	79	58	15	2	3	—	—
Denver, CO	88	65	17	4	—	2	9
Las Vegas, NV	268	175	64	24	3	2	17
Ogden, UT	38	30	6	2	—	—	5
Phoenix, AZ	170	95	58	8	5	3	12
Pueblo, CO	26	22	4	—	—	—	—
Salt Lake City, UT	117	81	22	7	4	3	7
Tucson, AZ	152	115	31	3	3	—	10
Pacific	1,648	1,121	389	75	42	21	162
Berkeley, CA	10	9	1	—	—	—	1
Fresno, CA	123	82	27	5	5	4	17
Glendale, CA	39	27	11	1	—	—	2
Honolulu, HI	66	45	12	5	3	1	9
Long Beach, CA	58	38	16	3	1	—	6
Los Angeles, CA	241	167	48	17	5	4	30
Pasadena, CA	28	22	4	1	1	—	4
Portland, OR	117	76	30	6	4	1	3
Sacramento, CA	188	122	57	4	3	2	22
San Diego, CA	166	104	42	10	6	4	12
San Francisco, CA	111	73	30	5	1	2	11
San Jose, CA	190	131	43	7	7	2	18
Santa Cruz, CA	34	28	4	1	1	—	4
Seattle, WA	124	79	36	7	1	1	9
Spokane, WA	46	39	5	1	1	—	5
Tacoma, WA	107	79	23	2	3	—	9
Total¶	10,807	7,208	2,583	590	217	203	731

U: Unavailable. —: No reported cases.

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

† Pneumonia and influenza.

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

¶ Total includes unknown ages.

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