

Hepatitis Awareness Month — May 2010

May 2010 marks the 15th anniversary of Hepatitis Awareness Month in the United States, and May 19 is World Hepatitis Day. Globally, viral hepatitis is the cause of most (78%) primary liver cancer, the third leading cause of cancer deaths in the world (1). Prevention of hepatitis B and hepatitis C virus transmission and treatment for early disease can prevent primary liver cancer (2). This issue of *MMWR* includes a report describing vaccination of at-risk adults with hepatitis B vaccine in California and a report on continued increases in hepatocellular carcinoma incidence in the United States.

The Institute of Medicine (IOM) recently issued *Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and Hepatitis C*. The IOM strategy has four components: 1) accurate public health surveillance, 2) innovative approaches to community education, 3) immunization capacity to eliminate hepatitis B virus transmission, and 4) development of viral hepatitis services, including screening with referral for medical management. Taken together, these strategies can reduce morbidity associated with viral hepatitis, including primary liver cancer.

Additional information about viral hepatitis is available at <http://www.cdc.gov/hepatitis>. The IOM report is available at <http://www.iom.edu>. Information about World Hepatitis Day activities is available at <http://www.nvhr.org/WHD-2009.htm>.

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The Adult Hepatitis Vaccine Project — California, 2007–2008

Since hepatitis B vaccine was first released in 1981, a public health goal has been to vaccinate adults at risk for infection because of risky sexual behaviors and needle-sharing practices (1,2). However, vaccination coverage for this group has remained low (3). During 2007, in the United States, among the estimated 43,000 persons newly infected with hepatitis B virus (HBV), the highest rate was reported among persons aged 25–44 years, and the majority of these infections were among at-risk adults (1). Surveillance data were similar in California (4). In 2006, when the Advisory Committee on Immunization Practices (ACIP) recommended that hepatitis B vaccination be offered to all adults as part of routine prevention services in settings where a high proportion of those served are at increased risk (2,5), CDC launched a national initiative encouraging states to use existing federal funds to purchase adult hepatitis B–containing (HepB) vaccine. In response, the California Department of Public Health (CDPH) established the Adult Hepatitis Vaccine Project (AHVP) to expand hepatitis B vaccination in sites serving at-risk adults. This report summarizes results for 2007–2008, which indicated that 28,824 doses of HepB vaccine were administered at 29 participating sites in the first 19 months of AHVP; 13 sites administered HepB vaccine for the first time. Federal provision of vaccine resulted in vaccination of many adults who otherwise might not have been vaccinated against HBV. Increased capacity to vaccinate all

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adults at risk is needed for the elimination of HBV transmission in the United States.

In October 2006, CDC encouraged state and local immunization programs to use portions of federally appropriated vaccine funds to offer or expand adult hepatitis B vaccination in selected health-care sites that reach adults at increased risk for HBV infection. One year later, in October 2007, CDC made available \$20 million of federal funds* for the purchase of adult HepB vaccine. As part of this national initiative, the California AHVP was established. The AHVP selected sites for participation based on 1) type of setting serving at-risk adults, in accordance with ACIP recommendations, 2) a feasible plan to integrate immunization services into other activities, 3) ability to properly handle and administer vaccine, including local licensed staff and storage capability, 4) ability and willingness to document vaccine administration, and 5) availability of local funds to pay for syringes, needles, and other vaccine supplies. Phase I (June–October 2007) of AHVP began when CDPH used funds from the CDC initiative for

purchase of adult HepB vaccine; phase II (November 2007–December 2008) was implemented when additional federal funds were made available by CDC to California and other states to purchase HepB vaccine for settings serving at-risk adults.

AHVP asked participating sites to collect data on the number of vaccine doses administered during both phases of the project. In addition, AHVP requested demographic information (age, sex, race, and ethnicity) for each person who received vaccine, as well as which dose of the 3-dose series was administered. For this report, the monthly average number of adults who received vaccine was calculated by whether vaccine services were provided by the site (none versus some services) and by funding phase. Data were analyzed by demographic characteristics and by type of site for all adults who received a first dose. Because no data on the number of vaccine-eligible adults at each site were available routinely, coverage rates could not be calculated.

A total of 29 sites were enrolled in the California AHVP during June 2007–December 2008, including 11 sexually transmitted disease (STD) clinics, four correctional facilities, four community health centers,

*42 USC § 274b (project grants for preventive services).

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four substance abuse treatment programs, four syringe exchange programs, and two HIV counseling, testing, and treatment sites. Of the 28,824 doses of HepB vaccine administered during the 19-month period (60% of the 47,795 doses purchased by California), 15,865 were first (55%), 8,488 second (29%), and 4,165 (14%) third doses (the remainder were fourth doses or had missing series data). Twelve sites serving at-risk adults among the agencies and organizations were selected for participation in phase I; an additional 17 smaller sites were added in phase II. On average, 1,123 doses of HepB vaccine were administered each month at the initial 12 sites in phase I, increasing to 1,285 doses per month in phase II (a 14% increase). Among sites with no previous vaccination services, the monthly average number of HepB vaccine doses administered increased from 809 doses in phase I to 842 doses in phase II; among sites where some vaccination services were offered, the average number of doses increased from 314 to 443. The 17 new sites in phase II delivered a monthly average of 367 doses of vaccine. Thirteen of the 29 sites did not offer any adult hepatitis B vaccination services before AHVP.

Of 15,865 first doses administered by all participating sites, 72% were administered to males and 27% to females (Table). Seventy-four percent of first doses were administered to adults aged 19–44 years. By site, 63% of first doses were administered in STD clinics, 22% in correctional facilities, 7% in community health centers, 4% in substance abuse treatment programs, 3% in syringe exchange programs, and 1% in HIV counseling, testing, or treatment sites.

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Editorial Note

As a result of the California AHVP, HepB vaccine was offered at no cost to local public health programs and community organizations serving at-risk adults, thereby removing a major barrier to HBV vaccination. Sites that previously had not offered free HepB

TABLE. Number and percentage of first doses of hepatitis B vaccine administered, by selected characteristics of vaccinees and type of setting — California Adult Hepatitis Vaccine Project, June 2007–December 2008

Characteristic	No.	(%)
Overall	15,865	(100)*
Sex		
Male	11,366	(72)
Female	4,239	(27)
Transgender	186	(1)
Missing or unknown	74	(1)
Age group (yrs)		
10–18	147	(1)
19–24	2,406	(15)
25–34	5,348	(34)
35–44	4,009	(25)
≥45	3,611	(23)
Missing or unknown	344	(2)
Race/Ethnicity		
White, non-Hispanic	4,989	(31)
Black, non-Hispanic	1,918	(12)
Hispanic	6,963	(44)
Asian	1,164	(7)
Other/Missing or unknown	831	(5)
Type of setting (no. of organizations)		
STD [†] clinics (11)	9,990	(63)
Correctional facilities (4)	3,474	(22)
Community health centers (4)	1,054	(7)
Substance abuse treatment centers (4)	668	(4)
Syringe exchange (4)	447	(3)
HIV [§] counseling/testing/treatment (2)	232	(1)

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

[†] Sexually transmitted disease.

[§] Human immunodeficiency virus.

vaccine delivered more than two thirds of the total doses supplied by AHVP. Although no data were available to measure coverage or HepB vaccination series completion rates, these results still demonstrate that sites were able to offer and deliver HepB vaccine to adults in large numbers, without additional federal resources for staff time. The increases in the monthly average number of doses in the latter part of the program, although modest, suggested that an unmet need for HepB vaccine existed at the end of 2008.

Some sites adopted innovative strategies to improve their services. Two correctional facilities recorded vaccine administration in their local immunization registry to facilitate data access by other medical providers in the community. Other sites optimized patient compliance with vaccination series completion by sending reminder cards or offering expedited service to clients who returned for follow-up doses.

At the national level, during June 2007–December 2008, the CDC initiative, in collaboration with

What is already known on the topic?

In the United States, coverage with adult hepatitis B–containing (HepB) vaccine remains low for adults at high risk compared with younger populations.

What is added by this report?

During June 2007–December 2008, a total of 28,824 doses of HepB vaccine were administered at 29 participating sites serving at-risk adults during the first 19 months of California's Adult Hepatitis Vaccine Project; 13 sites administered HepB vaccine for the first time during that period.

What are the implications for public health practice?

Adequate support and funding to state and local public health programs can increase the number of at-risk adults who receive HepB vaccine.

51 state and local vaccination programs and viral hepatitis prevention coordinators, supported the administration of 275,445 doses of HepB vaccine in 1,065 sites. Of the total number of vaccine doses delivered nationally, most were administered by local health departments (37%) and STD clinics (30%), followed by correctional facilities (22%). California administered 10.5% of the national doses available through the CDC initiative, a majority of which were administered in local STD clinics. California administered the second largest number of HepB vaccine doses in STD clinics of any state (CDC, unpublished data, 2010). In 2008 and 2009, CDC distributed an additional \$16 million each year to state and local grantees to sustain support for purchase of adult HepB vaccine. Future support of the CDC initiative depends on available funding.

The findings in this report are subject to at least three limitations. First, because the federal funds could not be used for administrative support, tracking of vaccine doses administered depended on local resources. Consequently, a few AHVP sites (<6%) did not routinely report vaccine administration data; thus, administered doses likely were underreported. Second, because sites did not report coverage rates or series completion rates routinely, these data were not available. Finally, for all sites except the 13 that administered HepB vaccine for the first time, the

number of HepB vaccine doses being administered by the sites before implementation of AHVP was not available; thus, doses administered before and after the project could not be compared.

The AHVP experience demonstrates that HepB vaccine, when supplied at no or small cost, can be delivered as part of existing clinical services to a substantial number of previously unvaccinated, at-risk adults in various settings. However, AHVP and similar programs in other states have not had the capacity to vaccinate all adults at risk for HBV infection as recommended by ACIP (2). In a recent report, the Institute of Medicine estimated that approximately \$80 million is needed to vaccinate 75% of adults in STD/HIV and drug treatment centers alone (6). Increases in funding for immunization and changes in health insurance coverage represent important opportunities to increase vaccination coverage among adults and help achieve the goal of eliminating HBV transmission in the United States (7).

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Hepatocellular Carcinoma — United States, 2001–2006

Liver cancer, primarily hepatocellular carcinoma (HCC), is the third leading cause of death from cancer worldwide and the ninth leading cause of cancer deaths in the United States (1,2). Chronic hepatitis B virus (HBV) and hepatitis C virus (HCV) infections account for an estimated 78% of global HCC cases (3). To determine trends in HCC incidence in the United States, CDC analyzed data for the period 2001–2006 (the most recent data available) from CDC's National Program of Cancer Registries (NPCR) and the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) surveillance system. This report summarizes the results of that analysis, which determined that the average annual incidence rate of HCC for 2001–2006 was 3.0 per 100,000 persons and increased significantly from 2.7 per 100,000 persons in 2001 to 3.2 in 2006, with an average annual percentage change in incidence rate (APC) of 3.5%. The largest increases in HCC incidence rates were among whites (APC = 3.8), blacks (APC = 4.8), and persons aged 50–59 years (APC = 9.1). Among states, HCC incidence rates varied widely, ranging from 1.4 per 100,000 in South Dakota to 5.5 in Hawaii. The results demonstrate a continuation of long-term increases in HCC incidence and persistent HCC racial/ethnic disparities. Development of viral hepatitis services, including screening with care referral for persons chronically infected with HBV or HCV, full implementation of vaccine-based strategies to eliminate hepatitis B, and improved public health surveillance are needed to help reverse the trend in HCC.

CDC examined all HCC cases diagnosed during 2001–2006 and reported to NPCR or SEER from 45 cancer registries (covering 90.4% of the U.S. population) that met the criteria for data quality and completeness.* Only microscopically confirmed HCC cases (coded to the liver ICD-O-3[†] site code C22.0 with ICD-O-3 histology codes 8170–8175) were included. Incidence rates per 100,000 persons were age adjusted to the 2000 U.S. standard population. APCs were calculated using least squares regression.

* Detailed descriptions of the methods used by NPCR and SEER, including data collection and analysis, criteria for data inclusion, and determination of statistical significance are available at <http://www.cdc.gov/cancer/npcr> and <http://seer.cancer.gov>.

[†] *International Classification of Diseases for Oncology, 3rd ed.*

Statistical significance was determined at $p < 0.05$. Data were analyzed by state, sex, race, ethnicity, and age group. Persons categorized as either non-Hispanic or Hispanic might be of any race.

During 2001–2006, a total of 48,596 HCC cases were reported, with an average annual incidence rate of 3.0 per 100,000 persons. Overall, the HCC rate increased from 2.7 per 100,000 persons in 2001 to 3.2 in 2006, with an APC of 3.5%. The median age for diagnosis of HCC was 64 years overall, 62 years for males, and 69 years for females. The highest incidence rate was among persons aged 70–79 years (13.7), followed by persons aged ≥ 80 years (10.0), 60–69 years (9.6), 50–59 years (6.8), and 40–49 years (2.1) (Table 1).

The incidence rate for males (5.0 per 100,000 persons) was approximately three times higher than the rate for females (1.3) (Table 1). The HCC rate for males increased from 4.5 in 2001 to 5.4 in 2006, and the rate for females increased from 1.2 to 1.4 (Figure). During 2001–2006, the APC for males (3.6%) was significantly higher than the APC for females (2.3%) (Table 1).

The HCC incidence rate was highest among Asians/Pacific Islanders (7.8 per 100,000 persons), followed by blacks (4.2), American Indians/Alaska Natives (3.2), and whites (2.6). The incidence rate for Hispanics (5.7 per 100,000 persons) was higher than the rate for non-Hispanics (2.8) (Table 1). From 2001 to 2006, the largest significant increases in HCC incidence rates were among whites (APC = 3.8), blacks (APC = 4.8), and persons aged 50–59 years (9.1). The HCC incidence rate did not increase among Asians/Pacific Islanders (Table 1).

Among states, HCC incidence rates ranged from 1.4 per 100,000 persons in South Dakota to 5.5 in Hawaii. Eleven states had significant increases in incidence rates, with the highest APCs reported for Oklahoma (11.7), Iowa (9.0), and Georgia (7.4) (Table 2).

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TABLE 1. Average annual number of hepatocellular carcinoma cases (N = 48,596), incidence rate* over entire period, and average annual percentage change in incidence rate, by sex, race/ethnicity, and age group — United States, 2001–2006

Characteristic	Both sexes				Male				Female			
	Average annual no. of cases	Incidence rate over entire period	Average annual % change in rate	p-value for annual % change in rate	Average annual no. of cases	Incidence rate over entire period	Average annual % change in rate	p-value for annual % change in rate	Average annual no. of cases	Incidence rate over entire period	Average annual % change in rate	p-value for annual % change in rate
Overall	8,099[†]	3.0	3.5[§]	<0.01	6,162[†]	5.0	3.6[§]	<0.01	1,938[†]	1.3	2.3[§]	0.03
Race												
White	6,032	2.6	3.8 [§]	<0.01	4,598	4.4	3.9 [§]	<0.01	1,434	1.1	2.4 [§]	0.02
Black	1,136	4.2	4.8 [§]	0.02	872	7.4	4.9 [§]	0.02	265	1.8	4.0	0.14
American Indian/ Alaska Native	58	3.2	2.4	0.63	40	4.6	-2.7	0.56	17	2.0	14.7	0.30
Asian/Pacific Islander	804	7.8	-2.8	0.05	597	12.6	-2.8	0.05	207	3.9	-3.6	0.23
Ethnicity												
Non-Hispanic	6,946	2.8	3.6 [§]	<0.01	5,304	4.7	3.7 [§]	<0.01	1,642	1.2	2.1	0.06
Hispanic	1,154	5.7	1.7 [§]	0.02	858	9.0	1.7 [§]	0.02	296	2.9	1.3	0.41
Age group (yrs)												
0–19	38	0.1	3.0	0.46	21	0.1	9.2	0.05	17	0.1	-4.4	0.44
20–29	51	0.1	2.3	0.65	32	0.2	2.9	0.73	18	0.1	0.5	0.95
30–39	129	0.4	3.8	0.09	95	0.5	4.3	0.17	34	0.2	2.6	0.63
40–49	861	2.1	-2.8 [§]	0.02	716	3.5	-3.6 [§]	0.01	145	0.7	0.6	0.66
50–59	2,184	6.8	9.1 [§]	<0.01	1,848	11.8	9.4 [§]	<0.01	337	2.0	7.3 [§]	<0.01
60–69	1,912	9.6	2.3	0.07	1,469	15.7	2.9	0.12	443	4.2	-0.1	0.93
70–79	1,990	13.7	2.8 [§]	0.02	1,393	22.3	2.6 [§]	0.03	596	7.2	2.7	0.11
≥80	935	10.0	2.2	0.07	587	17.9	1.7	0.19	347	5.8	1.7	0.22

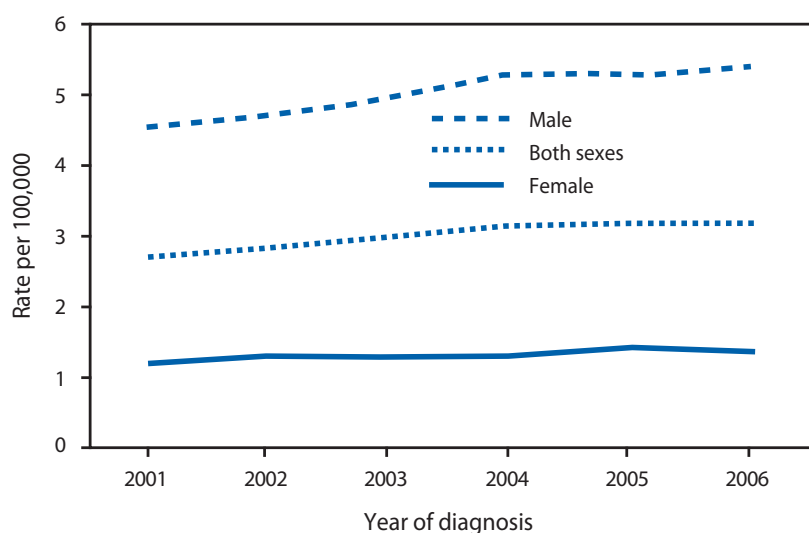
SOURCES: CDC's National Program of Cancer Registries and the National Cancer Institute's Surveillance, Epidemiology, and End Results surveillance system; data from 45 cancer registries covering 90.4% of the U.S. population.

* Per 100,000 persons, age adjusted to the 2000 U.S. standard population.

† Category data might not sum to overall because of missing values and rounded averages.

§ Average annual percentage change is statistically significant (p<0.05).

FIGURE. Hepatocellular carcinoma incidence rate,* by sex — United States, 2001–2006



SOURCES: CDC's National Program of Cancer Registries and the National Cancer Institute's Surveillance, Epidemiology, and End Results surveillance system; data from 45 cancer registries covering 90.4% of the U.S. population.

* Per 100,000 persons, age adjusted to the 2000 U.S. standard population; 48,596 cases overall.

Editorial Note

This report provides the most recent population-based estimates of HCC incidence rates and trends in the United States and the first state-specific HCC trends. The findings indicate continued increases in HCC incidence, consistent with earlier reports using different methodology (2,4). However, requiring microscopic confirmation of HCC likely produced more conservative incidence rate estimates than analyses of NPCR/SEER data published previously (2,4).

Chronic HBV and HCV infections that persist for decades are major risk factors for HCC. Both infections cause chronic inflammation that can progress to fibrosis, cirrhosis, and eventually malignancy (3). HBV infection also can be directly oncogenic (3). In addition, alcohol consumption, steatohepatitis, and type II diabetes have been linked to HCC (2); these risk factors for HCC amplify the effects of viral hepatitis but also might cause HCC in the absence of viral hepatitis (2).

The age and race profile of persons with HCC reflects the demographic characteristics of persons

with chronic viral hepatitis. During 2001–2006, HCC incidence was highest among Asians/Pacific Islanders, Hispanics (compared with non-Hispanics), blacks, persons aged ≥ 50 years, and males. The largest increases occurred among whites, blacks, persons aged 50–59 years, and males. Rates were highest among persons born during 1946–1964 (who are now aged 46–64 years), particularly black males (3,4). In the absence of testing and care, the risk for HCC is expected to increase with aging of the cohort of persons with HCV infection (5).

Asians/Pacific Islanders, black adult males, and persons living in the United States who were born in regions where HBV is endemic (e.g., Asia and sub-Saharan Africa) have high rates of both HBV infection and HCC (2,5–8). As shown in this analysis, the rate of HCC did not increase among Asians/Pacific Islanders during 2001–2006. Some reasons for this might be early implementation of hepatitis B vaccination programs, changes in immigration patterns, and the impact of hepatitis B therapy on disease progression (3,4).

The findings in this report are subject to at least three limitations. First, misclassification of race and ethnicity in the registries and multiracial status of patients might underestimate HCC rates in certain populations. Second, although some states collect information on specific Asian subgroups, these data are not available at the national level; published reports from selected geographic areas suggest that certain ethnic Asian/Pacific Islander subgroups have greater risk for HCC than other Asian/Pacific Islander subgroups (3). Finally, cancer registries do not routinely collect information on etiologic factors for HCC, including chronic viral hepatitis.

Most cases of HCC are preventable. Prevention of HBV and HCV transmission and progression of chronic viral disease leads to declines in HCC incidence (9). However, new HBV and HCV infections continue to occur (6,7). Populations at greatest risk for new infection include children born to HBV-infected mothers and adults with sexual and drug use risk behaviors. Of the estimated 3.8–5.3 million persons living with chronic viral hepatitis in the United States, most are unaware of their infection (5). Early identification of viral hepatitis with referral to prevention and care services can decrease transmission to others. Treatment of viral hepatitis is cost-effective, and medical management can decrease morbidity (10).

TABLE 2. Average annual number of hepatocellular carcinoma cases (N = 48,596), average annual incidence rate, and average annual percentage change in incidence rate,* by state[†] — United States, 2001–2006

State	Average annual no. of cases	Incidence rate	Average annual % change in rate	p-value for annual % change in rate
California	1,264	3.9	1.9	0.11
Texas	806	4.1	2.9	0.07
New York	746	3.7	3.6 [§]	0.01
Florida	624	3.0	4.6 [§]	0.01
Pennsylvania	440	3.1	3.5	0.06
Illinois	367	2.9	3.4 [§]	<0.01
New Jersey	298	3.3	-0.9	0.53
Michigan	286	2.7	5.4 [§]	0.03
Ohio	284	2.3	5.8 [§]	0.01
Massachusetts	223	3.3	4.1 [§]	0.02
North Carolina	210	2.4	6.5 [§]	0.03
Georgia	202	2.5	7.4 [§]	0.01
Washington	170	2.7	6.1	0.06
Indiana	161	2.5	1.2	0.31
Louisiana	160	3.7	2.4	0.32
Missouri	158	2.6	6.4 [§]	<0.01
Maryland	135	2.4	0.8	0.85
Connecticut	128	3.4	4.3	0.27
Minnesota	121	2.4	4.0	0.10
Alabama	112	2.3	5.9	0.13
Kentucky	106	2.4	1.3	0.65
Colorado	104	2.5	-3.0	0.33
South Carolina	98	2.2	3.2	0.06
Oklahoma	86	2.3	11.7 [§]	<0.01
Oregon	81	2.1	6.5	0.10
Hawaii	74	5.5	-0.2	0.97
Arkansas	71	2.4	3.6	0.47
Nevada	69	3.1	7.9	0.17
New Mexico	63	3.3	0.5	0.77
Iowa	60	1.8	9.0 [§]	0.05
Kansas	52	1.8	6.3	0.21
Rhode Island	44	3.8	1.3	0.85
Nebraska	40	2.2	-0.8	0.87
West Virginia	40	1.8	0.7	0.80
Utah	32	1.7	1.2	0.71
Maine	30	2.0	9.9	0.17
New Hampshire	28	2.1	4.1	0.61
Delaware	27	3.1	— [¶]	—
Idaho	25	1.8	4.3	0.31
Alaska	18	3.5	—	—
Montana	18	1.7	—	—
Vermont	13	1.9	—	—
North Dakota	12	1.6	—	—
South Dakota	11	1.4	—	—
Wyoming	10	1.8	—	—

SOURCES: CDC's National Program of Cancer Registries and the National Cancer Institute's Surveillance, Epidemiology, and End Results surveillance system; data from 45 cancer registries covering 90.4% of the U.S. population.

* Per 100,000 persons, age adjusted to the 2000 U.S. standard population.

[†] In descending order, by average annual number of cases. Data not available for Arizona, District of Columbia, Mississippi, Tennessee, Virginia, and Wisconsin.

[§] Average annual percentage change is statistically significant ($p < 0.05$).

[¶] Average annual percentage change could not be calculated if < 16 cases were reported in any year.

What is already known on this topic?

Hepatocellular carcinoma (HCC) is a leading cause of cancer deaths in the United States and worldwide; infection with hepatitis B virus (HBV) or hepatitis C virus (HCV) accounts for an estimated 78% of global HCC cases.

What is added by this report?

During 2001–2006, HCC incidence rates increased in the United States, particularly among whites, blacks, and persons aged 50–59 years.

What are the implications for public health practice?

Development of viral hepatitis services, including screening with care referral for persons chronically infected with HBV or HCV, full implementation of vaccine-based strategies to eliminate hepatitis B, and improved public health surveillance are needed to help reverse the trend in HCC.

In a recent report on prevention of hepatitis and liver cancer, the Institute of Medicine (IOM) called for a national comprehensive approach comprised of interventions to prevent HBV and HCV transmission and interventions to reduce the morbidity associated with chronic HBV and HCV infections (5). IOM recommends improved viral hepatitis surveillance, community education to address health disparities, support for vaccine-based strategies to eliminate HBV transmission, and development of prevention and health services that target key populations (i.e., drug users, foreign-born persons, and persons infected with human immunodeficiency virus), including screening for HBV and HCV infections linked to appropriate medical management.

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Rotavirus Vaccination Coverage Among Infants Aged 5 Months — Immunization Information System Sentinel Sites, United States, June 2006–June 2009

In February 2006, the Advisory Committee on Immunization Practices (ACIP) recommended routine vaccination of all U.S. infants with 3 doses of a pentavalent rotavirus vaccine administered at ages 2, 4, and 6 months (1). In June 2008, ACIP updated its recommendations to include use of a second rotavirus vaccine, a 2-dose monovalent vaccine, administered at ages 2 and 4 months (1). The maximum age for the first dose of either rotavirus vaccine (RV) is 14 weeks and 6 days. CDC recently analyzed data from Immunization Information System (IIS) sentinel sites 1) to assess trends in coverage with ≥ 1 dose of RV during June 2006–June 2009 among infants aged 5 months and 2) to compare RV coverage in the second quarter of 2009 with that of two other routinely-recommended vaccines for U.S. infants: diphtheria, tetanus, and acellular pertussis (DTaP) vaccine, and 7-valent pneumococcal conjugate vaccine (PCV7). RV coverage increased following vaccine introduction and, in June 2009, averaged 72% at the eight currently participating IIS sentinel sites. However, ≥ 1 dose RV coverage among infants aged 5 months was 13% lower than the average coverage with ≥ 1 dose of DTaP and PCV7 at these same sites. Lower RV coverage could reflect typical new-vaccine coverage dynamics, the presence of RV-specific barriers (2,3), or both. Identifying and reducing barriers to vaccination and educating parents and providers about the health benefits of rotavirus vaccination should increase coverage and help prevent severe rotavirus disease.

IIS sentinel sites are a subset of IIS* that receive additional CDC support to promote improved data quality, functionality, and timeliness. Sentinel sites have high health-care provider participation (>85%), child enrollment (>85% of children aged <19 years), and timely capture of administered vaccines (>70% of doses are reported to the IIS within 30 days of vaccination). Although not designed to be representative

of the U.S. population, IIS sentinel sites are population based and cover more than 1.8 million children aged <6 years residing in diverse regions of the United States. The eight IIS sentinel sites participating in the current 2008–2012 project cycle are located in Arizona, Colorado, Michigan, Minnesota, New York City, North Dakota, Oregon, and Wisconsin.[†] Four of these sites (Arizona, Michigan, Minnesota, and Oregon) also participated in the 2004–2007 project cycle.

To assess trends in RV coverage, CDC calculated site-specific coverage with ≥ 1 dose of RV among infants aged 5 months for each quarter of the evaluation period (second quarter 2006–second quarter 2009) for each of the four IIS participating as sentinel sites during both the 2004–2007 and the current (2008–2012) project cycles. Site-specific coverage was calculated by dividing the number of vaccinated infants by the number of same-aged infants enrolled at each site. In a previous report, CDC assessed IIS sentinel site coverage with ≥ 1 dose of RV among infants aged 3 months (4). In this report, however, coverage with ≥ 1 dose of RV was assessed among infants aged 5 months on the last day of each quarter to accommodate the June 2008 ACIP recommendation that increased the maximum age for the first dose of RV to 14 weeks and 6 days from the previously recommended maximum age of 12 weeks (1).

Using data as of June 30, 2009, CDC compared site-specific RV coverage among infants aged 5 months at each of the eight IIS sentinel sites to that of DTaP and PCV7.[§] CDC also calculated unweighted average site-specific RV, DTaP, and PCV7 coverages for the eight sites; coverage for each vaccine was calculated by summing the site-specific coverages and dividing by the total number of sites (eight).

[†] For the 2008–2012 project period, Arizona, Colorado, Michigan, Minnesota, Oregon, and Wisconsin are using subsets of their state-based IIS as their sentinel sites. North Dakota and New York City are using their entire state/city. All sites represent geographically contiguous counties, census tracts, or postal code areas. For the four states participating in the IIS Sentinel Site Project since 2006 (Arizona, Michigan, Minnesota, and Oregon), both Michigan and Oregon expanded the number of counties included, Minnesota altered which counties participated, and Arizona remained unchanged.

[§] ACIP recommends that the first dose of RV, DTaP, and PCV7 each be given at age 2 months.

* IIS, also known as immunization registries, are CDC funded, locally administered, confidential, electronic data systems that collect and consolidate vaccination records on persons residing in a defined geographic region (e.g., city or state) from multiple vaccination providers and administrative sources. Additional information regarding IIS is available at <http://www.cdc.gov/vaccines/programs/iis/default.htm>.

After introduction, coverage with ≥ 1 dose of RV among infants aged 5 months enrolled at the four continuously serving IIS sentinel sites rose quickly to about 50%–60% within the first year and then steadily (2.7% per quarter) thereafter, to 74% by the second quarter of 2009 (Figure). On June 30, 2009, a total of 23,532 infants aged 5 months were enrolled at the eight IIS sentinel sites (Table), with wide variation in number of infants per site (range: 164 to 11,767). Site-specific RV coverage ranged from 48% in Colorado to 86% in North Dakota, averaging 72% for all eight sites (Table). The site-specific coverage for ≥ 1 dose of DTaP or PCV7 varied by site (lowest in New York City [71% and 72%, respectively] and highest in North Dakota [93%, DTaP] and Michigan [91%, PCV7]). The average site-specific coverage for both comparison vaccines was 85%, 13 percentage points higher than the average site-specific RV coverage. The greatest difference was observed in Colorado (a 37 percentage point difference between RV and both DTaP and PCV7) and the least difference in Minnesota (a 2 percentage point difference between RV and DTaP) and in North Dakota (a 4 percentage point difference between RV and PCV7). When Colorado (an outlier) was excluded, the average

site-specific coverage was 75% for RV, 85% for DTaP, and 85% for PCV7.

Reported by

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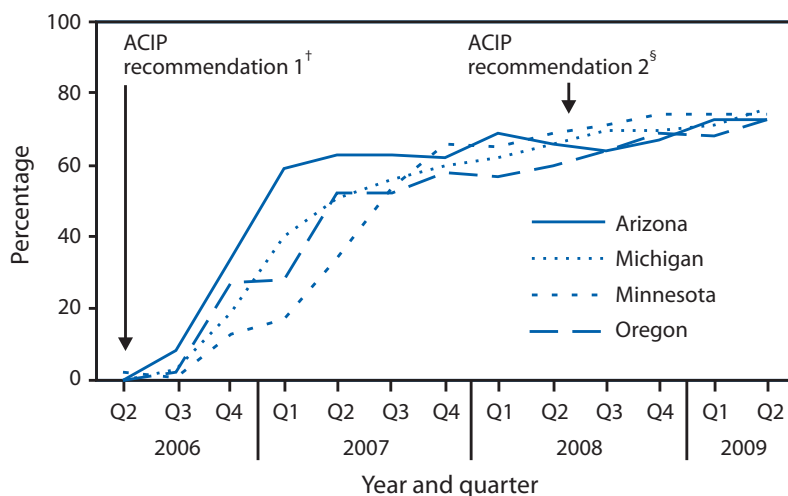
Editorial Note

IIS sentinel sites are an important source of U.S. population-based data for the assessment of childhood and adolescent vaccination coverage. Although these data are not intended to be nationally representative, they provide quarterly vaccination information shortly after administration and are useful for identifying trends in administration of new vaccines and coverage of vaccines for which recommendations have changed over time, such as seasonal influenza vaccine (4,5). The National Immunization Survey (NIS) is nationally representative for vaccination status among children aged 19–35 months; however, NIS data on early coverage with a new vaccine given in infancy are not available until at least 2 years following introduction. NIS data for RV are expected in 2010.

Within 3 years of vaccine introduction, >70% coverage with ≥ 1 dose of RV among infants aged 5 months was achieved at six of the eight current IIS sentinel sites. Because IIS sentinel site systems are relatively new, data on other recently introduced vaccines administered in early infancy are not available from this source. However, based on NIS data, coverage with ≥ 1 dose of PCV7 by age 12 months was 88% among children born 2 years after PCV7 introduction (6), whereas coverage with ≥ 1 dose varicella vaccine by age 19 months was 63% among children born 3 years after introduction (7). Although coverage patterns observed following introduction of RV appear similar to the patterns for PCV7 and varicella, these comparisons should be interpreted with caution. The assessment for PCV7 was made in late infancy and was done only 2 years after introduction of the vaccine. The assessment for varicella was made in early childhood.

Despite encouraging trends, site-specific RV coverage remained on average 13 percentage points lower than that of DTaP and PCV7 in June 2009. RV is unique among vaccines recommended during infancy in having a maximum age for beginning the series (1). This age restriction could account, in part,

FIGURE. Coverage with ≥ 1 dose of rotavirus vaccine (RV) among infants aged 5 months — Immunization Information System (IIS) sentinel sites, June 2006–June 2009*



* Data reflect the four IIS sentinel sites operating continuously since the second quarter of 2006 when rotavirus vaccine was introduced. The geographic composition of some sites has changed over time.

† In February 2006, the Advisory Committee on Immunization Practices (ACIP) recommended routine vaccination of all U.S. infants with 3 doses of RV at ages 2, 4, and 6 months.

§ In June 2008, ACIP updated its recommendations to include use of a second RV product, a 2-dose vaccine, administered at ages 2 and 4 months. The maximum age for first dose administration of RV increased from 12 weeks, as previously recommended, to 14 weeks and 6 days.

TABLE. Coverage with ≥ 1 dose rotavirus vaccine (RV); diphtheria, tetanus, and acellular pertussis (DTaP) vaccine; or 7-valent pneumococcal conjugate vaccine (PCV7) among infants aged 5 months, by site — Immunization Information System (IIS) sentinel sites, June 30, 2009.

Site	Total*	Vaccine type							
		RV		DTaP			PCV7		
		No.	(%)	No.	(%)	Percentage point difference [†]	No.	(%)	Percentage point difference [†]
Arizona	815	597	(73)	716	(88)	15	693	(85)	12
Colorado	164	78	(48)	139	(85)	37	139	(85)	37
Michigan	6,263	4,739	(76)	5,769	(92)	16	5,725	(91)	15
Minnesota	1,234	911	(74)	937	(76)	2	1,009	(82)	8
New York City	11,767	7,435	(63)	8,304	(71)	8	8,476	(72)	9
North Dakota	758	653	(86)	703	(93)	7	680	(90)	4
Oregon	1,382	1,026	(74)	1,174	(85)	11	1,157	(84)	10
Wisconsin	1,149	918	(80)	1,022	(89)	9	1,028	(89)	9
Overall			(72)[§]		(85)[§]	13[¶]		(85)[§]	13[¶]

* Population of enrolled infants aged 5 months on June 30, 2009, at each IIS sentinel site; N = 23,532.

[†] Percentage point difference in DTaP or PCV7 coverage compared with RV coverage at the IIS sentinel site.

[§] Unweighted average site-specific coverage for all eight IIS sentinel sites, calculated by summing the site-specific coverages and dividing by the total number of sites (eight).

[¶] Unweighted average percentage point difference in DTaP or PCV7 coverage compared with RV coverage for all eight IIS sentinel sites, calculated by summing the percentage point differences and dividing by the total number of sites (eight).

for the lower RV coverage because an infant aged 15 weeks–5 months could still receive a first dose of DTaP or PCV7 (but not RV), according to ACIP recommendations. NIS data show that approximately 4% of infants receive their first dose of DTaP between age 15 weeks through 5 months (CDC, unpublished data; 2009). However, the difference between RV coverage and the other vaccines exceeds the difference expected based on the age restriction alone, suggesting that other barriers to receipt of RV exist. In a national survey of physicians conducted in fall 2007, 15%–19% of pediatrician and 18%–22% of family physician respondents cited perceived financial issues (e.g., reported lack of coverage by insurance companies, costs of purchasing vaccine, or lack of adequate reimbursement) and 9% of pediatrician and 25% of family physician respondents cited their own perception of vaccine safety as barriers to routinely offering RV to all eligible patients (2). A survey conducted in March 2006 to assess consumer perceptions of RV found that 29% of respondents would be unlikely to have their own child vaccinated despite 59% regarding rotavirus disease to be a very serious condition (3). An ongoing CDC-funded survey of physician attitudes and practices concerning RV is expected to update and help clarify the issues.

The findings in this report are subject to at least three limitations. First, at certain IIS sentinel sites, coverage rates for DTaP and PCV7 were lower than expected based on 2008 NIS data (8). These lower

rates could result from persons who left the IIS sentinel site area before receipt of their vaccination, but who were still counted as enrolled and unvaccinated. Second, although IIS sentinel sites data are monitored for accuracy and completeness, RV might be less reliably entered into IIS than other infant vaccines because it is a relatively new vaccine. This could result in an underestimate of RV coverage levels (9). Finally, RV coverage was lowest at the small IIS sentinel site in Colorado, which represents only 3% of the total state population.

As RV coverage has increased among U.S. children, both the 2007–08 and 2008–09 rotavirus seasons were shorter in duration and diminished in magnitude compared with prevaccine seasons (10). Continued efforts to educate parents and providers about the importance of this vaccine could hasten full acceptance and help prevent severe rotavirus disease in as many U.S. children as possible. Continued monitoring of RV coverage will be crucial to provide information useful to policy makers and help focus efforts to achieve RV rates at least as high as other routinely recommended vaccines for U.S. infants.

Acknowledgments

The findings in this report are based, in part, on contributions provided by staff members at the eight IIS sentinel sites, listed at <http://www.cdc.gov/vaccines/programs/iis/activities/sentinel-sites.htm>.

What is already known on this topic?

Routine vaccination against rotavirus, the most common cause of severe gastroenteritis in children, was recommended for all infants in the United States in February 2006.

What is added by this report?

Among infants aged 5 months enrolled at eight Immunization Information System sentinel sites, coverage with ≥ 1 dose of rotavirus vaccine has increased steadily since vaccine introduction and averaged 72% in June 2009; however, rotavirus vaccination coverage remained approximately 13 percentage points lower than that of two other routinely recommended childhood vaccinations given at the same age.

What are the implications for public health practice?

Although the trend in rotavirus vaccination coverage is encouraging, continued efforts are needed to achieve full rotavirus vaccination of U.S. infants recommended to receive rotavirus vaccine.

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Announcements

Healthy Vision Month — May 2010

May is Healthy Vision Month. The theme for 2010 is “Your eyes are the windows to your health: schedule an eye exam today.” CDC’s Vision Health Initiative (VHI) is partnering with the National Eye Institute and encouraging all persons to make vision a health priority by scheduling a comprehensive dilated eye examination. A comprehensive dilated eye examination includes dilation, tonometry, and visual field and acuity tests.

In the United States, an estimated 14 million persons are visually impaired, and approximately 11 million of them have refractive errors that easily can be corrected with glasses or contact lenses (1). Among persons aged ≥ 40 years, 3.3 million have vision impairment and blindness not further correctable by glasses, and that number is projected to reach 5.5 million by the year 2020 (2). The major causes of vision impairment and blindness are diabetic retinopathy, cataracts, glaucoma, and age-related macular degeneration. (Information about these and other eye diseases is available at <http://www.nei.nih.gov/health>). Early detection and timely treatment of these diseases by an eye-care provider can delay disease progression and prevent vision loss. Additional information on Healthy Vision Month, VHI, and strategies for prevention and control of common eye diseases are available at <http://www.cdc.gov/visionhealth> and <http://www.nei.nih.gov/healthyeyes>.

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National Arthritis Month — May 2010

May is National Arthritis Month. Arthritis affects 46 million adults (1), costs approximately \$128 billion a year (2), and is the most common cause of disability in the United States (3). By 2030, an estimated 67 million persons (approximately one in four U.S. adults) are expected to be affected by arthritis (4).

This year’s National Arthritis Month theme, Moving is the Best Medicine, highlights the importance of physical activity for decreasing arthritis pain (additional information at <http://www.fightarthritis.org>). CDC provides funds to 12 state health departments to promote the adoption and expanded use of proven and safe arthritis exercise programs such as the Arthritis Foundation Exercise Program, EnhanceFitness, and Fit & Strong!

In February 2010, *A National Public Health Agenda for Osteoarthritis*, which addresses the most common type of arthritis, was released (5). A collaborative effort of CDC, the Arthritis Foundation, and approximately 70 other organizations, the report outlines public health priorities for osteoarthritis for the next 3–5 years. The report also endorses expansion of community-based physical activity programs for adults with arthritis.

Information for public health professionals regarding arthritis, including data and interventions, is available at <http://www.cdc.gov/arthritis>. Additional information is available from the Arthritis Foundation (<http://www.arthritis.org>) and the National Institute of Arthritis and Musculoskeletal and Skin Diseases (<http://www.nih.gov/niams>).

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Introduction to Public Health Surveillance Course

CDC and Rollins School of Public Health at Emory University will cosponsor the course, Introduction to Public Health Surveillance, June 7–11, at Emory University in Atlanta, Georgia. The course is designed for state and local public health professionals.

The course will provide practicing public health professionals with the theoretical and practical tools necessary to design, implement, and evaluate an effective surveillance program. Topics include overview and history of surveillance systems; planning considerations; sources and collection of data; analysis, interpretation, and communication of data; surveillance systems technology; ethics and legalities; state and local concerns; and future considerations. Tuition will be charged.

Additional information and applications are available from Emory University, Hubert Department of Global Health, 1518 Clifton Rd. NE, Room 746, Atlanta, GA 30322; telephone 404-727-3485; fax 404-727-4590; website <http://www.sph.emory.edu/epicourses>; or e-mail pvaleri@emory.edu.

Errata

Vol. 59, No. 13

In the report, “Human Rabies — Kentucky/Indiana, 2009,” an error occurred in the third sentence of the fourth paragraph on page 395. The sentence should read, “Ample use of a 10% **solution of bleach** for disinfection is recommended both during and after the procedure to ensure decontamination of all exposed surfaces and equipment.” In addition, the fifth bulleted item in the box on page 396 should read, “Use ample amounts of a 10% **solution of bleach** during and after the procedure to ensure decontamination of all exposed surfaces and equipment.”

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Prevalence of Obesity (Class I, II, and III)* Among Adults Aged ≥ 20 Years, by Age Group and Sex — National Health and Nutrition Examination Survey, United States, 2007–2008



* Class I obesity defined as a body mass index (BMI: weight [kg] / height [m²]) ≥ 30 but < 35 . Class II obesity defined as a BMI ≥ 35 but < 40 . Class III obesity defined as a BMI ≥ 40 .

[†] 95% confidence interval.

During 2007–2008, men had a higher prevalence of class I obesity (21.5%) than women (17.8%). However, women had a higher prevalence of class II (10.5%) and class III (7.2%) obesity than men (6.5% and 4.2%). The prevalence of class I obesity significantly increased with age in men, but not in women. The prevalence of class II and class III obesity did not differ significantly by age for either men or women.

SOURCES: Flegal KM, Carroll MD, Ogden CL, Curtin LR. Prevalence and trends in obesity among US adults 1999–2008. *JAMA* 2010;303:235–41.

National Health and Nutrition Examination Survey, 2007–2008. Available at <http://www.cdc.gov/nchs/nhanes.htm>.

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 1, 2010 (17th week)*

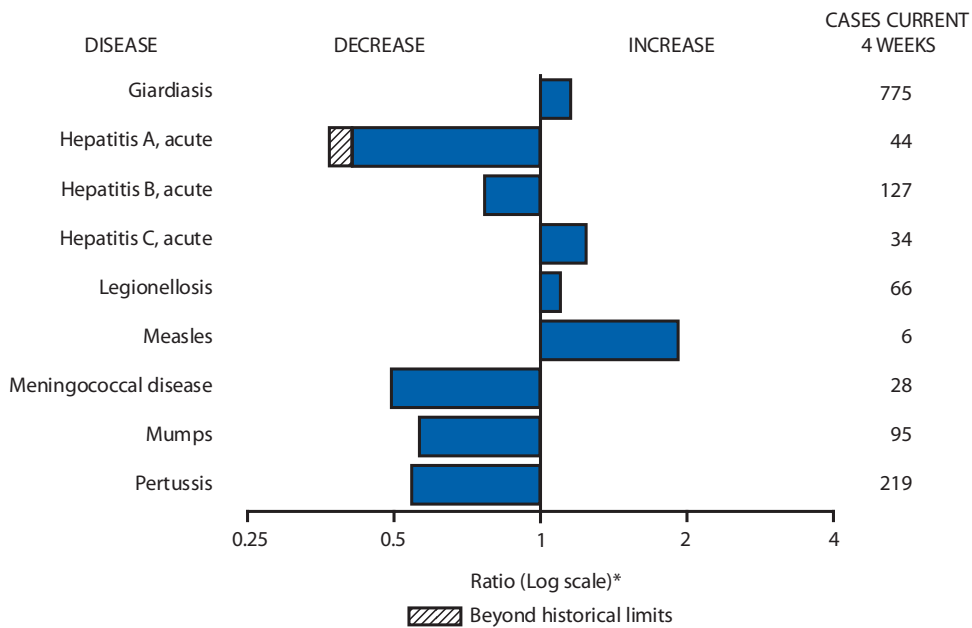
Disease	Current week	Cum 2010	5-year weekly average [†]	Total cases reported for previous years					States reporting cases during current week (No.)
				2009	2008	2007	2006	2005	
Anthrax	—	—	—	1	—	1	1	—	
Botulism, total	—	15	2	104	145	144	165	135	
foodborne	—	—	0	12	17	32	20	19	
infant	—	14	1	68	109	85	97	85	
other (wound and unspecified)	—	1	1	24	19	27	48	31	
Brucellosis	2	27	3	116	80	131	121	120	NY (1), TX (1)
Chancroid	1	19	1	34	25	23	33	17	WA (1)
Cholera	—	—	0	9	5	7	9	8	
Cyclosporiasis [§]	—	21	11	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	—	—	0	6	2	7	1	1	
St. Louis encephalitis virus disease	—	—	0	12	13	9	10	13	
Western equine encephalitis virus disease	—	—	—	—	—	—	—	—	
<i>Haemophilus influenzae</i> ,** invasive disease (age <5 yrs):									
serotype b	—	6	0	30	30	22	29	9	
nonsertotype b	1	59	4	217	244	199	175	135	CO (1)
unknown serotype	3	83	4	237	163	180	179	217	NY (1), TN (1), CO (1)
Hansen disease [§]	—	14	1	76	80	101	66	87	
Hantavirus pulmonary syndrome [§]	—	1	0	14	18	32	40	26	
Hemolytic uremic syndrome, postdiarrheal [§]	2	36	4	237	330	292	288	221	MO (1), CA (1)
HIV infection, pediatric (age <13 yrs) ^{††}	—	—	1	—	—	—	—	380	
Influenza-associated pediatric mortality ^{§,§§}	1	48	2	360	90	77	43	45	PA (1)
Listeriosis ^{¶¶}	7	152	10	802	759	808	884	896	OH (1), MD (1), CA (5)
Measles ^{¶¶¶}	—	13	2	66	140	43	55	66	
Meningococcal disease, invasive ^{***} :									
A, C, Y, and W-135	2	84	6	287	330	325	318	297	OH (1), FL (1)
serogroup B	1	33	3	144	188	167	193	156	AL (1)
other serogroup	—	3	1	24	38	35	32	27	
unknown serogroup	7	144	13	495	616	550	651	765	NYC (1), OH (1), DE (1), FL (1), TN (1), OR (1), CA (1)
Mumps	16	967	132	1,885	454	800	6,584	314	NY (11), NE (3), CO (1), CA (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 ^{§,§§§}	—	16	3	98	120	171	169	136	
acute	—	11	1	80	106	—	—	—	
chronic	—	5	0	18	14	—	—	—	
Rabies, human	—	—	—	4	2	1	3	2	
Rubella ^{¶¶¶¶}	—	1	0	3	16	12	11	11	
Rubella, congenital syndrome	—	—	0	1	—	—	1	1	
SARS-CoV ^{§,****}	—	—	—	—	—	—	—	—	
Smallpox [§]	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome [§]	2	53	3	152	157	132	125	129	NY (1), MO (1)
Syphilis, congenital (age <1 yr) ^{††††}	—	31	7	374	431	430	349	329	
Tetanus	—	—	0	18	19	28	41	27	
Toxic-shock syndrome (staphylococcal) [§]	1	27	1	75	71	92	101	90	CA (1)
Trichinellosis	—	1	0	11	39	5	15	16	
Tularemia	2	5	1	90	123	137	95	154	CA (2)
Typhoid fever	1	99	6	370	449	434	353	324	MN (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> [§]	1	18	1	76	63	37	6	2	MO (1)
Vancomycin-resistant <i>Staphylococcus aureus</i> [§]	—	1	0	—	—	2	1	3	
Vibriosis (noncholera <i>Vibrio</i> species infections) [§]	4	46	3	721	588	549	NN	NN	FL (4)
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 1, 2010 (17th 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/diss/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/diss/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.
- ¶¶ No measles cases were reported for the current week.
- *** Data for meningococcal disease (all serogroups) are available in Table II.
- ††† CDC discontinued reporting of individual confirmed and probable cases of 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 1, 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

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TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 1, 2010, and May 2, 2009 (17th week)*

Reporting area	<i>Chlamydia trachomatis</i> 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	9,399	22,822	27,383	294,383	410,159	71	119	267	1,465	1,505
New England	550	686	1,398	9,681	13,472	3	5	26	73	118
Connecticut	—	205	736	859	3,777	—	0	22	22	40
Maine†	58	49	75	801	840	3	1	4	17	8
Massachusetts	377	374	767	6,319	6,549	—	1	15	—	37
New Hampshire	1	36	60	176	715	—	1	5	14	18
Rhode Island†	92	67	130	1,137	1,209	—	0	8	5	1
Vermont†	22	23	63	389	382	—	1	9	15	14
Mid. Atlantic	2,502	3,076	4,435	53,055	52,092	12	14	38	167	175
New Jersey	—	424	629	6,067	8,624	—	0	5	—	10
New York (Upstate)	725	607	2,415	10,644	9,841	5	3	16	37	43
New York City	1,255	1,201	2,295	21,700	19,400	—	1	5	12	31
Pennsylvania	522	826	1,054	14,644	14,227	7	9	19	118	91
E.N. Central	802	3,379	4,232	32,369	67,034	12	29	55	318	376
Illinois	—	909	1,428	146	19,793	—	3	8	39	36
Indiana	—	372	602	3,752	7,833	—	4	10	40	80
Michigan	698	883	1,405	16,494	16,061	5	6	11	89	72
Ohio	104	899	1,034	9,183	16,493	7	8	16	108	93
Wisconsin	—	354	480	2,794	6,854	—	8	24	42	95
W.N. Central	79	1,300	1,715	19,052	23,849	9	19	59	224	194
Iowa	17	180	266	3,269	3,321	1	4	13	54	49
Kansas	13	181	573	2,532	3,486	—	2	6	24	19
Minnesota	—	266	337	3,770	4,952	7	5	31	73	40
Missouri	—	500	638	7,527	8,776	—	3	12	38	36
Nebraska†	49	92	236	1,549	1,774	1	2	9	27	20
North Dakota	—	31	93	405	551	—	0	5	2	1
South Dakota	—	0	80	—	989	—	0	10	6	29
S. Atlantic	1,853	4,503	6,215	52,720	82,567	15	20	50	276	274
Delaware	62	88	145	1,411	1,624	—	0	2	1	—
District of Columbia	—	115	178	1,476	2,359	—	0	1	1	2
Florida	572	1,408	1,676	22,675	24,827	10	8	24	115	85
Georgia	—	564	1,322	844	14,054	5	6	31	111	106
Maryland†	—	444	1,031	6,199	7,331	—	1	5	8	10
North Carolina	—	740	1,291	—	13,986	—	0	8	11	35
South Carolina†	553	526	1,421	9,119	7,421	—	1	7	9	16
Virginia†	599	606	926	9,818	9,616	—	1	7	15	15
West Virginia	67	65	137	1,178	1,349	—	0	2	5	5
E.S. Central	854	1,654	2,264	24,391	30,628	—	4	10	60	43
Alabama†	—	439	606	6,098	8,671	—	1	5	20	13
Kentucky	379	285	642	5,032	3,682	—	2	4	21	11
Mississippi	—	435	640	4,813	8,281	—	0	3	4	4
Tennessee†	475	561	734	8,448	9,994	—	1	5	15	15
W.S. Central	602	2,893	5,773	32,573	53,325	5	8	39	83	68
Arkansas†	397	269	416	4,833	5,018	—	1	5	12	10
Louisiana	—	427	1,055	2,922	10,437	—	0	6	11	7
Oklahoma	205	223	2,713	5,050	2,386	3	2	9	12	18
Texas†	—	1,988	3,214	19,768	35,484	2	6	28	48	33
Mountain	632	1,407	2,088	19,860	23,007	6	10	25	130	109
Arizona	297	471	743	4,379	8,204	—	0	3	7	10
Colorado	—	382	689	6,020	3,426	6	2	10	42	28
Idaho†	28	66	185	913	1,249	—	2	7	23	11
Montana†	—	56	72	892	1,115	—	1	4	16	10
Nevada†	130	169	478	3,027	3,616	—	0	2	5	6
New Mexico†	166	173	261	2,213	2,530	—	2	8	19	28
Utah	—	114	171	1,847	2,205	—	1	4	13	5
Wyoming†	11	33	70	569	662	—	0	2	5	11
Pacific	1,525	3,416	5,291	50,682	64,185	9	13	26	134	148
Alaska	—	101	137	1,733	1,847	—	0	1	1	1
California	1,194	2,590	4,383	40,945	49,063	8	7	18	81	69
Hawaii	—	119	147	1,657	2,017	—	0	0	—	1
Oregon	—	188	468	1,367	3,612	1	2	10	32	59
Washington	331	364	501	4,980	7,646	—	2	8	20	18
American Samoa	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	1	27	51	—	—	0	0	—	—
Puerto Rico	—	124	331	1,952	2,457	N	0	0	N	N
U.S. Virgin Islands	—	9	21	52	156	—	0	0	—	—

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

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

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending May 1, 2010, and May 2, 2009 (17th 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	2	4	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	2	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	2	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

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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.

† 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).

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending May 1, 2010, and May 2, 2009 (17th week)*

Reporting area	Ehrlichiosis/Anaplasmosis†														
	<i>Ehrlichia chaffeensis</i>					<i>Anaplasma phagocytophilum</i>					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	3	11	56	33	59	1	13	279	10	46	—	2	30	4	11
New England	—	0	4	1	3	—	2	21	4	15	—	0	2	—	—
Connecticut	—	0	0	—	—	—	0	11	—	—	—	0	1	—	—
Maine§	—	0	1	1	—	—	0	3	2	—	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
New Hampshire	—	0	1	—	—	—	0	3	—	3	—	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	9	—	3	23	1	15	—	0	2	1	—
New Jersey	—	0	0	—	1	—	0	0	—	—	—	0	0	—	—
New York (Upstate)	—	1	15	4	3	—	3	22	1	13	—	0	1	1	—
New York City	—	0	3	3	4	—	0	1	—	2	—	0	2	—	—
Pennsylvania	—	0	1	1	1	—	0	0	—	—	—	0	0	—	—
E.N. Central	—	0	8	—	10	—	3	22	1	10	—	1	9	1	6
Illinois	—	0	4	—	3	—	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	—	3	22	1	10	—	0	3	—	2
W.N. Central	1	2	23	2	4	—	0	257	—	—	—	0	28	1	—
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	2	—	—	—	0	0	—	—	—	0	0	—	—
Minnesota	—	0	11	—	2	—	0	257	—	—	—	0	28	—	—
Missouri	1	1	22	2	2	—	0	2	—	—	—	0	4	1	—
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	1	4	18	18	25	1	0	2	4	5	—	0	2	—	—
Delaware	—	0	2	2	2	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Florida	1	0	1	2	2	—	0	1	—	—	—	0	0	—	—
Georgia	—	0	2	3	4	—	0	1	1	—	—	0	0	—	—
Maryland§	—	1	4	4	5	—	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	1	0	1	1	—	—	0	2	—	—
West Virginia	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
E.S. Central	1	1	11	3	5	—	0	1	—	1	—	0	5	1	5
Alabama§	—	0	3	1	—	—	0	1	—	—	—	0	0	—	—
Kentucky	—	0	2	—	—	—	0	0	—	—	—	0	1	—	—
Mississippi	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Tennessee§	1	1	10	2	5	—	0	1	—	1	—	0	5	1	5
W.S. Central	—	0	9	1	1	—	0	1	—	—	—	0	0	—	—
Arkansas§	—	0	5	—	—	—	0	0	—	—	—	0	0	—	—
Louisiana	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oklahoma	—	0	8	—	1	—	0	1	—	—	—	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	0	—	2	—	0	0	—	—	—	0	0	—	—
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	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	—	—

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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.

† Cumulative total *E. ewingii* cases reported as of this week = 0.

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

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending May 1, 2010, and May 2, 2009 (17th 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	14	33	61	397	622	33	56	187	816	1,190	12	14	38	223	256
New England	—	1	5	14	38	—	1	4	15	19	—	1	5	8	20
Connecticut	—	0	2	8	8	—	0	3	3	5	—	1	4	8	16
Maine†	—	0	1	2	1	—	0	2	8	3	—	0	1	—	—
Massachusetts	—	1	4	—	21	—	0	2	—	10	—	0	1	—	3
New Hampshire	—	0	1	—	4	—	0	2	3	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	3	4	10	59	84	3	4	10	77	141	2	2	4	25	36
New Jersey	—	0	5	4	26	—	1	4	10	43	—	0	1	—	4
New York (Upstate)	1	1	3	16	14	2	1	5	15	22	1	1	3	17	15
New York City	—	2	5	21	20	—	1	5	29	27	—	0	1	—	—
Pennsylvania	2	1	6	18	24	1	1	5	23	49	1	0	4	8	17
E.N. Central	1	4	19	48	97	4	7	13	111	184	2	2	6	42	32
Illinois	—	1	13	10	36	—	2	6	19	39	—	0	1	—	3
Indiana	—	0	4	3	7	—	1	5	18	30	—	0	4	6	4
Michigan	—	1	4	19	27	—	2	6	35	46	2	1	3	34	9
Ohio	1	0	4	11	20	4	1	4	39	47	—	0	3	2	14
Wisconsin	—	0	2	5	7	—	0	2	—	22	—	0	2	—	2
W.N. Central	1	1	9	14	35	—	3	15	47	41	—	0	10	10	4
Iowa	—	0	3	4	10	—	1	3	7	10	—	0	4	1	2
Kansas	—	0	2	4	3	—	0	2	2	4	—	0	0	—	1
Minnesota	—	0	8	1	7	—	0	13	2	6	—	0	9	3	—
Missouri	1	0	2	4	8	—	1	5	28	12	—	0	1	5	—
Nebraska†	—	0	3	1	6	—	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	2	7	15	95	136	13	15	39	245	368	1	3	12	49	64
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	1	3	8	36	71	10	5	11	94	107	1	1	4	19	8
Georgia	1	1	3	12	12	1	3	7	50	49	—	0	2	3	15
Maryland†	—	0	3	4	15	1	1	6	23	40	—	1	3	8	16
North Carolina	—	0	7	11	14	—	0	12	4	105	—	0	10	9	8
South Carolina†	—	1	4	17	12	—	1	4	10	11	—	0	1	—	—
Virginia†	—	1	3	10	10	1	2	14	33	24	—	0	2	4	6
West Virginia	—	0	2	1	—	—	0	19	20	20	—	0	3	6	11
E.S. Central	—	1	3	14	13	3	7	13	91	123	5	2	5	39	39
Alabama†	—	0	2	4	1	—	1	5	22	35	—	0	2	1	5
Kentucky	—	0	2	7	1	2	2	6	30	29	3	1	5	31	21
Mississippi	—	0	1	—	6	—	0	3	5	8	—	0	0	—	—
Tennessee†	—	0	2	3	5	1	2	6	34	51	2	0	3	7	13
W.S. Central	2	3	19	45	62	4	9	93	108	170	—	1	6	14	14
Arkansas†	—	0	2	—	4	—	0	4	3	19	—	0	1	—	1
Louisiana	—	0	1	3	2	—	0	3	13	18	—	0	1	1	3
Oklahoma	—	0	3	—	1	1	2	8	19	32	—	0	4	6	1
Texas†	2	3	19	42	55	3	6	87	73	101	—	0	4	7	9
Mountain	—	3	8	44	48	1	2	6	27	50	—	1	4	13	20
Arizona	—	1	5	23	15	—	0	3	8	23	—	0	0	—	—
Colorado	—	1	4	7	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	1	0	3	11	7	—	0	1	1	1
New Mexico†	—	0	1	2	5	—	0	1	2	4	—	0	1	3	4
Utah	—	0	2	1	3	—	0	1	2	4	—	0	1	2	2
Wyoming†	—	0	1	—	—	—	0	2	—	—	—	0	0	—	—
Pacific	5	5	16	64	109	5	6	21	95	94	2	1	6	23	27
Alaska	—	0	0	—	3	—	0	1	1	—	—	0	2	—	—
California	4	4	15	52	81	5	4	17	69	67	1	1	4	7	12
Hawaii	—	0	1	—	6	—	0	1	—	2	—	0	0	—	—
Oregon	—	0	2	7	5	—	1	4	15	13	—	0	3	9	7
Washington	1	0	4	5	14	—	0	4	10	12	1	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	—	0	5	6	9	—	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.

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

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending May 1, 2010, and May 2, 2009 (17th 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	13	57	169	504	529	66	451	2,465	2,467	4,014	10	24	82	303	302
New England	—	2	18	9	24	6	137	851	276	1,295	1	1	4	3	13
Connecticut	—	0	5	4	6	—	43	295	6	596	—	0	3	—	1
Maine†	—	0	3	—	—	4	13	76	82	39	1	0	1	1	—
Massachusetts	—	1	9	—	16	—	42	397	—	458	—	0	3	—	10
New Hampshire	—	0	2	1	—	1	18	93	158	171	—	0	1	1	—
Rhode Island†	—	0	4	3	1	—	1	29	5	4	—	0	1	—	1
Vermont†	—	0	1	1	1	1	5	42	25	27	—	0	1	1	1
Mid. Atlantic	1	16	72	112	135	36	217	1,170	1,452	1,714	1	7	13	82	63
New Jersey	—	1	13	—	22	—	34	389	263	545	—	0	1	—	—
New York (Upstate)	1	5	29	36	43	24	52	430	334	403	—	1	4	20	15
New York City	—	3	19	29	15	—	13	59	2	135	1	4	12	46	40
Pennsylvania	—	6	25	47	55	12	107	652	853	631	—	1	4	16	8
E.N. Central	3	11	41	95	108	—	23	224	60	190	2	2	11	25	42
Illinois	—	1	11	7	12	—	1	12	3	5	—	1	5	9	16
Indiana	—	1	5	8	15	—	1	7	8	8	—	0	4	2	6
Michigan	2	3	13	25	19	—	1	9	3	2	—	0	3	3	6
Ohio	1	5	17	53	47	—	1	5	5	3	2	0	6	11	12
Wisconsin	—	1	5	2	15	—	20	205	41	172	—	0	1	—	2
W.N. Central	—	2	18	17	19	—	4	1,381	9	39	2	1	11	21	10
Iowa	—	0	3	—	8	—	0	15	—	5	1	0	1	6	4
Kansas	—	0	1	1	3	—	0	2	1	6	—	0	1	3	1
Minnesota	—	0	16	6	—	—	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	—	0	3	1	—	1	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	4	11	23	114	110	16	68	256	567	714	3	6	15	85	116
Delaware	—	0	5	3	—	2	13	65	157	161	—	0	1	1	1
District of Columbia	—	0	5	1	4	—	0	7	1	4	—	0	3	5	5
Florida	3	4	10	51	43	2	2	11	21	9	2	2	7	39	30
Georgia	—	1	4	15	14	—	0	6	2	5	—	1	6	2	23
Maryland†	—	2	12	23	23	7	29	135	241	395	1	1	13	18	29
North Carolina	—	0	5	2	17	—	0	14	12	16	—	0	3	5	16
South Carolina†	—	0	2	1	2	—	1	3	8	8	—	0	1	1	1
Virginia†	1	1	6	16	7	5	11	79	114	100	—	1	5	14	10
West Virginia	—	0	2	2	—	—	0	33	11	16	—	0	2	—	1
E.S. Central	—	2	12	23	24	—	1	4	8	6	—	0	3	5	10
Alabama†	—	0	2	3	5	—	0	1	—	1	—	0	3	1	2
Kentucky	—	1	3	8	10	—	0	1	1	1	—	0	3	2	1
Mississippi	—	0	2	2	—	—	0	0	—	—	—	0	1	—	—
Tennessee†	—	1	9	10	9	—	1	4	7	4	—	0	1	2	7
W.S. Central	—	2	9	16	26	1	4	42	14	12	—	1	30	38	8
Arkansas†	—	0	1	1	2	—	0	0	—	—	—	0	1	1	—
Louisiana	—	0	2	1	1	—	0	0	—	—	—	0	1	—	1
Oklahoma	—	0	2	—	1	—	0	0	—	—	—	0	1	2	—
Texas†	—	1	9	14	22	1	4	42	14	12	—	1	30	35	7
Mountain	—	3	8	30	33	—	1	4	4	8	—	0	6	12	4
Arizona	—	1	4	12	11	—	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	2	—	0	1	2	—
New Mexico†	—	0	2	1	—	—	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	5	4	19	88	50	7	4	10	77	36	1	2	19	32	36
Alaska	—	0	0	—	1	—	0	1	1	2	—	0	1	1	1
California	5	3	19	80	42	6	2	9	51	22	1	2	13	23	25
Hawaii	—	0	0	—	1	N	0	0	N	N	—	0	0	—	1
Oregon	—	0	3	1	3	1	1	4	25	11	—	0	1	2	5
Washington	—	0	4	7	3	—	0	3	—	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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 U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
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 † Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending May 1, 2010, and May 2, 2009 (17th week)*

Reporting area	Meningococcal disease, invasive [†]					Pertussis					Rabies, animal				
	All groups														
	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	10	16	36	264	378	50	264	1,540	2,762	4,233	22	64	113	681	1,218
New England	—	0	2	2	16	—	8	25	19	217	1	5	24	70	99
Connecticut	—	0	2	—	2	—	1	4	4	12	—	1	22	31	41
Maine [§]	—	0	1	—	2	—	1	10	5	29	—	1	4	18	16
Massachusetts	—	0	1	—	9	—	4	17	—	142	—	0	0	—	—
New Hampshire	—	0	1	—	1	—	1	7	3	21	—	0	3	3	10
Rhode Island [§]	—	0	1	—	1	—	0	8	4	7	—	0	5	1	11
Vermont [§]	—	0	1	2	1	—	0	1	3	6	1	1	5	17	21
Mid. Atlantic	1	2	6	27	43	8	18	40	190	357	9	10	23	188	218
New Jersey	—	0	2	8	6	—	2	8	18	83	—	0	0	—	—
New York (Upstate)	—	0	3	4	8	6	5	27	80	57	9	8	22	141	103
New York City	1	0	2	7	8	—	0	11	3	25	—	0	11	47	2
Pennsylvania	—	1	3	8	21	2	9	29	89	192	—	0	7	—	113
E.N. Central	2	2	7	38	71	17	52	100	691	880	—	2	19	13	20
Illinois	—	0	4	7	15	—	9	29	91	229	—	1	9	5	7
Indiana	—	0	3	8	14	—	6	15	46	106	—	0	7	—	4
Michigan	—	0	5	6	11	3	16	41	218	185	—	1	6	5	9
Ohio	2	1	2	14	19	14	19	49	331	311	—	0	5	3	—
Wisconsin	—	0	1	3	12	—	1	12	5	49	N	0	0	N	N
W.N. Central	—	1	6	16	29	3	27	621	201	811	6	6	18	65	101
Iowa	—	0	2	3	2	—	4	10	41	60	—	0	4	—	9
Kansas	—	0	2	1	6	—	4	12	33	75	—	1	4	22	35
Minnesota	—	0	2	2	6	—	0	601	—	168	1	0	11	12	7
Missouri	—	0	3	8	10	1	12	35	99	423	4	1	5	12	8
Nebraska [§]	—	0	1	2	3	2	2	6	25	74	1	1	6	16	25
North Dakota	—	0	1	—	—	—	0	12	—	2	—	0	7	3	4
South Dakota	—	0	0	—	2	—	0	6	3	9	—	0	3	—	13
S. Atlantic	3	3	10	59	65	10	24	65	279	508	5	24	43	267	605
Delaware	1	0	1	2	2	—	0	2	—	5	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	1	1	3	—	0	0	—	—
Florida	2	1	5	31	27	7	6	29	64	135	—	0	25	46	161
Georgia	—	0	2	4	12	—	4	8	59	90	—	5	16	—	137
Maryland [§]	—	0	1	2	1	—	3	8	39	36	—	7	15	101	105
North Carolina	—	0	10	5	9	—	0	21	—	134	N	0	4	N	N
South Carolina [§]	—	0	1	4	5	2	4	18	74	53	—	0	0	—	—
Virginia [§]	—	0	2	10	7	1	3	15	35	47	—	10	26	95	172
West Virginia	—	0	2	1	2	—	0	6	7	5	5	2	6	25	30
E.S. Central	2	0	4	14	17	3	15	30	240	217	—	1	4	7	56
Alabama [§]	1	0	2	3	4	2	5	19	61	58	—	0	2	7	—
Kentucky	—	0	2	5	3	—	4	15	91	86	—	0	2	—	21
Mississippi	—	0	1	2	2	—	1	6	14	22	—	0	1	—	1
Tennessee [§]	1	0	2	4	8	1	4	10	74	51	—	0	3	—	34
W.S. Central	—	1	9	31	32	6	68	711	756	556	—	0	13	10	16
Arkansas [§]	—	0	2	3	5	—	5	30	30	77	—	0	10	6	12
Louisiana	—	0	3	5	9	—	0	8	8	37	—	0	0	—	—
Oklahoma	—	0	7	12	2	—	0	32	3	9	—	0	13	4	4
Texas [§]	—	1	7	11	16	6	61	681	715	433	—	0	1	—	—
Mountain	—	1	4	20	33	1	17	41	240	367	—	1	8	15	36
Arizona	—	0	2	6	6	—	6	12	96	65	N	0	5	N	N
Colorado	—	0	3	5	10	1	3	13	35	94	—	0	0	—	—
Idaho [§]	—	0	1	2	5	—	1	19	48	32	—	0	1	1	—
Montana [§]	—	0	2	1	3	—	0	6	5	9	—	0	4	—	11
Nevada [§]	—	0	1	3	3	—	0	6	1	6	—	0	1	—	—
New Mexico [§]	—	0	1	2	2	—	1	6	27	30	—	0	3	4	14
Utah	—	0	1	1	1	—	2	11	27	117	—	0	2	—	—
Wyoming [§]	—	0	2	—	3	—	0	3	1	14	—	0	3	10	11
Pacific	2	3	15	57	72	2	20	44	146	320	1	4	12	46	67
Alaska	—	0	2	—	3	—	0	4	8	25	—	0	2	10	14
California	1	2	12	44	40	1	11	25	19	115	1	3	11	32	53
Hawaii	—	0	1	—	2	—	0	3	—	10	—	0	0	—	—
Oregon	1	0	5	9	19	—	4	12	80	74	—	0	2	4	—
Washington	—	0	7	4	8	1	4	24	39	96	—	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

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 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).

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending May 1, 2010, and May 2, 2009 (17th 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	—	2	12	13	17	4	12	72	81	260
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	—	0	3	2	—	—	1	6	9	9
New Jersey	—	0	0	—	—	—	0	0	—	—
New York (Upstate)	—	0	1	—	—	—	0	3	1	1
New York City	—	0	1	—	—	—	0	4	6	6
Pennsylvania	—	0	2	2	—	—	0	2	2	2
E.N. Central	—	0	2	—	1	—	0	7	—	12
Illinois	—	0	1	—	—	—	0	6	—	8
Indiana	—	0	2	—	—	—	0	2	—	—
Michigan	—	0	1	—	1	—	0	1	—	—
Ohio	—	0	0	—	—	—	0	4	—	4
Wisconsin	—	0	0	—	—	—	0	1	—	—
W.N. Central	—	0	3	1	2	—	2	23	11	15
Iowa	—	0	1	—	—	—	0	1	—	—
Kansas	—	0	1	—	1	—	0	0	—	—
Minnesota	—	0	1	—	—	—	0	1	—	—
Missouri	—	0	1	1	—	—	2	22	11	15
Nebraska [§]	—	0	2	—	1	—	0	1	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	0	—	—
S. Atlantic	—	1	7	7	11	2	4	25	42	168
Delaware	—	0	1	1	—	—	0	3	4	2
District of Columbia	—	0	0	—	—	—	0	1	—	—
Florida	—	0	1	—	—	1	0	1	2	1
Georgia	—	0	6	5	10	—	0	0	—	—
Maryland [§]	—	0	1	—	—	—	0	3	3	14
North Carolina	—	0	1	1	—	—	1	24	27	129
South Carolina [§]	—	0	1	—	1	—	0	1	2	10
Virginia [§]	—	0	1	—	—	1	0	5	4	12
West Virginia	—	0	0	—	—	—	0	1	—	—
E.S. Central	—	0	2	2	1	1	3	15	12	36
Alabama [§]	—	0	1	—	—	—	1	7	2	8
Kentucky	—	0	1	1	—	—	0	0	—	—
Mississippi	—	0	0	—	1	—	0	1	1	—
Tennessee [§]	—	0	2	1	—	1	2	14	9	28
W.S. Central	—	0	3	1	—	1	1	25	6	12
Arkansas [§]	—	0	0	—	—	—	0	14	—	3
Louisiana	—	0	0	—	—	—	0	1	—	—
Oklahoma	—	0	3	—	—	1	0	24	2	2
Texas [§]	—	0	1	1	—	—	0	11	4	7
Mountain	—	0	2	—	2	—	0	3	—	4
Arizona	—	0	2	—	1	—	0	2	—	2
Colorado	—	0	1	—	—	—	0	0	—	—
Idaho [§]	—	0	0	—	—	—	0	1	—	—
Montana [§]	—	0	1	—	1	—	0	2	—	—
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	—	—

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.

[†] 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).

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