

Heat Illness Among High School Athletes — United States, 2005–2009

Heat illness during practice or competition is a leading cause of death and disability among U.S. high school athletes (1). An estimated 7.5 million students participate in high school sports annually (2). To examine the incidence and characteristics of heat illness among high school athletes, CDC analyzed data from the National High School Sports-Related Injury Surveillance Study for the period 2005–2009, which includes the 2005–06, 2006–07, 2007–08 and 2008–09 school years. During 2005–2009, the 100 schools sampled reported a total of 118 heat illnesses among high school athletes resulting in ≥ 1 days of time lost from athletic activity (i.e., time-loss heat illness), a rate of 1.6 per 100,000 athlete-exposures and an average of 29.5 time-loss heat illnesses per school year. The average corresponds to a weighted average annual estimate of 9,237 illnesses nationwide. The highest rate of time-loss heat illness was among football players, 4.5 per 100,000 athlete-exposures, a rate 10 times higher than the average rate (0.4) for the eight other sports. Time-loss heat illnesses occurred most frequently during August (66.3%) and while practicing or playing football (70.7%). No deaths were reported. Consistent with guidelines from the National Athletic Trainers' Association (NATA) (3), to reduce the risk for heat illness, high school athletic programs should implement heat-acclimatization guidelines (e.g., set limits on summer practice duration and intensity). All athletes, coaches, athletic trainers, and parents/guardians should be aware of the risk factors for heat illness, follow recommended strategies, and be prepared to respond quickly to symptoms of illness. Coaches also should continue to stress to their athletes the importance of maintaining proper hydration before, during, and after sports activities.

The High School Sports-Related Injury Surveillance Study (4), conducted by the Center for Injury Research and Policy at Nationwide Children's Hospital in Columbus, Ohio, has been described in detail previously (5). Each summer, study staff members e-mail all NATA-affiliated certified athletic trainers who have an e-mail address on file with NATA and invite their school to participate in the study. During 2005–2009 the number of certified athletic trainers receiving e-mails was as follows:

(2005–06) 4,120; (2006–07) 3,378; (2007–08) 3,755; and (2008–09) 4,496. NATA-affiliated certified athletic trainers, who are trained in illness and injury prevention, assessment, and care, provide services to approximately 42% of the 18,753 public and private high schools in the United States (NATA, unpublished data, 2010). Following the e-mail invitation, interested schools that return a permission form signed by the principal, athletic director, and one certified athletic trainer are categorized into eight strata based on school enrollment ($\leq 1,000$ students or $>1,000$) and U.S. Census geographic location. Subsequently, 12 or 13 schools are chosen randomly from each of the eight strata to constitute a 100-school sample.

During the school year, study staff members e-mail participating certified athletic trainers weekly to remind them to enter their school's injury and exposure data into an online surveillance system. Data are collected on nine sports: football, wrestling, soccer, baseball, and basketball (for boys); and volleyball, soccer, basketball, and softball (for girls). For each illness or injury, the certified athletic trainer is asked to submit a detailed illness/injury report that collects data including the athlete's age, height and weight; illness setting (practice or competition); diagnosis as reported by athletic trainer; number of hours illness occurred after practice began*; and amount of time lost from athletic activity. Data such as height and weight

* Participants were given the following options: <0.5 hour, 0.5–1 hour, 1–2 hours, and >2 hours.

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often are measured by the certified athletic trainer but occasionally are self-reported by the athlete. Detailed exposure data, such as ambient temperature, relative humidity, or specific type of heat illness (e.g., heat cramps or heat exhaustion) are not collected. Certified athletic trainers with missing or incomplete reports are e-mailed monthly by study staff members and asked to update information; those not responding to e-mail requests are telephoned and assessed for their willingness to continue participation. During 2005–2009, 90% of the schools reported during all study weeks. Recent internal validity checks in a convenience sample of eight participating schools yielded 100% sensitivity and 99.6% specificity during the reported weeks.

Time-loss heat illness was defined as dehydration or heat exhaustion/heat stroke that 1) resulted from participation in a school-sanctioned practice or competition, 2) was assessed by a medical professional (with or without treatment), and 3) resulted in ≥ 1 days of time loss from athletic activity. If an athlete sustained a heat illness and returned or was cleared to return to practice or competition the next day, the heat illness was not reportable. Exposures to sports activities were measured by “athlete-exposures.” One athlete-exposure was defined as one athlete

participating in one practice or one competition. Rates per 100,000 athlete exposures were calculated based on the actual number of time-loss heat illnesses reported by the schools.

Each case of time-loss heat illness was assigned a sample weight on the basis of the inverse of the school selection probability, using stratifications based on school enrollment and U.S. Census geographic location. These weights were summed to provide national estimates of time-loss heat illness, from which average annual estimates were calculated. Confidence intervals were calculated by use of a direct variance estimation procedure that accounted for the sample weights and the complex sample design. Finally, although heat illness might have a geographic distribution, this study was designed to provide national estimates only.

During 2005–2009, a total of 118 time-loss heat illnesses (an average of 29.5 per school year) were reported by the 100 participating schools in the nine sports studied. These data correspond to an estimated average annual number of 9,237 (95% confidence interval [CI] = 8,357–10,116) time-loss heat illnesses nationwide. The majority of time-loss heat illnesses occurred among high school football players (70.7%), who sustained an estimated average annual 6,529 (CI = 5,794–7,264) time-loss heat illnesses. Time-loss heat

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illness among high school athletes occurred most frequently in August (66.3%) (Figure), the month when most schools begin preseason sports training.

The highest rate of time-loss heat illness was among football players, 4.5 per 100,000 athlete-exposures (Table 1), a rate 10 times higher than the average rate (0.4) for the eight other sports. Football time-loss heat illness rates were similar in practice (4.4) and competition (4.7) (Table 1); 76.7% occurred during preseason (Table 2). Although football practice and competition had similar rates, because more time (including preseason) is spent practicing, 83.6% of all football time-loss heat illnesses occurred during practice. Football time-loss heat illnesses during practice usually occurred 1–2 hours (46.6%) or >2 hours (37.2%) after practice had begun. The majority of illnesses (58.2%) occurred among varsity football players and among juniors (35.6%) or seniors (28.3%). Affected football players commonly had a body mass index[†] categorized as overweight (37.1%) or obese (27.6%). The majority of football players (63.1%) returned to play 1–2 days after illness onset.

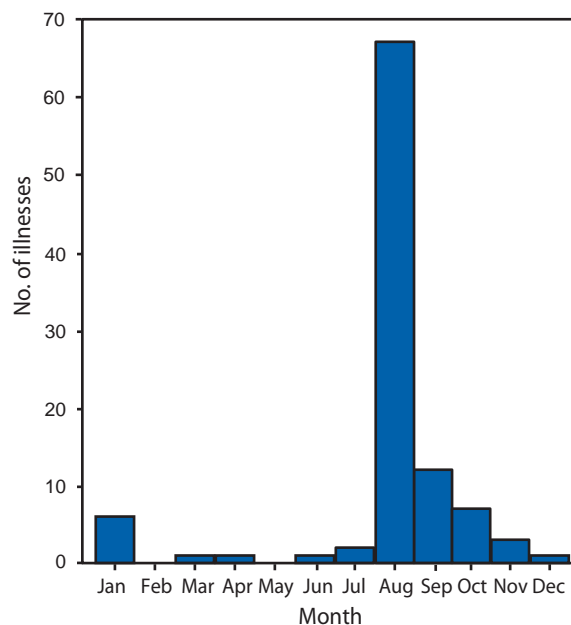
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Editorial Note

This analysis is the first to report national estimates for time-loss heat illness among high school athletes. The findings in this report indicate that time-loss heat illness occurred most frequently among football players (4.5 time-loss heat illnesses per 100,000 athlete-exposures) and during August (66.3%). The findings are consistent with previous studies reporting that football players accounted for 5.3% of all nonfatal heat-related visits to emergency departments (6) and that 88% of football heat illnesses occurred in August (7). This study found that 64.7% of football players

FIGURE. Number (n = 101*) of time-loss heat illnesses[†] among high school athletes, by month — National High School Sports-Related Injury Surveillance Study,[§] United States, 2005–2009



* Excludes 17 cases with missing dates.

[†] Defined as dehydration or heat exhaustion/heat stroke that 1) resulted from participation in a school-sanctioned practice or competition, 2) was assessed by a medical professional (with or without treatment), and 3) resulted in ≥1 days of time loss from athletic activity.

[§] Data based on reports from a 100-school sample.

TABLE 1. Number (N = 118) and rate* of time-loss heat illnesses[†] among high school athletes, by sport and practice or competition setting — National High School Sports-Related Injury Surveillance Study,[§] United States, 2005–2009

Sport	Practice		Competition		Overall	
	No.	Rate	No.	Rate	No.	Rate
Overall	88	1.7	30	1.6	118	1.6
Boys' sports	83	2.1	22	1.7	105	2.0
Football	77	4.4	17	4.7	94	4.5
Wrestling	2	0.4	3	1.7	5	0.7
Soccer	0	—	2	0.9	2	0.3
Baseball	2	0.4	0	—	2	0.3
Basketball	2	0.3	0	—	2	0.2
Girls' sports	5	0.4	8	1.3	13	0.6
Volleyball	5	1.2	1	0.5	6	0.9
Soccer	0	—	5	2.5	5	0.8
Basketball	0	—	2	0.9	2	0.3

* Per 100,000 athlete-exposures (i.e., practice or competition).

[†] Defined as dehydration or heat exhaustion/heat stroke that 1) resulted from participation in a school-sanctioned practice or competition, 2) was assessed by a medical professional (with or without treatment), and 3) resulted in ≥1 days of time loss from athletic activity.

[§] Data based on reports from a 100-school sample.

[†] Body mass index (BMI) = weight (kg) / [height (m²)]. BMI classifications: <18.5 underweight, 18.5–24.9 normal weight, 25–29.9 overweight, ≥30 obese.

TABLE 2. Estimated number of time-loss heat illnesses* among high school football players nationwide, by selected characteristics — National High School Sports-Related Injury Surveillance Study,[†] United States, 2005–2009

Characteristic	Estimated no.	(95% CI) [§]	% [¶]
Type of exposure			
Practice	5,457	(4,874–6,040)	83.6
Competition	1,072	(502–1,642)	16.4
Time in season			
Preseason	5,008	(4,332–5,684)	76.7
Regular season	1,521	(877–2,164)	23.3
Level			
Varsity	3,798	(3,048–4,548)	58.2
Junior-varsity	1,133	(570–1,695)	17.3
Freshman	752**	(297–1,208)	11.5
Mixed	622**	(230–1,014)	9.5
Unknown	224**	(0–455)	3.5
Year in school			
Freshman	1,134	(570–1,698)	17.4
Sophomore	1,118	(529–1,707)	17.1
Junior	2,325	(1,599–3,050)	35.6
Senior	1,845	(1,137–2,553)	28.3
Unknown	107**	(0–321)	1.6
Body mass index			
<18.5	80**	(0–240)	1.2
18.5–24.9	1,454	(833–2,075)	22.3
25–29.9	2,425	(1,675–3,174)	37.1
>29.9	1,802	(1,094–2,509)	27.6
Unknown	768**	(286–1,249)	11.8
Outcome			
Returned in 1–2 days	4,118	(3,365–4,871)	63.1
Returned in 3–6 days	1,201	(605–1,797)	18.4
Returned in 7–21 days	632**	(175–1,089)	9.7
Discontinued season	196**	(0–400)	3.0
Unknown	382**	(24–739)	5.9
Total	6,529	(5,794–7,264)	100

* Defined as dehydration or heat exhaustion/heat stroke that 1) resulted from participation in a school-sanctioned practice or competition, 2) was assessed by a medical professional (with or without treatment), and 3) resulted in ≥1 days of time loss from athletic activity.

[†] Data based on reports from a 100-school sample.

[§] Confidence interval.

[¶] Percentages in categories might not add to 100% because of rounding.

** Estimate might be unstable because coefficient of variation is >30%.

sustaining a heat illness were either overweight or obese. Obesity has been shown to be a risk factor for heat illness because fat decreases heat loss; a previous study reported that 47.1% of all high school football players were overweight or obese (8). In the absence of prompt intervention, heat illness can result in permanent morbidity (e.g., neurologic, cardiac, renal, gastrointestinal, hematologic, or muscle dysfunction) or mortality. These results support the existing NATA recommendations to continue emphasis of appropriate primary and secondary prevention strategies.

What is already known on this topic?

Heat illness during practice or competition is a leading cause of death and disability among U.S. high school athletes.

What is added by this report?

An estimated average annual number of 9,237 time-loss heat illnesses occur among U.S. high school athletes, most commonly during preseason football practice.

What are the implications for public health practice?

To reduce the risk for heat illness, high school athletic programs should follow National Athletic Trainers Association recommendations, such as implementing preseason heat-acclimatization guidelines and encouraging proper hydration before, during, and after sports activity.

All heat illnesses in high school athletes are preventable. Since 1995, according to an annual survey of catastrophic football injuries, 31 high school football players have died from heat stroke.[§] One component of primary prevention is the implementation of acclimatization periods to prepare participants for strenuous activity in warm or humid weather. Acclimatization is particularly important during preseason football practices, which typically occur during the hottest and most humid period of summer and when participants are least physically fit. Current NATA recommendations suggest implementation of a 14-day acclimatization period for all warm weather conditioning, with practice frequency, duration, and intensity as well as protective equipment usage increased gradually (3,9). Another primary prevention strategy is educating participants regarding heat-related illness and the importance of proper hydration before, during, and after strenuous activity (3). According to NATA, fluid replacement should approximate sweat and urine losses so that athletes lose no more than 2% body weight per day; on average, this equates to consuming 200–300 mL fluid every 10–20 minutes during exercise (10).

Ambient temperature, relative humidity, wind speed, and solar radiant heat all affect risk for heat illness (3). For example, although NATA guidelines suggest that a temperature of 90° at 20% humidity could be suitable for conducting football practice with full protective gear, a temperature of 90° at 80% humidity could create a dangerous environment for

[§] Available at <http://www.unc.edu/depts/nccsi/2009AnnualFootball.pdf>.

which activity and equipment use should be limited (3). Thus, NATA recommends that coaches and athletic administrators monitor ambient temperature and relative humidity and be prepared to implement appropriate activity restrictions (3).

When a participant shows signs of heat illness, secondary prevention is crucial to prevent progression. Any person exhibiting nausea, vomiting, headache, dizziness, or mental status change should be immediately evaluated for potential heat exhaustion or heat stroke by a health professional (3). In mild cases of heat illness (e.g., dehydration or heat cramps), simple interventions that include removal from activity and rehydration can be sufficient. However, more advanced conditions, such as heat exhaustion or heat stroke, require aggressive interventions such as cold water immersion and chilled intravenous fluids to lower core body temperature as rapidly as possible (3,10).

The findings in this report are subject to at least one limitation. These results are an underestimate of the actual magnitude of heat illness among high school athletes because only heat illnesses resulting in ≥ 1 days time loss were reportable, only nine sports were assessed, and only schools with an NATA-affiliated certified athletic trainer were included.

If left untreated, heat illness can progress to heat stroke and result in permanent illness or death; thus, prevention is critical. Athletes, coaches, athletic trainers, and parents/guardians should be aware of the hazards and risk factors, follow recommended prevention strategies, and be prepared to respond quickly. CDC is developing an Internet-based course for coaches and others associated with high school athletics to

help prevent, recognize, and respond to heat-related illness among student athletes.

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Smoking in Top-Grossing Movies — United States, 1991–2009

Exposure to onscreen smoking in movies increases the probability that youths will start smoking. Youths who are heavily exposed to onscreen smoking are approximately two to three times more likely to begin smoking than youths who are lightly exposed (1); a similar, but smaller effect exists for young adults (2). To monitor the extent to which tobacco use is shown in popular movies, Thumbs Up! Thumbs Down! (TUTD), a project of Breathe California of Sacramento-Emigrant Trails, counted the occurrences of tobacco use (termed “incidents”) shown in U.S. top-grossing movies during 1991–2009. This report summarizes the results of that study, which found that the number of tobacco incidents depicted in the movies during this period peaked in 2005 and then progressively declined. Top-grossing movies released in 2009 contained 49% of the number of onscreen smoking incidents as observed in 2005 (1,935 incidents in 2009 versus 3,967 incidents in 2005). Further reduction of tobacco use depicted in popular movies could lead to less initiation of smoking among adolescents. Effective methods to reduce the potential harmful influence of onscreen tobacco use should be implemented.

To conduct this analysis, TUTD counted the number of incidents of tobacco use in the 50 top-grossing movies each year during 1991–2001 and in all movies that were among the 10 top-grossing movies in any calendar week during 2002–2009. U.S. movies that rank in the top 10 for at least 1 week account for 83% of all movies released in U.S. theaters each year and 98% of all ticket sales (3). For each time frame, teams of trained observers reviewed each movie and counted tobacco incidents (3).^{*} An incident was defined as the use or implied use of a tobacco product by an actor. A new incident occurred each time 1) a tobacco product went off screen and then back on screen, 2) a different actor was shown with a tobacco product, or 3) a scene changed, and the new scene contained the use or implied off-screen use of a tobacco product. The number of in-theater impressions (one person seeing one tobacco incident

one time) delivered in theatrical release was obtained by multiplying the number of incidents in each movie by the total number of tickets sold nationwide to the movie. The number of movies without any depiction of tobacco use also was counted.

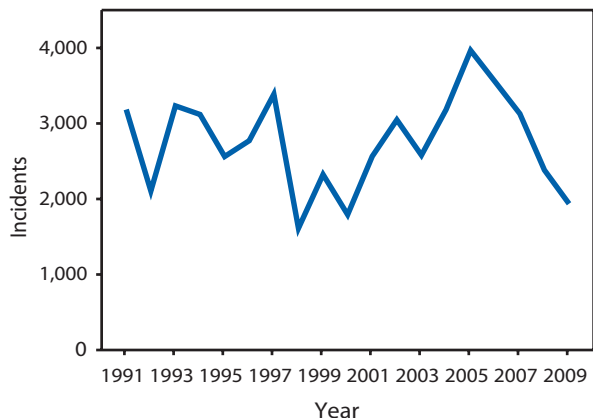
Cumulatively, more movies qualify for the weekly top 10 category in a given year than for the annual top 50 category. Estimated counts of tobacco incidents for 1991–2001 were adjusted for the larger sampling frame used later, based on prior research on movie grosses and tobacco incidents for 2002–2007 (3). Approximately one third (34.5%) of 2002–2007 weekly top 10 movies also were included in the annual list of top 50 movies. Weekly top 10 movies that were not in the annual top 50 category had, on average, slightly fewer tobacco incidents than movies that were in the top 50 (21.5 incidents versus 23.0 incidents). To adjust for the difference in study methodology across the two periods so that results would be comparable, incident counts for 1991–2001 were inflated by a factor of 2.7 (calculated as $[1/0.345] \times [21.5/23.0]$). The count of movies lacking tobacco depictions was inflated by 3.0 to maintain whole numbers.

The total number of incidents in the entire sample of top-grossing U.S. movies (Figure 1) ranged from 2,106 to 3,386 per year from 1991 to 1997, decreased to 1,612 in 1998, and then more than doubled to peak at 3,967 in 2005. From 2005 to 2009, the number of incidents dropped steadily, to 1,935 incidents in 2009. More than 99% of tobacco incidents related to smoking (versus smokeless tobacco use).

During 1991–2001, total in-theater impressions varied between 30 billion and 60 billion per year, then generally declined to a low of approximately 17 billion impressions in 2009 (Figure 2). The percentage of all top-grossing movies that did not show tobacco use exceeded 50% (51%; 74/145) for the first time in 2009 (Figure 3); similarly, the percentage of top-grossing, youth-rated movies (G/PG/PG-13) that did not show tobacco use generally has increased since 2003, reaching an all-time high of 61% (58/95) in 2009. Nonetheless, in 2009, more than half (54%; 32/59) of PG-13 movies contained incidents of tobacco use, down from 65% (133/205) during 2006–2008 and 80% (107/133) during 2002–2003.

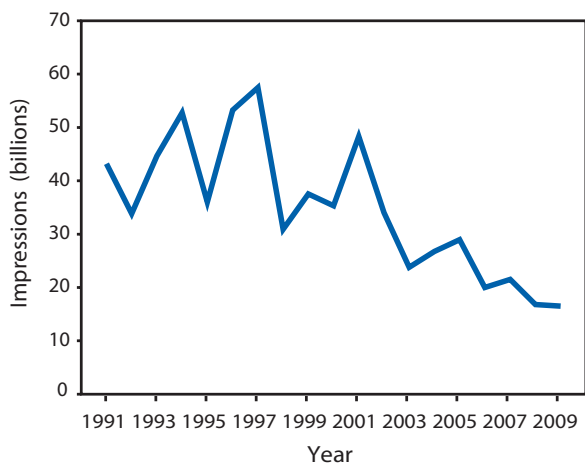
^{*}The movie-by-movie results and an archive of all movies analyzed are available at <http://www.scenesmoking.org>.

FIGURE 1. Number of tobacco incidents* in top-grossing movies — United States, 1991–2009



* An incident was defined as the use or implied use of a tobacco product by an actor. A new incident occurred each time 1) a tobacco product went off screen and then back on screen, 2) a different actor was shown with a tobacco product, or 3) a scene changed, and the new scene contained the use or implied use of a tobacco product.

FIGURE 2. Number of in-theater tobacco impressions* delivered by top-grossing movies — United States, 1991–2009

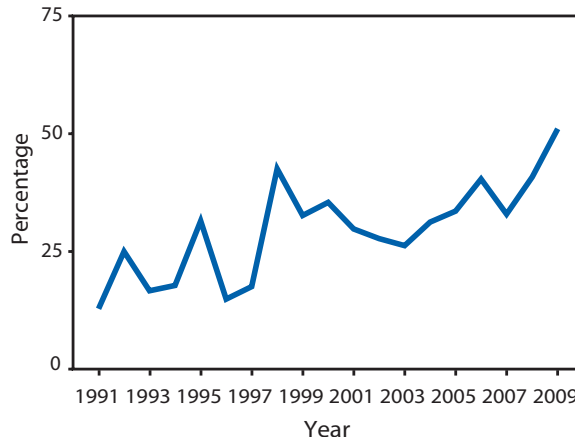


* An impression was defined as one person seeing one tobacco incident one time. The number was obtained by multiplying the number of incidents in each movie by the total number of tickets sold nationwide to the movie.

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FIGURE 3. Percentage of top-grossing movies with no depiction of tobacco use — United States, 1991–2009



Editorial Note

The results of this analysis indicate that the number of tobacco incidents peaked in 2005, then declined by approximately half through 2009, representing the first time a decline of that duration and magnitude has been observed. However, nearly half of popular movies still contained tobacco imagery in 2009, including 54% of those rated PG-13, and the number of incidents remained higher in 2009 than in 1998. This analysis shows that the number of tobacco incidents increased steadily after the 1998 Master Settlement Agreement (MSA)[†] between the state attorneys general and the major cigarette companies, in which the companies agreed to end brand placement.

In 2001, the Smoke Free Movies campaign began to publicly link the tobacco content of movies to specific movie studios and their parent companies.[§] Subsequently, several state and local tobacco control programs began efforts to raise awareness of the public health importance of reducing the amount of onscreen smoking. These efforts included activities such as engaging youth empowerment programs on the issue, media campaigns, and community outreach. Beginning in 2002, many state attorneys general also increased advocacy directed at the movie industry, and in May 2004 and May 2007, Congress held hearings

[†]Master Settlement Agreement. Section III(e): prohibition on payments related to tobacco products and media. Full text available at <http://www.naag.org/backpages/naag/tobacco/msa>.

[§]Additional information is available at www.smokefreemovies.ucsf.edu.

What is already known on this topic?

Exposure to onscreen smoking in movies promotes adolescent and young adult smoking, and greater levels of exposure are associated with increased probability of smoking.

What is added by this report?

After a peak in 2005, the amount of onscreen smoking depicted in U.S. movies declined 51%, from 3,967 to 1,935 in 2009. However, nearly half of popular movies still contained tobacco imagery in 2009, including 54% of those rated PG-13, and the number of incidents was higher in 2009 than the 1,612 in 1998.

What are the implications for public health practice?

Effective methods to reduce the potential harmful influence of onscreen tobacco use should be implemented. Such policies could include having a mature content (R) rating for movies with smoking, requiring strong antitobacco ads preceding movies that depict smoking, not allowing tobacco brand displays in movies, and requiring producers of movies depicting tobacco use to certify that no person or company associated with the production received any consideration for that depiction.

on smoking in the movies.⁴ In 2007, demands from state attorneys general led the Motion Picture Association of America (MPAA), which controls the movie rating system, to seek recommendations from the Harvard School of Public Health and to pledge their implementation. Harvard recommended that MPAA “take substantive and effective action to eliminate the depiction of smoking from movies accessible to children and youths” (4). MPAA’s response was to attach smoking descriptors to the ratings for a fraction (12%) of nationally-released, youth-rated movies with smoking, beginning in May 2008 (5). Since 2007, several major studios adopted internal protocols for monitoring smoking content and promulgated corporate policies to discourage tobacco in their youth-rated movies. In 2009, Paramount (Viacom)

⁴ Senate Subcommittee on Commerce, Science and Transportation, 108th Congress. Impact of smoking in the movies (May 11, 2004). Prepared testimony available at http://commerce.senate.gov/public/index.cfm?p=hearings&contentrecord_id=82d1efdc-6f24-4aa0-9ded-a66b60b2871c&contenttype_id=14f995b9-dfa5-407a-9d35-56cc7152a7ed&group_id=b06c39af-e033-4cba-9221-de668ca1978a&monthdisplay=5&yeardisplay=2004. House Subcommittee on Telecommunications and the Internet, 110th Congress. Images kids see on screen (June 22, 2007). Testimony and webcast (Panel 1) available at http://energycommerce.house.gov/index.php?option=com_content&view=article&id=251&catid=32&cite_mid=58.

became the first company whose youth-rated movies for the year contained no tobacco use incidents. In addition to other factors, these studio protocols might account for some of the recent reduction in smoking incidents.

A meta-analysis of four studies estimated that 44% (95% confidence interval [CI] = 0.34–0.58) of the likelihood of youth trying smoking could be attributable to viewing smoking in the movies (6). Given the dose-response relationship between exposure to onscreen smoking and youth and young adult smoking, reductions in youth exposure to onscreen tobacco use since 2005 would be expected to have a beneficial effect on reducing smoking initiation (7). The national Youth Risk Behavior Survey** found that the national prevalence of ever having tried a cigarette declined significantly among high school students from 54.3% (95% CI: 51.2%–57.3%) in 2005 to 46.3% (95% CI: 43.7%–48.9%) in 2009. The reduction in smoking in movies might have been a contributing factor to this decline.

The findings in this report are subject to at least five limitations. First, the sample did not include all movies. However, an analysis of movies accounting for 96% of ticket sales during 2002–2008 suggested that movies that ranked in the top 10 for at least 1 week accounted for more than 95% of theater tobacco use impressions (3). Second, this analysis examined all tobacco use incidents rather than smoking alone. However, the majority of tobacco use incidents depict smoking, and exposure to both smoking and total tobacco use incidents are predictive of youth smoking initiation (1). Third, although theatrical tobacco impressions are down substantially, this measure must be interpreted cautiously because movies, including those containing incidents of tobacco use, can be viewed through many other channels (e.g., recorded media [DVDs], television, and the Internet), which do not factor into the calculation of movie theater impressions. Fourth, detailed audience composition data are not publicly available; therefore, the number of tobacco use impressions delivered by a particular movie to children and adolescents could not be determined. Finally, although this analysis shows the trends in movie tobacco depictions over time, it cannot definitively assess the reasons for those trends.

** Data available at <http://apps.nccd.cdc.gov/youthonline/app>.

Effective methods to reduce the potential harmful influence of onscreen tobacco use should be implemented. Policies to decrease the negative effects on youths of onscreen depictions of smoking in movies have been recommended by the World Health Organization (8) and endorsed by a number of public health and health professional organizations.^{††} These include assigning R ratings to new movies that portray tobacco imagery. An R rating policy would create an economic incentive for producers to leave smoking out of movies that are marketed to youths. A 2005 study concluded that the return on investment for youth-rated movies was 70%, compared with 29% for R-rated movies (9). Reducing the number of movies containing tobacco incidents is expected to reduce the amount of onscreen smoking seen by youths and the associated likelihood that they will become smokers (10). Complementary recommended policies (8) include requiring strong antitobacco ads preceding movies that depict smoking, not allowing tobacco brand displays in movies, and requiring producers of movies depicting tobacco use to certify that no person or company associated with the production received any consideration for that depiction.

^{††} A list of major endorsing organizations is available at <http://www.smokefreemovies.ucsf.edu/solution>.

Acknowledgments

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National, State, and Local Area Vaccination Coverage among Adolescents Aged 13–17 Years — United States, 2009

The Advisory Committee for Immunization Practices (ACIP) recommends that adolescents routinely receive the following vaccines: meningococcal conjugate (MenACWY, 1 dose); tetanus, diphtheria, acellular pertussis (Tdap, 1 dose); and (for females) human papillomavirus (HPV, 3 doses) (1). Adolescents also should receive the following recommended vaccinations they missed during childhood: measles, mumps, rubella (MMR, 2 doses); hepatitis B (HepB, 3 doses); and varicella (VAR, 2 doses) (1). Since 2006, CDC has conducted the National Immunization Survey–Teen (NIS-Teen) to estimate vaccination coverage among adolescents aged 13–17 years. This report summarizes results from 2009 NIS-Teen and updates data from 2008 NIS-Teen (2). Comparing 2009 with 2008, vaccination coverage among adolescents for the three routinely administered adolescent vaccines increased for Tdap (from 40.8% to 55.6%), MenACWY (from 41.8% to 53.6%), ≥ 1 dose of HPV (from 37.2% to 44.3%), and ≥ 3 doses of HPV (from 17.9% to 26.7%). Vaccination coverage varied widely among states; four states (Connecticut, Massachusetts, New Hampshire, and Rhode Island) had coverage of $>60\%$ for all three of the routinely administered adolescent vaccines (Tdap, MenACWY, and HPV). Nationally, *Healthy People 2010* vaccination objectives of 90% coverage among adolescents aged 13–15 years were met for ≥ 3 doses of HepB and ≥ 1 dose of VAR. Coverage with routine adolescent vaccines is increasing; however, more effort, including identification and dissemination of successful state-based practices, is needed to continue to increase the number of adolescents vaccinated according to ACIP recommendations.

NIS-Teen collects vaccination information regarding adolescents aged 13–17 years* in the 50 states and selected local areas† using a random-digit-dialed sample of telephone numbers of households. In 2009, the NIS-Teen was expanded to include adolescents

living in the U.S. Virgin Islands (including St. Croix, St. Thomas, St. John, and Water Island). After parent/guardian respondents grant permission, surveys are mailed to the adolescents' vaccination providers to obtain vaccination histories. In 2009, the household response rate[§] was 58.0%; a total of 20,399 adolescents with provider-verified vaccination records are included in this report, representing 57.2% of all adolescents with completed household interviews. A total of 20,066 adolescents (10,445 males and 9,621 females) are included in the national estimates.[¶] NIS-Teen methodology, including the weighting procedure, has been described previously.** Statistical differences in vaccination coverage were evaluated using t-tests and were considered statistically significant at $p \leq 0.05$.

Vaccination coverage among adolescents increased substantially from 2008 to 2009. Among adolescents aged 13–17 years, administration of ≥ 1 dose of tetanus and diphtheria (Td) or Tdap vaccine after age 10 years increased from 72.2% to 76.2% (Table 1). Coverage with ≥ 1 dose of Tdap increased from 40.8% to 55.6%, and coverage with ≥ 1 dose of MenACWY increased from 41.8% to 53.6%. Among adolescent females, coverage with ≥ 1 dose of HPV increased from 37.2% to 44.3% and with ≥ 3 doses of HPV increased from 17.9% to 26.7%. At least 24 weeks between the first and third doses of the HPV vaccine are needed to complete the series (1). Among those who initiated the HPV series, 90.1% had received their first dose at least 24 weeks before the interview date and had the minimum period needed to complete the series before the interview. Of these, 67.5% (95% confidence interval [CI] = 64.4–70.5) received ≥ 3 doses. Among males, 49.6% (CI = 47.8–51.4) received both ≥ 1 dose of Td/Tdap and ≥ 1 dose of MenACWY;

* Eligible participants were born during January 1991–February 1997.

† Eleven local areas that received federal immunization grants were sampled separately: District of Columbia; Los Angeles County, California; Chicago, Illinois; Lake County, Indiana; Marion County, Indiana; New York, New York; Philadelphia County, Pennsylvania; Bexar County, Texas; Houston, Texas; Dallas County, Texas; El Paso County, Texas.

§ The Council of American Survey Research Organizations (CASRO) response rate is the product of three other rates: the resolution rate, which is the proportion of telephone numbers that can be identified as either for a business or residence; the screening rate, which is the proportion of qualified households that complete the screening process; and the cooperation rate, which is the proportion of contacted eligible households for which a completed interview is obtained.

¶ Adolescents from the U.S. Virgin Islands (333: 175 females and 158 males) are excluded from the national estimates.

** Information available at ftp://ftp.cdc.gov/pub/health_statistics/nchs/dataset_documentation/nis/nisteenpuf08_dug.pdf.

TABLE 1. Estimated vaccination coverage among adolescents aged 13–17 years in 2009,* by age at interview and selected vaccines and doses — National Immunization Survey (NIS)–Teen, United States, 2009

Vaccines and doses	Age at interview (yrs)										Overall			
	13 (n = 3,915)		14 (n = 4,203)		15 (n = 4,162)		16 (n = 4,084)		17 (n = 3,702)		2009 (N = 20,066)		2008 (N = 17,835)	
	% [†]	(95% CI) [†]	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
MMR[§] ≥2 doses	91.2	(89.5–92.6)	89.3	(87.6–90.8)	86.9	(84.6–88.9) [¶]	90.9	(89.2–92.3)	87.6	(85.3–89.6) [¶]	89.1	(88.3–89.9)	89.3	(88.4–90.2)
Hepatitis B ≥3 doses	93.4	(92.1–94.5)	90.6	(88.9–92.1) [¶]	89.9	(88.0–91.5) [¶]	90.0	(88.1–91.6) [¶]	85.6	(83.7–87.3) [¶]	89.9	(89.2–90.6)**	87.9	(86.9–88.8)
Varicella														
History of varicella disease ^{††}	33.7	(31.2–36.3)	42.0	(39.3–44.7) [¶]	55.3	(52.4–58.1) [¶]	62.8	(59.8–65.7) [¶]	69.6	(66.7–72.3) [¶]	52.7	(51.4–54.0)**	59.8	(58.4–61.3)
≥1 dose vaccine if had no history of disease	93.6	(92.0–94.9)	89.8	(87.4–91.8) [¶]	87.2	(83.8–89.9) [¶]	80.4	(76.2–84.0) [¶]	75.3	(70.1–79.9) [¶]	87.0	(85.7–88.3)**	81.9	(80.2–83.5)
≥2 doses vaccine if had no history of disease	54.3	(50.8–57.8)	50.2	(46.2–54.2)	49.6	(45.2–54.0)	44.1	(38.5–49.7) [¶]	37.1	(31.9–42.6) [¶]	48.6	(46.6–50.6)**	34.1	(31.8–36.6)
History of disease or received ≥2 doses varicella vaccination ^{§§}	69.7	(67.0–72.3)	71.1	(68.5–73.5)	77.5	(75.0–79.8) [¶]	79.2	(76.8–81.4) [¶]	80.9	(78.3–83.2) [¶]	75.7	(74.6–76.8)	73.5	(72.2–74.8)
Td or Tdap since age 10 years														
≥1 dose Td or Tdap ^{¶¶}	70.5	(67.9–73.0)	74.8	(72.4–77.1) [¶]	78.2	(75.9–80.3) [¶]	78.4	(75.9–80.8) [¶]	78.5	(76.0–80.8) [¶]	76.2	(75.1–77.2)**	72.2	(70.8–73.4)
≥1 dose Tdap	65.2	(62.5–67.8)	63.5	(60.8–66.2)	58.3	(55.5–61.0) [¶]	46.8	(44.0–49.6) [¶]	43.6	(40.7–46.5) [¶]	55.6	(54.3–56.8)**	40.8	(39.3–42.3)
MenACWY^{***} ≥1 dose	53.8	(51.0–56.5)	56.1	(53.3–58.9)	54.6	(51.8–57.3)	54.4	(51.5–57.3)	48.8	(45.9–51.7) [¶]	53.6	(52.4–54.9)**	41.8	(40.3–43.2)
HPV^{†††}														
≥1 dose	37.1	(33.5–40.9)	40.6	(36.8–44.6)	46.0	(42.1–50.0) [¶]	49.9	(45.4–54.4) [¶]	47.1	(43.1–51.2) [¶]	44.3	(42.4–46.1)**	37.2	(35.2–39.3)
≥3 doses	19.5	(16.8–22.5)	23.2	(20.3–26.4)	25.7	(22.6–29.0) [¶]	33.2	(29.5–37.1) [¶]	31.6	(27.9–35.5) [¶]	26.7	(25.2–28.3)**	17.9	(16.3–19.6)

* Adolescents (N = 20,066) in the 2009 NIS-Teen were born during January 1991–February 1997. National estimates do not include adolescents living in the U.S. Virgin Islands (i.e., St. Croix, St. Thomas, St. John, and Water Island) (n = 333).

[†] Weighted percentage and confidence interval. Estimates with CI widths >20 might not be reliable.

[§] ≥2 doses of measles, mumps, and rubella vaccine.

[¶] Statistically significant difference (p<0.05) by t-test in estimated vaccination coverage, compared with reference group aged 13 years.

** Statistically significant difference (p<0.05) by t-test in estimated vaccination coverage, compared with 2008 NIS-Teen overall estimates.

^{††} By parent/guardian report or provider records.

^{§§} Previous publications reported "history of disease or received ≥1 dose varicella vaccination." This publication reports "history of disease or received ≥2 doses varicella vaccination" to follow current Advisory Committee of Immunization Practices guidelines for adequate protection against varicella infection.

^{¶¶} Includes tetanus and diphtheria toxoid vaccine (Td); tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap); or tetanus-unknown vaccine at or after age 10 years.

^{***} Meningococcal conjugate vaccine or meningococcal-unknown type vaccine.

^{†††} Human papillomavirus vaccine, either quadrivalent or bivalent, among females (n = 9,621).

among females, 33.6% (CI = 31.8–35.4) received ≥1 dose of Td/Tdap, ≥1 dose of MenACWY, and ≥1 dose of HPV.

Among vaccines either administered during childhood or as catch-up adolescent vaccinations, coverage with ≥2 doses of MMR was similar to coverage during 2008 at 89.1%; coverage with ≥3 doses of HepB increased from 87.9% to 89.9% (Table 1). Reported history of varicella disease continued to decrease among adolescents from 59.8% to 52.7%. Among adolescents, 75.7% had protection from varicella disease (i.e., history of varicella or received ≥2 doses of VAR). Coverage with ≥2 doses of MMR, ≥3 doses of HepB, ≥1 dose of VAR, ≥2 doses of VAR, ≥1 dose of Tdap, and ≥1 dose of MenACWY differed by age, with generally lower rates among older age groups. However, coverage rates with ≥1 and ≥3 doses of HPV, and ≥1 dose of Td or Tdap, generally were higher among older than younger adolescents.

Coverage estimates varied by state and local area (Table 2) with rates ranging from 22.6% (Mississippi)

to 76.6% (Colorado) for ≥1 doses of Tdap, from 19.3% (Mississippi) to 78.3% (District of Columbia) for ≥1 dose of MenACWY, and from 22.9% (Mississippi) to 69.0% (Massachusetts) for ≥1 dose of HPV. Four states (Connecticut, Massachusetts, New Hampshire, and Rhode Island) had coverage of >60% for all three routinely administered adolescent vaccines (Tdap, MenACWY, and HPV). Many states had a ≥15 percentage point increase from 2008 to 2009 in coverage for ≥1 dose of Tdap, ≥1 dose of MenACWY, or ≥1 dose of HPV. ^{††}

^{††} ≥1 dose of Tdap: Connecticut, Florida, Iowa, Kansas, Massachusetts, Missouri, Montana, Nevada, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming; ≥1 dose of MenACWY: Arizona, Colorado, Connecticut, District of Columbia, Florida, Massachusetts, North Carolina, North Dakota, Ohio, Tennessee, Vermont, Washington, and Wyoming; ≥1 dose of HPV: Alabama, Colorado, Connecticut, District of Columbia, Georgia, Hawaii, Massachusetts, Montana, Nebraska, North Carolina, North Dakota, Oregon, South Dakota, and Utah.

TABLE 2. (Continued) Estimated vaccination coverage among adolescents aged 13–17 years,* by state and selected areas and selected vaccines and doses — National Immunization Survey (NIS)—Teen, United States, 2009

State/Area	Vaccine doses routinely recommended during childhood (adolescent catch-up vaccines)								Vaccine doses routinely recommended for adolescents							
	≥2 MMR [†]		≥3 Hep B [§]		≥1 VAR [¶]		≥2 VAR ^{**}		≥1 Td or Tdap ^{††}		≥1 Tdap		≥1 MenACWY ^{§§}		≥1 HPV ^{¶¶}	
	% ^{***}	(95% CI ^{***})	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
West Virginia	79.9	(73.2–85.3)	79.4	(72.7–84.8)	78.7	(68.3–86.4)	33.9	(24.7–44.4)	52.2	(45.1–59.2)	40.4	(33.8–47.5)	39.0	(32.4–45.9)	38.5	(29.4–48.4)
Wisconsin	91.8	(87.9–94.5)	93.4	(89.5–95.9)	95.7	(91.2–97.9)	71.8	(63.4–78.9)	85.3	(80.1–89.3)	72.3	(66.3–77.5)	55.7	(49.5–61.8)	49.2	(40.7–57.6)
Wyoming	87.4	(83.2–90.7)	79.7	(74.5–84.1)	79.6	(71.6–85.8)	38.1	(29.8–47.1)	82.8	(78.0–86.7)	48.2	(42.4–54.0)	47.8	(42.0–53.6)	43.6	(35.8–51.7)
U.S. Virgin Islands ^{†††}	86.1	(80.5–90.3)	89.7	(84.3–93.4)	82.3	(74.6–88.0)	29.3	(23.5–36.0)	73.5	(67.0–79.1)	34.9	(28.9–41.3)	21.1	(16.2–26.9)	14.9	(9.6–22.4)

* Adolescents (N = 20,066) in the 2009 NIS-Teen were born during January 1991–February 1997.

[†] ≥2 doses of measles, mumps, and rubella vaccine.

[§] ≥3 doses of hepatitis B vaccine.

[¶] ≥1 dose of varicella vaccine among adolescents without a reported history of varicella disease.

^{**} ≥2 doses of varicella vaccine among adolescents without a reported history of varicella disease.

^{††} Tetanus and diphtheria toxoids vaccine (Td); or tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap); or tetanus-unknown vaccine on or after age 10 years.

^{§§} Meningococcal conjugate vaccine or meningococcal-unknown type vaccine.

^{¶¶} Human papillomavirus vaccine, either quadrivalent or bivalent among females (n = 9,621).

^{***} Weighted percentage and confidence interval. Estimates with CI widths >20 might not be reliable.

^{†††} Includes St. Croix, St. Thomas, St. John, and Water Island (n = 333). Not included in the United States estimates.

No statistically significant differences were found in coverage with ≥1 dose of Tdap or MenACWY by racial/ethnic group^{§§} or by poverty status^{¶¶} (Table 3). For ≥1 dose of HPV, no differences were found in coverage by race/ethnicity; however, compared with those living at or above the poverty level, HPV initiation was higher among those living below the poverty level (51.9% versus 42.5%). Coverage with ≥3 doses of HPV was lower among blacks (23.1%) and Hispanics (23.4%) compared with whites (29.3%). Among vaccines either administered during childhood or as catch-up adolescent vaccinations, coverage with ≥2 doses of MMR was higher among whites than among blacks (90.2% versus 86.3%) and protection from varicella disease was higher among whites than among blacks (77.0% versus 71.3%). Having a history of varicella disease was higher among whites than among Hispanics (55.0% versus 50.1%). Coverage with ≥1 dose of VAR without history of disease was higher among those living at or above the poverty level (87.6% versus 82.9%); and, coverage with ≥1 dose of Td/Tdap was higher among those living at or above the poverty level (77.0% versus 71.8%).

Measured against the *Healthy People 2010* targets of 90% coverage (3), vaccination coverage for adolescents aged 13–15 years was 89.0% (CI = 87.9–90.0) for ≥2 doses of MMR, 91.2% (CI = 90.3–92.1) for

≥3 doses of HepB, 74.7% (CI = 73.3–76.0) for ≥1 dose of Td/Tdap, and 90.5% (CI = 89.1–91.7) for ≥1 dose of VAR.

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Editorial Note

In 2009, vaccination coverage among adolescents aged 13–17 years increased substantially. As in 2008, adolescent vaccination coverage in 2009 also continued to vary widely among states and local areas, a variation that might be explained, in part, by different vaccination-promoting initiatives. Some of these initiatives include communication campaigns, strong partnerships with local professional organizations, universal funding of adolescent vaccinations, and middle school entry vaccination requirements. During the 2009–10 school year, for entry to middle school, 27 states required Tdap, seven required MenACWY, and two had requirements for HPV with opt-out provisions (4). Evaluation of vaccination-promoting initiatives, vaccine financing policies, and school requirements regarding Tdap, MenACWY, and HPV are ongoing and are needed to understand their impact on adolescent vaccination to promote effective state-based practices.

Although ≥1 dose HPV coverage was higher among Hispanics compared with whites in 2008 (2), no racial/ethnic differences for HPV initiation

^{§§} Adolescents identified as white, black, Asian, or American Indian/Alaska Native all were considered non-Hispanic. Persons who self-identified as Hispanic might be of any race.

^{¶¶} Adolescents were classified as below poverty level if their total family income was less than the federal poverty level specified for the applicable family size and number of children aged <18 years. All others were classified as at or above the poverty level. Additional information is available at <http://www.census.gov/hhes/www/poverty.html>. Poverty status was unknown for 779 adolescents.

TABLE 3. Estimated vaccination coverage among adolescents aged 13-17 Years,* by race/ethnicity,[†] poverty level,[§] and selected vaccines and doses — National Immunization Survey (NIS)-Teen, United States, 2009

Vaccines	Race/Ethnicity						Poverty Status			
	White (n = 14,107)	Black (n = 2,047)	Hispanic (n = 2,479)	American Indian/ Alaska Native (n = 258)	Asian (n = 444)	Other (n = 731)	Below poverty level (n = 2,506)		At or above poverty level (n = 16,781)	
	% [¶] (95% CI [¶])	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	
MMR** ≥2 doses	90.2 (89.3–91.1)	86.3 (83.6–88.5) ^{††}	87.6 (84.9–89.9)	90.4 (84.1–94.3)	92.9 (88.5–95.8)	87.1 (80.8–91.6)	87.8 (85.5–89.8)	89.3 (88.4–90.2)		
Hepatitis B ≥3 doses	90.2 (89.4–91.0)	88.9 (86.7–90.8)	90.0 (87.7–91.9)	89.7 (83.2–93.9)	89.5 (83.3–93.6)	89.1 (83.1–93.1)	88.3 (86.1–90.1)	90.3 (89.5–91.1)		
Varicella										
History of varicella disease ^{§§}	55.0 (53.6–56.4)	49.0 (45.6–52.4) ^{††}	50.1 (46.3–53.9) ^{††}	52.3 (42.2–62.3)	40.2 (31.8–49.3) ^{††}	53.6 (46.2–60.8)	52.5 (49.0–56.0)	53.0 (51.6–54.4)		
Among adolescents without history of disease:										
≥1 dose vaccine	88.5 (87.0–89.8)	82.4 (78.7–85.7) ^{††}	85.5 (81.1–89.0)	87.9 (76.4–94.2)	88.1 (79.9–93.2)	91.5 (86.2–94.9)	82.9 (79.0–86.3) ^{††}	87.6 (86.1–88.9)		
≥2 dose vaccine	48.8 (46.5–51.2)	43.9 (39.2–48.6)	49.7 (44.0–55.5)	41.0 (26.6–57.1)	54.2 (41.9–66.0)	55.9 (44.3–66.8)	46.2 (41.0–51.5)	48.7 (46.6–50.9)		
History of disease or received ≥2 doses varicella vaccination	77.0 (75.7–78.2)	71.3 (68.2–74.3) ^{††}	74.9 (71.4–78.1)	71.9 (60.3–81.1)	72.6 (63.7–80.0)	79.5 (73.0–84.8)	74.4 (71.2–77.4)	75.9 (74.7–77.1)		
Td or Tdap since age 10 years^{¶¶}										
≥1 dose Td or Tdap	76.5 (75.4–77.7)	72.5 (69.4–75.5) ^{††}	76.7 (73.2–79.9)	78.0 (66.8–86.2)	84.5 (77.2–89.8)	73.9 (66.8–79.9)	71.8 (68.5–74.8) ^{††}	77.0 (75.8–78.1)		
≥1 dose Tdap	55.8 (54.3–57.2)	52.7 (49.3–56.1)	55.6 (51.8–59.4)	59.3 (48.8–69.1)	64.3 (55.5–72.3)	54.5 (47.2–61.7)	52.8 (49.3–56.3)	56.1 (54.7–57.4)		
MenACWY ≥1 dose^{***}	53.1 (51.7–54.5)	53.0 (49.6–56.4)	55.9 (52.0–59.7)	46.9 (37.3–56.8)	58.8 (49.5–67.5)	50.2 (42.9–57.4)	52.5 (49.0–55.9)	53.8 (52.4–55.2)		
HPV^{†††}										
≥1 dose	43.9 (41.8–46.1)	44.6 (39.9–49.5)	45.5 (40.3–50.8)	52.3 (39.0–65.2)	41.5 (29.5–54.5)	42.2 (31.5–53.6)	51.9 (47.0–56.8) ^{††}	42.5 (40.5–44.5)		
≥3 doses	29.1 (27.3–31.0)	23.1 (19.1–27.6) ^{††}	23.4 (19.7–27.6) ^{††}	29.6 (20.0–41.4)	22.1 (14.7–31.8)	21.5 (13.6–32.2)	25.5 (21.4–30.1)	26.8 (25.1–28.4)		

* Adolescents (N=20,066) in the 2009 NIS-Teen were born during January 1991–February 1997. National estimates do not include adolescents living in the U.S. Virgin Islands (i.e., St. Croix, St. Thomas, St. John, and Water Island) (n = 333).

† Adolescents identified as white, black, Asian, or American Indian/Alaska Native all were considered non-Hispanic. Persons who self-identified as Hispanic might be of any race. Persons who self-identified as Native Hawaiian or other Pacific Islanders and persons of multiple races were categorized as other.

§ Adolescents were classified as below poverty level if their total family income was less than the federal poverty level specified for the applicable family size and number of children aged <18 years. All others were classified as at or above the poverty level. Additional information available at <http://www.census.gov/hhes/www/poverty.html>. Poverty status was unknown for 779 adolescents.

¶ Weighted percentage and confidence interval. Estimates with CI widths >20 might not be reliable.

** ≥2 doses of measles, mumps, and rubella vaccine.

†† Statistically significant difference (p≤0.05) by t-test in estimated vaccination coverage, compared with white reference group for race/ethnicity, and compared with at or above poverty level group for poverty status.

§§ By parent/guardian report or provider records.

¶¶ Tetanus and diphtheria toxoids vaccine (Td); or tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap); or tetanus-unknown vaccine on or after age 10 years.

*** Meningococcal conjugate vaccine or meningococcal-unknown type vaccine.

††† Human papillomavirus vaccine, either quadrivalent or bivalent among females (n = 9,621).

were observed in 2009. However, whites had higher completion rates compared with blacks and Hispanics, emphasizing that efforts are needed to ensure administration of 3 doses. Similar to 2008, a higher percentage of adolescent females living below the poverty level had initiated the HPV series than those living at or above poverty level. Although the ACIP-recommended age for HPV vaccination is 11 or 12 years, HPV coverage was higher among older compared with younger adolescent females in 2009. Some studies have found that parents and physicians prefer vaccinating older adolescent females (5,6), making education regarding HPV infection and the benefits of vaccination at the recommended age, before sexual activity begins, an important public health endeavor. Because of the complexity of factors associated with HPV vaccination, including sociodemographic characteristics, local vaccination funding and policies, and parental

attitudes, further analyses are needed to understand how these factors affect HPV coverage.

Coverage with Tdap and MenACWY differed by age. Lower Tdap coverage among older adolescents might be attributed to several factors. For example, many older teens had received Td before licensure of Tdap. Because a 5-year interval is recommended between receipt of Td and Tdap, these adolescents were not yet eligible to receive Tdap^{***} (1). Lower MenACWY coverage among older adolescents can be attributed to at least two factors: limited availability of the vaccine during the first 2 years of MenACWY production (7) and fewer preventive health visits by adolescents as they get older, thus limiting the opportunities for catch-up vaccination.

*** A 5-year interval from the last Td dose is encouraged when Tdap is used as a booster dose; however, a shorter interval may be used if pertussis immunity is needed.

What is already known on this topic?

Since 2006, national coverage with routinely recommended vaccinations among adolescents aged 13–17 years has increased, but adolescent coverage is still below coverage levels for those vaccines administered routinely in childhood.

What is added by this report?

Compared with 2008, vaccination coverage among adolescents in the United States increased for ≥ 1 dose of tetanus, diphtheria, acellular pertussis vaccine (from 40.8% to 55.6%), ≥ 1 dose of meningococcal conjugate vaccine (from 41.8% to 53.6%), ≥ 1 dose of human papillomavirus vaccine (from 37.2% to 44.3%; for females only), and ≥ 3 doses of human papillomavirus vaccine (from 17.9% to 26.7%). By state, coverage levels continued to vary widely for all routinely recommended adolescent vaccines.

What are the implications for public health practice?

Coverage of routinely recommended adolescent vaccines is increasing; however, more effort, including the evaluation of vaccination policies and practices associated with higher coverage in some states, is needed to characterize effective methods and to improve vaccination coverage among adolescents.

The findings in this report are subject to at least three limitations. NIS-Teen is a landline telephone survey; although studies have shown no evidence of bias after adjusting sampling weights for noncoverage of households with no landline telephones in NIS-Teen, nonresponse and noncoverage bias might remain, leading to underestimation or overestimation of coverage rates (8). Second, underestimates of vaccination coverage might have resulted from the exclusive use of provider-verified vaccination histories because completeness of these records is unknown (9). Finally, estimates for particular states and local areas and for racial/ethnic populations should be interpreted with caution because of smaller sample sizes and wider confidence intervals.

Because adolescents are thought to be an important source of pertussis transmission, recent increases in pertussis cases exemplify the need to increase adolescent vaccination rates. In 2007, CDC launched a national campaign to promote parental awareness of adolescent vaccines and developed a program called It's Their Turn to support state health departments in their vaccination campaigns.^{†††} The Vaccines for

Children program provides free vaccine for children aged ≤ 18 years for families who might not be able to afford vaccine. However, additional strategies are needed to increase coverage among adolescents. Evaluation of vaccination policies and practices associated with higher coverage in certain states and areas can help characterize effective methods. Patient reminders by health-care providers can promote preventive health-care visits and vaccinations among adolescents (10). Urging the public and health-care providers to view every health visit as an opportunity for vaccination will decrease missed opportunities to provide vaccines (10). Additionally, exploration of using nontraditional settings to increase vaccination coverage (e.g., schools) should continue.

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^{†††} Information available at <http://www.cdc.gov/vaccines/spec-grps/preteens-adol.htm>.

Notes from the Field

Acute Hemorrhagic Conjunctivitis Outbreaks Caused by Coxsackievirus A24v — Uganda and Southern Sudan, 2010

CDC was contacted on June 22, 2010, by the Ugandan Ministry of Health (MoH)/Uganda Virus Research Institute and on July 11 by the Government of Southern Sudan (GOSS) via the CDC Global Disease Detection Regional Center in Kenya to perform diagnostic laboratory testing on conjunctival swabs from persons with “red eye syndrome.” Widespread, ongoing outbreaks of acute hemorrhagic conjunctivitis (AHC) have been observed in Uganda and Southern Sudan since spring 2010. AHC becomes a reportable condition in outbreak settings. Case numbers were estimated in Uganda after MoH confirmation of reported cases from district health facilities and, in Southern Sudan, after a medical record review in six health facilities. To date, 6,818 cases from 26 districts in Uganda, and 428 cases in Juba, Southern Sudan, have been counted; however, because most cases are not reported, these totals are considered underestimates.

Conjunctival swabs were tested by reverse transcription–polymerase chain reaction (RT-PCR) for enterovirus RNA. Enterovirus-positive swabs were further characterized and enterovirus-negative swabs were tested by PCR for adenovirus. Of 29 conjunctival swabs tested from Uganda, 13 (45%) were identified as coxsackievirus A24 variant (CA24v), one (3%) as enterovirus 99, and 15 (52%) were negative; of six conjunctival swabs tested from Southern Sudan, three (50%) were identified as CA24v and three (50%) were negative. All 18 enterovirus-negative swabs tested negative for adenovirus.

AHC epidemics, caused predominantly by enterovirus 70, CA24v, or adenovirus, have occurred worldwide in predominantly tropical and subtropical regions, typically last several months, and affect large populations (e.g., >10,000–200,000) (1,2). Negative laboratory results are common and can be attributed to multiple factors, including timing of specimen collection. Symptoms (e.g., subconjunctival hemorrhage, foreign-body sensation, photophobia,

and discharge) usually resolve within 1–2 weeks. Treatment for AHC is symptomatic; however, if secondary bacterial infection is suspected, patients should seek medical care. AHC is highly contagious and could spread to neighboring areas and countries; prevention (e.g., hand washing and proper hygiene) is essential for control.* Control measures instituted by the Ugandan and GOSS MoHs have included developing investigation and response guidelines and issuing health alerts via media channels to increase awareness concerning symptoms, transmission, treatment, and prevention.

* CDC prevention recommendations are available at <http://www.cdc.gov/cleanhands> and <http://www.cdc.gov/conjunctivitis>.

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Notice to Readers

Final 2009 Reports of Nationally Notifiable Infectious Diseases

The tables listed in this report on pages 1027–1039 summarize finalized data, as of June 30, 2010, from the National Notifiable Diseases Surveillance System (NNDSS) for 2009. These data will be published in more detail in the Summary of Notifiable Diseases — United States, 2009 (1). Because no cases of diphtheria, neuroinvasive or non-neuroinvasive western equine encephalitis virus disease, nonparalytic poliovirus infection, severe acute respiratory syndrome-associated coronavirus syndrome, smallpox, and yellow fever were reported in the United States during 2009, these diseases do not appear in these initial tables.

Policies for reporting NNDSS data to CDC can vary by disease or reporting jurisdiction, depending on case status classification (i.e., confirmed, probable, or suspected). The publication criteria used for the 2009 finalized tables are listed in the “Print Criteria” column of the NNDSS event code list, available at

http://www.cdc.gov/ncphi/diss/nndss/phs/files/nndss_event_code_list_january_2009_cleared.pdf.

The NNDSS website is updated annually to include the latest national surveillance case definitions approved by the Council of State and Territorial Epidemiologists for enumerating data on nationally notifiable infectious diseases.

Population estimates for the states are from the National Center for Health Statistics. Estimates of the July 1, 2000 through July 1, 2008, U.S. resident population are from the vintage 2008 postcensal series (by year, county, age, sex, race, and Hispanic origin), and are available at http://www.cdc.gov/nchs/nvss/bridged_race.htm. September 2, 2009 population estimates for territories are 2008 estimates from the U.S. Census Bureau (2).

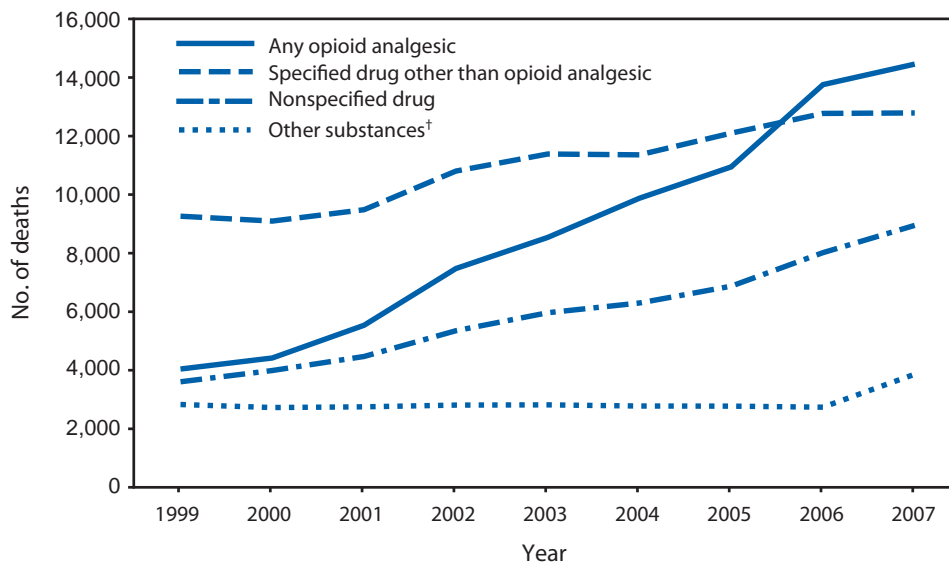
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QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Number of Poisoning Deaths* Involving Opioid Analgesics and Other Drugs or Substances — United States, 1999–2007



* Poisoning deaths include those resulting from drug overdose, those resulting from other misuse of drugs, and those associated with solid or liquid biologics, gases or vapors, or other substances. Poisoning deaths are from all manners, including unintentional, suicide, homicide, undetermined intent, legal intervention, and operations of war. Among deaths with poisoning as the underlying cause, the following *International Classification of Diseases, Tenth Revision* (ICD-10) codes were used to indicate whether drugs were involved and the type of drug involved in poisoning deaths: any opioid analgesic (any of the codes T40.2–T40.4); nonspecified drug (T50.9 only); specified drug other than opioid analgesic (any of the codes T36–T50.8 other than T40.2–T40.4); or other substances (none of the codes T36–T50.9).

† Poisoning deaths associated with only solid or liquid biologics, gases or vapors, or other substances, and exclusive of drug involvement.

From 1999 to 2007, the number of U.S. poisoning deaths involving any opioid analgesic (e.g., oxycodone, methadone, or hydrocodone) more than tripled, from 4,041 to 14,459, or 36% of the 40,059 total poisoning deaths in 2007. In 1999, opioid analgesics were involved in 20% of the 19,741 poisoning deaths. During 1999–2007, the number of poisoning deaths involving specified drugs other than opioid analgesics increased from 9,262 to 12,790, and the number involving nonspecified drugs increased from 3,608 to 8,947.

Sources: National Vital Statistics System mortality data. Available at <http://www.cdc.gov/nchs/deaths.htm>.

Warner M, Chen LH, Makuc DM. Increase in fatal poisonings involving opioid analgesics in the United States, 1999–2006. NCHS data brief, no 22. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2009. Available at <http://www.cdc.gov/nchs/data/databriefs/db22.htm>.

MMWR Morbidity and Mortality Weekly Report

TABLE 2. Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Total resident population (in thousands)	AIDS†	Anthrax
United States	304,057	36,870	1
New England	14,303	805	1
Connecticut	3,501	308	—
Maine	1,316	48	—
Massachusetts	6,498	307	—
New Hampshire	1,316	38	1
Rhode Island	1,051	100	—
Vermont	621	4	—
Mid. Atlantic	40,622	6,339	—
New Jersey	8,683	908	—
New York (Upstate)	11,127	1,411	—
New York City	8,364	2,551	—
Pennsylvania	12,448	1,469	—
E.N. Central	46,396	3,564	—
Illinois	12,902	1,202	—
Indiana	6,377	425	—
Michigan	10,003	731	—
Ohio	11,486	914	—
Wisconsin	5,628	292	—
W.N. Central	20,165	1,230	—
Iowa	3,003	123	—
Kansas	2,802	136	—
Minnesota	5,220	358	—
Missouri	5,912	504	—
Nebraska	1,783	77	—
North Dakota	641	12	—
South Dakota	804	20	—
S. Atlantic	58,398	11,953	—
Delaware	873	144	—
District of Columbia	592	556	—
Florida	18,328	5,401	—
Georgia	9,686	1,606	—
Maryland	5,634	1,057	—
North Carolina	9,222	1,521	—
South Carolina	4,480	727	—
Virginia	7,769	869	—
West Virginia	1,814	72	—
E.S. Central	18,085	2,334	—
Alabama	4,662	594	—
Kentucky	4,269	289	—
Mississippi	2,939	549	—
Tennessee	6,215	902	—
W.S. Central	35,235	4,594	—
Arkansas	2,855	133	—
Louisiana	4,411	1,223	—
Oklahoma	3,642	123	—
Texas	24,327	3,115	—
Mountain	21,783	1,553	—
Arizona	6,500	540	—
Colorado	4,939	348	—
Idaho	1,524	32	—
Montana	967	27	—
Nevada	2,600	333	—
New Mexico	1,984	148	—
Utah	2,736	107	—
Wyoming	533	18	—
Pacific	49,070	4,498	—
Alaska	686	18	—
California	36,757	3,776	—
Hawaii	1,288	34	—
Oregon	3,790	203	—
Washington	6,549	467	—
Territories			
American Samoa	65	—	—
C.N.M.I.	55	1	—
Guam	176	3	—
Puerto Rico	3,955	474	—
U.S. Virgin Islands	110	18	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

* No cases of diphtheria; poliovirus infection, nonparalytic; Powassan virus disease, non-neuroinvasive; severe acute respiratory syndrome-associated coronavirus disease (SARS-CoV); smallpox, western equine encephalitis virus disease, neuroinvasive and non-neuroinvasive; and yellow fever were reported in 2009. Data on chronic hepatitis B and hepatitis C virus infection (past or present) are not included because they are undergoing data quality review. Data on human immunodeficiency virus (HIV) infections are not included because HIV infection reporting has been implemented on different dates and using different methods than for AIDS case reporting.

† Total number of acquired immunodeficiency syndrome (AIDS) cases reported to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), through December 31, 2009.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Arboviral diseases [§]								
	California serogroup virus		Eastern equine encephalitis virus		Powassan virus	St. Louis encephalitis virus		West Nile virus	
	Neuro-invasive	Nonneuro-invasive	Neuro-invasive	Nonneuro-invasive	Neuro-invasive	Neuro-invasive	Nonneuro-invasive	Neuro-invasive	Nonneuro-invasive
United States	46	9	3	1	6	11	1	386	334
New England	—	—	—	1	—	—	—	—	—
Connecticut	—	—	—	—	—	—	—	—	—
Maine	—	—	—	—	—	—	—	—	—
Massachusetts	—	—	—	—	—	—	—	—	—
New Hampshire	—	—	—	1	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—	—
Vermont	—	—	—	—	—	—	—	—	—
Mid. Atlantic	—	3	1	—	3	—	—	9	1
New Jersey	—	—	—	—	—	—	—	3	—
New York (Upstate)	—	3	1	—	3	—	—	3	1
New York City	—	—	—	—	—	—	—	3	—
Pennsylvania	—	—	—	—	—	—	—	—	—
E.N. Central	7	1	—	—	—	1	—	9	4
Illinois	—	1	—	—	—	—	—	5	—
Indiana	1	—	—	—	—	1	—	2	2
Michigan	—	—	—	—	—	—	—	1	—
Ohio	5	—	—	—	—	—	—	—	2
Wisconsin	1	—	—	—	—	—	—	1	—
W.N. Central	1	—	—	—	2	—	—	26	75
Iowa	—	—	—	—	—	—	—	—	5
Kansas	—	—	—	—	—	—	—	4	9
Minnesota	—	—	—	—	2	—	—	1	3
Missouri	1	—	—	—	—	—	—	4	1
Nebraska	—	—	—	—	—	—	—	11	41
North Dakota	—	—	—	—	—	—	—	—	1
South Dakota	—	—	—	—	—	—	—	6	15
S. Atlantic	28	5	1	—	1	—	—	16	2
Delaware	—	—	—	—	—	—	—	—	—
District of Columbia	—	—	—	—	—	—	—	2	—
Florida	—	—	—	—	—	—	—	2	1
Georgia	2	—	—	—	—	—	—	4	—
Maryland	—	—	—	—	—	—	—	—	1
North Carolina	16	—	1	—	—	—	—	—	—
South Carolina	—	—	—	—	—	—	—	3	—
Virginia	—	1	—	—	1	—	—	5	—
West Virginia	10	4	—	—	—	—	—	—	—
E.S. Central	9	—	—	—	—	2	—	38	27
Alabama	1	—	—	—	—	—	—	—	—
Kentucky	—	—	—	—	—	—	—	3	—
Mississippi	—	—	—	—	—	2	—	31	22
Tennessee	8	—	—	—	—	—	—	4	5
W.S. Central	—	—	1	—	—	7	1	117	35
Arkansas	—	—	—	—	—	4	—	6	—
Louisiana	—	—	1	—	—	—	—	10	11
Oklahoma	—	—	—	—	—	—	—	8	2
Texas	—	—	—	—	—	3	1	93	22
Mountain	1	—	—	—	—	—	—	77	123
Arizona	—	—	—	—	—	—	—	12	8
Colorado	—	—	—	—	—	—	—	36	67
Idaho	—	—	—	—	—	—	—	9	29
Montana	1	—	—	—	—	—	—	2	3
Nevada	—	—	—	—	—	—	—	7	5
New Mexico	—	—	—	—	—	—	—	6	2
Utah	—	—	—	—	—	—	—	1	1
Wyoming	—	—	—	—	—	—	—	4	8
Pacific	—	—	—	—	—	1	—	94	67
Alaska	—	—	—	—	—	—	—	—	—
California	—	—	—	—	—	—	—	67	45
Hawaii	—	—	—	—	—	—	—	—	—
Oregon	—	—	—	—	—	—	—	1	10
Washington	—	—	—	—	—	1	—	26	12
Territories	—	—	—	—	—	—	—	—	—
American Samoa	—	—	—	—	—	—	—	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—
Guam	—	—	—	—	—	—	—	—	—
Puerto Rico	—	—	—	—	—	—	—	—	—
U.S. Virgin Islands	—	—	—	—	—	—	—	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

[§] Totals reported to the Division of Vector-Borne Infectious Diseases, National Center for Emerging and Zoonotic Infectious Diseases (NCZVED) (ArboNET Surveillance), as of May 28, 2010.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Botulism				Brucellosis	Chancroid**	Chlamydia**
	Total	Foodborne	Infant	Other [¶]			
United States	118	10	83	25	115	28	1,244,180
New England	—	—	—	—	1	3	40,776
Connecticut	—	—	—	—	—	—	12,127
Maine	—	—	—	—	—	—	2,431
Massachusetts	—	—	—	—	1	3	19,315
New Hampshire	—	—	—	—	—	—	2,102
Rhode Island	—	—	—	—	—	—	3,615
Vermont	—	—	—	—	—	—	1,186
Mid. Atlantic	22	—	22	—	4	—	159,111
New Jersey	11	—	11	—	1	—	23,974
New York (Upstate)	1	—	1	—	1	—	33,722
New York City	1	—	1	—	—	—	58,347
Pennsylvania	9	—	9	—	2	—	43,068
E.N. Central	7	1	5	1	23	7	197,133
Illinois	—	—	—	—	4	—	60,542
Indiana	—	—	—	—	4	1	21,732
Michigan	1	—	—	1	10	—	45,714
Ohio	5	1	4	—	4	—	48,239
Wisconsin	1	—	1	—	1	6	20,906
W.N. Central	4	1	3	—	5	—	70,396
Iowa	—	—	—	—	2	—	9,406
Kansas	1	—	1	—	—	—	10,510
Minnesota	—	—	—	—	—	—	14,197
Missouri	2	—	2	—	1	—	25,868
Nebraska	1	1	—	—	1	—	5,443
North Dakota	—	—	—	—	1	—	1,957
South Dakota	—	—	—	—	—	—	3,015
S. Atlantic	10	—	10	—	30	9	249,979
Delaware	2	—	2	—	—	—	4,718
District of Columbia	—	—	—	—	1	—	6,549
Florida	1	—	1	—	9	1	72,931
Georgia	—	—	—	—	10	—	39,828
Maryland	3	—	3	—	—	—	23,747
North Carolina	—	—	—	—	1	6	41,045
South Carolina	—	—	—	—	4	1	26,654
Virginia	4	—	4	—	5	1	30,903
West Virginia	—	—	—	—	—	—	3,604
E.S. Central	2	—	2	—	3	—	92,522
Alabama	1	—	1	—	3	—	25,929
Kentucky	—	—	—	—	—	—	13,293
Mississippi	—	—	—	—	—	—	23,589
Tennessee	1	—	1	—	—	—	29,711
W.S. Central	8	—	8	—	15	8	162,915
Arkansas	3	—	3	—	—	—	14,354
Louisiana	1	—	1	—	1	—	27,628
Oklahoma	—	—	—	—	2	—	15,023
Texas	4	—	4	—	12	8	105,910
Mountain	7	1	6	—	5	—	80,476
Arizona	3	—	3	—	3	—	26,002
Colorado	1	—	1	—	—	—	19,998
Idaho	—	—	—	—	—	—	3,842
Montana	—	—	—	—	—	—	2,988
Nevada	1	—	1	N	—	—	10,045
New Mexico	1	1	—	—	2	—	9,493
Utah	1	—	1	—	—	—	6,145
Wyoming	—	—	—	—	—	—	1,963
Pacific	58	7	27	24	29	1	190,872
Alaska	1	—	1	—	—	—	5,166
California	43	3	20	20	24	1	146,796
Hawaii	4	—	4	—	1	—	6,026
Oregon	—	—	—	—	3	—	11,497
Washington	10	4	2	4	1	—	21,387
Territories							
American Samoa	—	—	—	—	—	—	—
C.N.M.I.	—	—	—	—	—	—	—
Guam	—	—	—	—	1	—	620
Puerto Rico	—	—	—	—	—	—	7,302
U.S. Virgin Islands	—	—	—	—	—	—	488

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

[¶] Includes cases reported as wound and unspecified botulism.

** Totals reported to the Division of STD Prevention, NCHHSTP, as of May 7, 2010.

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TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Cholera	Coccidioidomycosis	Cryptosporidiosis			Cyclosporiasis
			Total	Confirmed	Probable	
United States	10	10,438	7,654	7,393	261	141
New England	1	1	470	458	12	26
Connecticut	—	N	38	38	—	18
Maine	—	N	67	55	12	N
Massachusetts	1	N	181	181	—	7
New Hampshire	—	1	83	83	—	1
Rhode Island	—	—	22	22	—	—
Vermont	—	N	79	79	—	N
Mid. Atlantic	3	—	821	820	1	39
New Jersey	—	N	53	53	—	8
New York (Upstate)	—	N	222	222	—	12
New York City	2	N	80	80	—	19
Pennsylvania	1	N	466	465	1	N
E.N. Central	1	38	1,727	1,716	11	9
Illinois	—	N	154	154	—	5
Indiana	1	N	288	284	4	1
Michigan	—	22	285	282	3	2
Ohio	—	16	388	384	4	—
Wisconsin	—	N	612	612	—	1
W.N. Central	—	11	1,162	1,124	38	2
Iowa	—	N	232	211	21	1
Kansas	—	N	104	104	—	—
Minnesota	—	—	347	347	—	1
Missouri	—	11	193	183	10	—
Nebraska	—	N	117	116	1	N
North Dakota	—	N	31	31	—	N
South Dakota	—	N	138	132	6	—
S. Atlantic	—	5	1,226	1,138	88	52
Delaware	—	1	12	12	—	—
District of Columbia	—	—	8	8	—	2
Florida	—	N	497	456	41	38
Georgia	—	N	336	336	—	6
Maryland	—	4	43	43	—	2
North Carolina	—	N	159	116	43	2
South Carolina	—	N	62	61	1	1
Virginia	—	N	86	86	—	1
West Virginia	—	N	23	20	3	—
E.S. Central	1	—	235	231	4	2
Alabama	—	N	68	68	—	N
Kentucky	—	N	67	67	—	N
Mississippi	—	N	19	19	—	N
Tennessee	1	N	81	77	4	2
W.S. Central	2	2	677	596	81	11
Arkansas	—	N	60	60	—	—
Louisiana	—	2	56	56	—	1
Oklahoma	—	N	142	128	14	—
Texas	2	N	419	352	67	10
Mountain	—	10,381	567	560	7	—
Arizona	—	10,233	34	34	—	—
Colorado	—	N	138	137	1	—
Idaho	—	N	98	97	1	N
Montana	—	N	57	57	—	N
Nevada	—	61	25	25	—	N
New Mexico	—	47	149	146	3	—
Utah	—	39	39	39	—	—
Wyoming	—	1	27	25	2	—
Pacific	2	—	769	750	19	—
Alaska	—	N	8	8	—	—
California	2	—	459	459	—	—
Hawaii	—	N	1	1	—	—
Oregon	—	N	199	185	14	—
Washington	—	N	102	97	5	—
Territories	—	—	—	—	—	—
American Samoa	—	N	N	—	—	N
C.N.M.I.	—	—	—	—	—	—
Guam	—	—	—	—	—	—
Puerto Rico	—	N	N	—	—	N
U.S. Virgin Islands	—	—	—	—	—	—

N: Not reportable.

U: Unavailable.

—: No reported cases.

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

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Ehrlichiosis/Anaplasmosis				Giardiasis	Gonorrhea**
	<i>Ehrlichia chaffeensis</i>	<i>Ehrlichia ewingii</i>	<i>Anaplasma phagocytophilum</i>	Undetermined		
United States	944	7	1,161	155	19,399	301,174
New England	23	—	189	2	1,757	5,162
Connecticut	—	—	22	—	290	2,558
Maine	1	—	15	—	223	143
Massachusetts	9	—	99	—	751	1,976
New Hampshire	4	—	18	2	197	113
Rhode Island	8	—	35	—	75	322
Vermont	1	—	N	—	221	50
Mid. Atlantic	196	—	322	27	3,520	31,904
New Jersey	102	—	70	—	430	4,762
New York (Upstate)	70	—	241	8	1,419	6,111
New York City	10	—	9	1	832	10,893
Pennsylvania	14	—	2	18	839	10,138
E.N. Central	84	1	283	55	2,917	62,690
Illinois	33	—	6	3	613	19,962
Indiana	—	—	—	21	312	6,835
Michigan	6	—	—	—	672	14,704
Ohio	12	1	1	—	806	15,988
Wisconsin	33	—	276	31	514	5,201
W.N. Central	160	5	323	51	1,971	14,825
Iowa	N	N	N	N	291	1,658
Kansas	6	—	1	—	161	2,505
Minnesota	8	—	317	38	674	2,303
Missouri	144	5	5	13	524	6,488
Nebraska	2	N	—	—	177	1,376
North Dakota	N	N	N	N	32	151
South Dakota	—	—	—	—	112	344
S. Atlantic	208	1	14	1	3,774	74,944
Delaware	22	—	2	—	29	971
District of Columbia	N	N	N	N	73	2,561
Florida	11	—	3	—	1,981	20,878
Georgia	18	—	1	—	747	13,687
Maryland	33	—	1	—	277	6,395
North Carolina	53	—	3	—	N	13,870
South Carolina	2	1	—	—	106	8,318
Virginia	68	—	4	—	503	7,789
West Virginia	1	—	—	1	58	475
E.S. Central	99	—	3	16	434	26,492
Alabama	8	—	2	N	204	7,498
Kentucky	12	—	—	N	N	3,827
Mississippi	6	—	—	—	N	7,241
Tennessee	73	—	1	16	230	7,926
W.S. Central	171	—	25	1	529	47,424
Arkansas	38	—	6	—	155	4,460
Louisiana	—	—	—	—	203	8,996
Oklahoma	129	—	17	—	171	4,673
Texas	4	—	2	1	N	29,295
Mountain	—	—	—	1	1,645	9,486
Arizona	—	—	—	1	198	3,250
Colorado	N	N	N	N	499	2,823
Idaho	N	N	N	N	208	110
Montana	N	N	N	N	133	80
Nevada	N	—	N	N	109	1,726
New Mexico	N	N	N	N	113	1,082
Utah	—	—	—	—	312	341
Wyoming	—	—	—	—	73	74
Pacific	3	—	2	1	2,852	28,247
Alaska	N	N	N	N	111	990
California	3	—	2	1	1,832	23,228
Hawaii	N	N	N	N	21	631
Oregon	—	—	—	—	421	1,113
Washington	N	N	N	N	467	2,285
Territories						
American Samoa	N	N	N	N	—	—
C.N.M.I.	—	—	—	—	—	—
Guam	N	N	N	N	3	59
Puerto Rico	N	N	N	N	156	230
U.S. Virgin Islands	—	—	—	—	—	115

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

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TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	<i>Haemophilus influenzae</i> , invasive disease				Hansen disease (leprosy)	Hantavirus pulmonary syndrome	Hemolytic uremic syndrome, postdiarrheal
	All ages, serotypes	Age <5 yrs					
		Serotype b	Nonserotype b	Unknown serotype			
United States	3,022	35	236	178	103	20	242
New England	216	3	10	3	9	—	17
Connecticut	64	—	3	—	1	N	10
Maine	21	2	2	1	N	—	2
Massachusetts	100	—	3	—	6	—	2
New Hampshire	14	—	—	—	—	—	1
Rhode Island	12	—	—	—	2	—	1
Vermont	5	1	2	2	N	—	1
Mid. Atlantic	601	10	13	46	5	—	20
New Jersey	132	—	—	11	1	—	3
New York (Upstate)	172	—	—	16	N	—	11
New York City	78	—	—	15	3	—	6
Pennsylvania	219	10	13	4	1	—	N
E.N. Central	468	3	31	27	4	—	31
Illinois	182	—	—	20	1	—	1
Indiana	84	2	7	1	—	—	—
Michigan	24	1	6	—	1	—	7
Ohio	101	—	18	2	2	—	14
Wisconsin	77	—	—	4	—	—	9
W.N. Central	192	1	10	16	—	2	42
Iowa	1	1	—	—	—	—	9
Kansas	14	—	—	—	—	—	2
Minnesota	79	—	10	2	—	1	17
Missouri	63	—	—	9	—	—	7
Nebraska	25	—	—	3	—	—	4
North Dakota	10	—	—	2	N	1	—
South Dakota	—	—	—	—	—	—	3
S. Atlantic	795	2	68	24	7	—	24
Delaware	5	—	—	1	—	—	—
District of Columbia	6	—	—	—	—	—	—
Florida	222	1	24	4	7	—	5
Georgia	162	1	18	5	—	—	5
Maryland	94	—	7	—	—	—	4
North Carolina	105	—	—	12	—	—	4
South Carolina	79	—	8	1	—	—	2
Virginia	88	—	8	1	—	—	2
West Virginia	34	—	3	—	N	—	2
E.S. Central	183	1	10	12	3	—	23
Alabama	43	—	1	—	—	N	6
Kentucky	21	—	—	6	—	—	N
Mississippi	8	—	—	2	2	—	—
Tennessee	111	1	9	4	1	—	17
W.S. Central	148	5	13	7	28	1	32
Arkansas	24	—	3	1	4	1	7
Louisiana	24	—	—	5	—	—	2
Oklahoma	93	2	10	1	N	—	17
Texas	7	3	—	—	24	—	6
Mountain	260	8	47	16	4	9	25
Arizona	84	1	17	1	—	1	2
Colorado	74	2	9	—	2	2	9
Idaho	5	—	—	2	—	—	3
Montana	2	1	—	—	—	—	2
Nevada	19	2	2	4	1	—	N
New Mexico	36	—	4	9	—	5	3
Utah	37	2	14	—	1	1	6
Wyoming	3	—	1	—	—	—	—
Pacific	159	2	34	27	43	8	28
Alaska	21	—	—	5	—	N	N
California	41	—	28	8	19	3	24
Hawaii	32	1	1	4	24	—	—
Oregon	56	—	—	7	N	2	4
Washington	9	1	5	3	N	3	—
Territories							
American Samoa	—	—	—	—	—	N	N
C.N.M.I.	—	—	—	—	—	—	—
Guam	—	—	—	—	6	N	—
Puerto Rico	4	—	—	3	—	—	N
U.S. Virgin Islands	—	—	—	—	—	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Hepatitis, viral, acute			Influenza-associated pediatric mortality ^{††}	Legionellosis	Listeriosis	Lyme disease			Malaria
	A	B	C				Total	Confirmed	Probable	
United States	1,987	3,405	782	358	3,522	851	38,468	29,959	8,509	1,451
New England	108	54	66	10	203	77	12,440	9,030	3,410	62
Connecticut	18	16	53	1	55	26	4,156	2,751	1,405	7
Maine	1	15	2	—	10	4	970	791	179	2
Massachusetts	71	17	10	5	95	35	5,256	4,019	1,237	40
New Hampshire	7	6	N	1	15	2	1,415	996	419	4
Rhode Island	9	U	U	3	21	6	235	150	85	5
Vermont	2	—	1	—	7	4	408	323	85	4
Mid. Atlantic	275	328	99	34	1,196	205	16,346	13,682	2,664	413
New Jersey	71	93	7	6	218	45	4,973	4,598	375	103
New York (Upstate)	48	57	48	15	368	74	4,600	3,493	1,107	53
New York City	88	72	5	8	227	38	1,051	641	410	204
Pennsylvania	68	106	39	5	383	48	5,722	4,950	772	53
E.N. Central	284	436	92	40	723	119	2,969	2,281	688	173
Illinois	126	118	6	8	135	38	136	136	—	70
Indiana	17	74	22	5	62	9	83	61	22	25
Michigan	72	132	35	6	169	26	103	81	22	31
Ohio	36	88	26	15	282	30	58	51	7	37
Wisconsin	33	24	3	6	75	16	2,589	1,952	637	10
W.N. Central	126	154	33	20	135	25	1,693	1,176	517	84
Iowa	38	37	11	3	24	4	108	77	31	10
Kansas	12	6	1	2	7	1	18	18	—	8
Minnesota	29	38	15	9	28	3	1,543	1,063	480	43
Missouri	21	47	—	4	59	14	3	3	—	13
Nebraska	21	22	3	—	13	—	5	4	1	8
North Dakota	2	—	2	—	2	2	15	10	5	1
South Dakota	3	4	1	2	2	1	1	1	—	1
S. Atlantic	429	913	174	54	605	142	4,466	3,507	959	367
Delaware	4	34	U	2	19	7	984	984	—	5
District of Columbia	1	10	1	—	24	1	61	53	8	17
Florida	171	299	53	12	193	25	110	77	33	93
Georgia	54	144	31	8	60	30	40	40	—	68
Maryland	47	72	23	5	157	14	2,024	1,466	558	80
North Carolina	41	104	24	10	62	27	96	21	75	32
South Carolina	63	56	1	6	13	12	42	25	17	7
Virginia	42	110	10	8	67	16	908	698	210	61
West Virginia	6	84	31	3	10	10	201	143	58	4
E.S. Central	46	348	107	25	142	40	41	14	27	35
Alabama	12	89	10	2	20	14	3	3	—	9
Kentucky	12	90	64	5	52	7	1	1	—	13
Mississippi	9	33	U	4	4	5	—	—	—	4
Tennessee	13	136	33	14	66	14	37	10	27	9
W.S. Central	209	680	74	71	151	59	278	90	188	102
Arkansas	12	65	2	4	8	8	—	—	—	5
Louisiana	6	73	9	7	18	16	—	—	—	8
Oklahoma	7	122	27	10	10	8	2	2	—	2
Texas	184	420	36	50	115	27	276	88	188	87
Mountain	163	132	53	56	151	31	57	28	29	48
Arizona	68	42	U	24	49	8	7	3	4	10
Colorado	52	27	28	14	31	9	1	—	1	26
Idaho	5	11	7	1	8	3	16	4	12	3
Montana	6	1	1	1	8	—	3	3	—	5
Nevada	15	34	5	2	14	3	13	10	3	—
New Mexico	8	8	6	9	9	3	5	1	4	—
Utah	7	5	6	5	28	2	9	6	3	4
Wyoming	2	4	—	—	4	3	3	1	2	—
Pacific	347	360	84	48	216	153	178	151	27	167
Alaska	2	4	U	1	1	—	7	7	—	2
California	273	258	43	36	167	106	117	117	—	126
Hawaii	11	6	U	1	1	4	N	N	N	1
Oregon	19	44	19	4	18	19	38	12	26	12
Washington	42	48	22	6	29	24	16	15	1	26
Territories										
American Samoa	—	—	—	—	—	—	N	N	N	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	7	57	49	1	—	—	—	—	—	—
Puerto Rico	21	34	—	—	3	2	N	N	N	5
U.S. Virgin Islands	—	—	—	—	—	—	—	—	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

†† Totals reported to the Division of Influenza, National Center for Immunization and Respiratory Diseases (NCIRD), as of December 31, 2009.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Measles			Meningococcal disease					Mumps
	Total	Indigenous	Imported ^{§§}	All serogroups	Serogroup A, C, Y, and W-135	Serogroup B	Other serogroup	Unknown serogroup	
United States	71	51	20	980	301	174	23	482	1,991
New England	2	1	1	35	19	6	4	6	27
Connecticut	—	—	—	7	4	1	—	2	1
Maine	—	—	—	4	2	—	2	—	6
Massachusetts	2	1	1	16	9	5	—	2	15
New Hampshire	—	—	—	3	1	—	—	2	—
Rhode Island	—	—	—	4	3	—	1	—	3
Vermont	—	—	—	1	—	—	1	—	2
Mid. Atlantic	34	29	5	110	25	32	—	53	1,668
New Jersey	2	2	—	19	—	—	—	19	200
New York (Upstate)	—	—	—	27	12	9	—	6	647
New York City	18	15	3	17	—	—	—	17	806
Pennsylvania	14	12	2	47	13	23	—	11	15
E.N. Central	1	1	—	169	54	43	2	70	75
Illinois	—	—	—	47	—	—	—	47	47
Indiana	—	—	—	34	17	15	2	—	2
Michigan	—	—	—	21	11	5	—	5	11
Ohio	1	1	—	43	14	13	—	16	6
Wisconsin	—	—	—	24	12	10	—	2	9
W.N. Central	8	8	—	90	19	11	2	58	53
Iowa	1	1	—	15	9	4	2	—	15
Kansas	—	—	—	14	—	—	—	14	7
Minnesota	1	1	—	16	7	6	—	3	7
Missouri	6	6	—	27	—	—	—	27	15
Nebraska	—	—	—	11	1	1	—	9	7
North Dakota	—	—	—	2	2	—	—	—	—
South Dakota	—	—	—	5	—	—	—	5	2
S. Atlantic	14	6	8	165	76	38	5	46	45
Delaware	—	—	—	2	—	—	—	2	1
District of Columbia	2	—	2	—	—	—	—	—	2
Florida	5	—	5	52	33	12	—	7	18
Georgia	1	1	—	31	19	6	2	4	—
Maryland	4	3	1	12	6	6	—	—	8
North Carolina	—	—	—	31	7	1	2	21	4
South Carolina	—	—	—	11	4	7	—	—	2
Virginia	1	1	—	18	4	2	—	12	9
West Virginia	1	1	—	8	3	4	1	—	1
E.S. Central	1	—	1	37	9	4	1	23	13
Alabama	—	—	—	12	4	4	1	3	6
Kentucky	—	—	—	6	—	—	—	6	1
Mississippi	—	—	—	4	1	—	—	3	1
Tennessee	1	—	1	15	4	—	—	11	5
W.S. Central	1	—	1	96	41	19	2	34	48
Arkansas	—	—	—	9	6	1	—	2	4
Louisiana	—	—	—	18	—	—	—	18	1
Oklahoma	—	—	—	16	6	7	2	1	3
Texas	1	—	1	53	29	11	—	13	40
Mountain	—	—	—	68	47	8	6	7	27
Arizona	—	—	—	15	9	1	4	1	10
Colorado	—	—	—	24	19	4	1	—	6
Idaho	—	—	—	7	4	—	—	3	3
Montana	—	—	—	5	4	1	—	—	—
Nevada	—	—	—	6	5	—	—	1	3
New Mexico	—	—	—	3	3	—	—	—	1
Utah	—	—	—	3	2	1	—	—	4
Wyoming	—	—	—	5	1	1	1	2	—
Pacific	10	6	4	210	11	13	1	185	35
Alaska	—	—	—	6	—	—	—	6	6
California	9	6	3	131	—	—	—	131	16
Hawaii	—	—	—	5	1	—	1	3	5
Oregon	—	—	—	43	—	—	—	43	2
Washington	1	—	1	25	10	13	—	2	6
Territories									
American Samoa	—	—	—	—	—	—	—	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—
Guam	—	—	—	—	—	—	—	—	—
Puerto Rico	—	—	—	1	—	—	—	1	6
U.S. Virgin Islands	—	—	—	—	—	—	—	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

^{§§} Imported cases include only those directly related to importation from other countries.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Novel influenza A virus infections ^{¶¶}	Pertussis	Plague	Poliomyelitis, paralytic	Psittacosis	Q Fever			Rabies	
						Total	Acute	Chronic	Animal	Human
United States	43,696	16,858	8	1	9	113	93	20	5,343	4
New England	3,726	626	—	—	—	1	1	—	354	—
Connecticut	1,713	56	—	—	N	—	—	—	153	—
Maine	145	80	—	—	—	—	—	—	56	—
Massachusetts	1,370	358	—	—	—	1	1	—	—	—
New Hampshire	247	76	—	—	—	N	N	N	34	—
Rhode Island	192	45	—	—	—	—	—	—	45	—
Vermont	59	11	—	—	—	N	N	N	66	—
Mid. Atlantic	6,112	1,222	—	—	5	15	12	3	852	—
New Jersey	1,414	244	—	—	2	2	1	1	287	—
New York (Upstate)	1,424	265	—	—	—	2	—	2	436	—
New York City	1,314	98	—	—	—	1	1	—	29	—
Pennsylvania	1,960	615	—	—	3	10	10	—	100	—
E.N. Central	10,620	3,206	1	—	—	9	9	—	220	2
Illinois	3,404	648	1	—	—	—	—	—	82	—
Indiana	291	392	—	—	—	1	1	—	25	1
Michigan	515	900	—	—	—	1	1	—	66	1
Ohio	188	1,096	—	—	—	—	—	—	47	—
Wisconsin	6,222	170	—	—	—	7	7	—	N	—
W.N. Central	1,539	2,840	—	1	—	20	16	4	391	—
Iowa	167	235	—	—	—	N	N	N	35	—
Kansas	205	240	—	—	—	2	2	—	76	—
Minnesota	670	1,121	—	1	—	2	2	—	69	—
Missouri	76	1,015	—	—	—	3	3	—	65	—
Nebraska	313	141	—	—	—	4	2	2	77	—
North Dakota	63	30	—	—	—	—	—	—	16	—
South Dakota	45	58	—	—	—	9	7	2	53	—
S. Atlantic	5,626	1,632	—	—	1	7	6	1	2,103	1
Delaware	381	13	—	—	—	1	1	—	—	—
District of Columbia	45	7	—	—	—	1	1	—	—	—
Florida	2,915	497	—	—	—	1	1	—	161	—
Georgia	222	223	—	—	—	1	1	—	405	—
Maryland	766	148	—	—	—	—	—	—	384	—
North Carolina	483	220	—	—	—	1	1	—	468	—
South Carolina	244	262	—	—	1	—	—	—	—	—
Virginia	327	222	—	—	—	1	1	—	566	1
West Virginia	243	40	—	—	—	1	—	1	119	—
E.S. Central	1,155	803	—	—	—	3	1	2	138	—
Alabama	477	305	N	—	—	1	1	—	—	—
Kentucky	143	226	—	—	—	2	—	2	46	—
Mississippi	252	75	—	—	—	—	—	—	4	—
Tennessee	283	197	—	—	—	—	—	—	88	—
W.S. Central	5,703	3,993	—	—	—	17	10	7	925	1
Arkansas	131	369	—	—	—	2	2	—	47	—
Louisiana	232	149	—	—	—	—	—	—	—	—
Oklahoma	189	117	—	—	—	2	—	2	48	—
Texas	5,151	3,358	—	—	N	13	8	5	830	1
Mountain	3,176	1,019	7	—	—	18	15	3	108	—
Arizona	947	277	—	—	—	4	4	—	N	—
Colorado	171	231	—	—	—	9	7	2	—	—
Idaho	166	99	—	—	—	—	—	—	8	—
Montana	94	61	—	—	—	—	—	—	25	—
Nevada	467	24	—	—	—	1	1	—	6	—
New Mexico	232	85	6	—	—	4	3	1	26	—
Utah	988	220	1	—	—	—	—	—	13	—
Wyoming	111	22	—	—	—	—	—	—	30	—
Pacific	6,039	1,517	—	—	3	23	23	—	252	—
Alaska	272	59	—	—	—	1	1	—	15	—
California	3,161	869	—	—	3	20	20	—	226	—
Hawaii	1,424	46	—	—	—	1	1	—	—	—
Oregon	524	252	—	—	—	—	—	—	11	—
Washington	658	291	—	—	—	1	1	—	—	—
Territories										
American Samoa	8	—	—	—	N	N	—	N	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	1	2	—	—	—	N	—	N	—	—
Puerto Rico	20	1	—	—	N	—	—	—	41	—
U.S. Virgin Islands	49	—	—	—	—	—	—	—	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

^{¶¶} Totals reported to the Division of Influenza, National Center for Immunization and Respiratory Diseases (NCIRD) for confirmed and probable case counts. After recognition of the first cases of infection with 2009 pandemic influenza A (H1N1) virus in April 2009, the Centers for Disease Control and Prevention (CDC) and state health departments initiated enhanced surveillance to identify additional cases. From April 15 to July 24, 2009, state and territorial health departments were requested to submit a daily line list of individual confirmed cases of 2009 pandemic influenza A (H1N1) virus infections directly to the Influenza Division at CDC. As of July 24, 2009, a total of 43,771 cases were reported from all 50 states, Washington DC, and four territories. This table reflects cases reported by this method.

In addition, three cases of human infection with novel influenza A viruses, different from the 2009 pandemic influenza A (H1N1) strain, were identified by state health departments and reported to CDC during 2009. These three cases, identified in Iowa [2] and Kansas, were isolated cases of human infections and one virus was identified as a swine influenza A (H1N1) virus, and the remaining two cases were swine-lineage influenza A (H3N2) viruses.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Rocky Mountain spotted fever***			Rubella	Rubella, congenital syndrome	Salmonellosis	Shiga toxin-producing <i>E. Coli</i> (STEC)†††		Shigellosis
	Total	Confirmed	Probable						
United States	1,815	151	1,662	3	2	49,192	4,643	15,931	
New England	14	2	12	1	—	2,174	292	346	
Connecticut	—	—	—	—	—	430	67	43	
Maine	5	—	5	—	—	121	19	5	
Massachusetts	7	1	6	1	—	1,155	106	245	
New Hampshire	1	—	1	—	—	261	37	21	
Rhode Island	—	—	—	—	—	144	38	27	
Vermont	1	1	—	—	—	63	25	5	
Mid. Atlantic	110	13	97	—	1	5,514	435	2,800	
New Jersey	63	2	61	—	1	1,132	106	587	
New York (Upstate)	16	1	15	—	—	1,370	158	241	
New York City	8	1	7	—	—	1,253	57	447	
Pennsylvania	23	9	14	—	—	1,759	114	1,525	
E.N. Central	90	9	81	—	—	5,169	717	2,514	
Illinois	49	1	48	—	—	1,484	166	620	
Indiana	13	3	10	—	—	629	96	80	
Michigan	5	4	1	—	—	960	140	219	
Ohio	18	—	18	—	—	1,407	133	1,096	
Wisconsin	5	1	4	—	—	689	182	499	
W.N. Central	276	20	256	1	—	2,679	751	1,439	
Iowa	5	1	4	—	—	408	163	53	
Kansas	1	1	—	—	—	398	54	214	
Minnesota	5	3	2	1	—	575	219	79	
Missouri	253	7	246	—	—	656	143	1,046	
Nebraska	12	8	4	—	—	341	86	34	
North Dakota	—	—	—	—	—	103	15	9	
South Dakota	—	—	—	—	—	198	71	4	
S. Atlantic	451	68	383	—	—	14,478	691	2,365	
Delaware	19	—	19	—	—	142	13	151	
District of Columbia	1	—	1	—	—	100	3	28	
Florida	10	2	8	—	—	6,741	177	461	
Georgia	52	52	—	—	—	2,362	71	661	
Maryland	40	3	37	—	—	803	91	370	
North Carolina	255	7	248	—	—	1,810	112	359	
South Carolina	19	3	16	—	—	1,195	33	126	
Virginia	53	1	52	—	—	1,095	156	198	
West Virginia	2	—	2	—	—	230	35	11	
E.S. Central	268	9	257	—	—	3,077	215	813	
Alabama	68	3	65	—	—	932	47	156	
Kentucky	1	1	—	—	—	453	73	226	
Mississippi	9	—	9	—	—	899	6	52	
Tennessee	190	5	183	—	—	793	89	379	
W.S. Central	564	12	552	—	—	6,411	378	3,188	
Arkansas	184	1	183	—	—	615	44	318	
Louisiana	2	—	2	—	—	1,180	23	177	
Oklahoma	342	9	333	—	—	652	64	398	
Texas	36	2	34	—	—	3,964	247	2,295	
Mountain	41	17	24	—	—	3,028	561	1,138	
Arizona	23	11	12	—	—	1,086	68	806	
Colorado	1	1	—	—	—	619	168	102	
Idaho	1	—	1	—	—	174	92	8	
Montana	10	4	6	—	—	110	35	11	
Nevada	1	—	1	—	—	252	35	79	
New Mexico	1	—	1	—	—	369	38	104	
Utah	1	—	1	—	—	321	110	24	
Wyoming	3	1	2	—	—	97	15	4	
Pacific	1	1	—	1	1	6,662	603	1,328	
Alaska	N	—	—	—	N	68	1	4	
California	1	1	—	1	1	5,003	301	1,066	
Hawaii	N	—	—	—	—	338	11	49	
Oregon	—	—	—	—	—	433	84	56	
Washington	—	—	—	—	—	820	206	153	
Territories									
American Samoa	N	—	—	—	—	—	—	3	
C.N.M.I.	—	—	—	—	—	—	—	—	
Guam	N	—	—	—	—	11	—	13	
Puerto Rico	N	—	—	1	N	596	—	15	
U.S. Virgin Islands	—	—	—	—	—	—	—	—	

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

***Total case count includes 2 unknown case status reports.

†††Includes *E. coli* O157:H7; shiga toxin-positive, serogroup non-O157; and shiga toxin positive, not serogrouped.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Streptococcal disease, invasive, group A	Streptococcal toxic-shock syndrome	<i>Streptococcus pneumoniae</i> , invasive disease			Syphilis		
			Drug-resistant		Nondrug-resistant	All stages ^{§§§}	Congenital (age <1 yr)	Primary and secondary
			All ages	Age <5 yrs	Age <5 yrs			
United States	5,279	161	3,370	583	1,988	44,828	427	13,997
New England	316	29	158	22	96	769	3	341
Connecticut	89	22	100	18	20	179	2	65
Maine	21	N	23	2	7	15	—	4
Massachusetts	135	2	4	2	50	473	—	238
New Hampshire	38	2	—	—	11	37	—	14
Rhode Island	14	1	18	—	4	64	1	20
Vermont	19	2	13	—	4	1	—	—
Mid. Atlantic	1,026	32	207	42	306	6,540	26	1,735
New Jersey	163	3	—	—	70	890	7	212
New York (Upstate)	337	24	97	18	139	702	5	128
New York City	193	—	16	9	97	3,921	10	1,054
Pennsylvania	333	5	94	15	N	1,027	4	341
E.N. Central	942	57	690	101	324	3,834	28	1,542
Illinois	282	23	N	N	74	1,915	16	750
Indiana	167	23	251	33	49	324	1	158
Michigan	158	—	27	4	79	635	4	230
Ohio	209	11	412	64	78	794	7	360
Wisconsin	126	—	—	—	44	166	—	44
W.N. Central	414	9	366	79	115	1,010	11	308
Iowa	—	—	—	—	—	65	—	23
Kansas	39	—	52	18	N	151	3	32
Minnesota	189	7	227	53	45	217	1	71
Missouri	93	2	74	6	39	514	6	173
Nebraska	46	—	2	—	17	45	—	5
North Dakota	18	—	7	—	5	8	1	4
South Dakota	29	N	4	2	9	10	—	—
S. Atlantic	1,132	18	1,419	245	371	10,909	79	3,507
Delaware	11	—	18	3	—	87	1	27
District of Columbia	14	—	27	3	4	431	—	163
Florida	279	N	779	143	66	3,863	21	1,041
Georgia	238	—	460	87	98	2,717	14	953
Maryland	188	1	4	—	87	993	31	314
North Carolina	107	4	N	N	N	1,524	10	579
South Carolina	81	—	—	—	53	507	—	123
Virginia	173	1	N	N	47	755	2	299
West Virginia	41	12	131	9	16	32	—	8
E.S. Central	204	1	278	40	113	3,439	36	1,149
Alabama	N	N	N	N	N	1,138	13	417
Kentucky	40	1	78	8	N	239	2	92
Mississippi	N	N	55	12	16	745	8	237
Tennessee	164	—	145	20	97	1,317	13	403
W.S. Central	530	—	131	27	354	9,785	149	2,757
Arkansas	22	—	60	13	29	552	10	275
Louisiana	27	—	71	14	19	1,964	11	741
Oklahoma	155	N	N	N	61	296	2	97
Texas	326	N	N	N	245	6,973	126	1,644
Mountain	512	15	118	25	281	1,965	32	529
Arizona	161	—	—	—	128	1,084	28	231
Colorado	127	—	—	—	53	269	—	105
Idaho	10	—	N	N	9	31	1	3
Montana	N	N	—	—	N	5	—	4
Nevada	6	2	43	7	—	306	3	91
New Mexico	122	1	—	—	38	208	—	61
Utah	85	12	63	16	52	55	—	31
Wyoming	1	—	12	2	1	7	—	3
Pacific	203	—	3	2	28	6,577	63	2,129
Alaska	38	—	—	—	20	4	—	—
California	N	N	N	N	N	6,031	61	1,900
Hawaii	165	—	3	2	8	88	1	33
Oregon	N	N	N	N	N	132	—	57
Washington	N	N	N	N	N	322	1	139
Territories								
American Samoa	—	N	—	—	—	—	—	—
C.N.M.I.	—	—	—	—	—	—	—	—
Guam	—	—	—	—	—	12	—	2
Puerto Rico	N	N	—	—	N	724	5	227
U.S. Virgin Islands	—	—	—	—	—	2	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

^{§§§}Includes the following categories: primary, secondary, latent (including early latent, late latent, and latent syphilis of unknown duration), neurosyphilis, late (including late syphilis with clinical manifestations other than neurosyphilis), and congenital syphilis.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Tetanus	Toxic-shock syndrome	Trichinellosis	Tuberculosis ^{¶¶¶}	Tularemia	Typhoid fever
United States	18	74	13	11,545	93	397
New England	—	1	—	394	6	17
Connecticut	—	N	—	95	1	5
Maine	—	N	—	9	—	—
Massachusetts	—	—	—	243	4	10
New Hampshire	—	—	—	16	—	1
Rhode Island	—	1	—	24	—	1
Vermont	—	—	—	7	1	—
Mid. Atlantic	2	12	1	1,647	4	110
New Jersey	—	3	—	405	2	35
New York (Upstate)	—	2	—	246	—	10
New York City	—	3	1	760	1	53
Pennsylvania	2	4	—	236	1	12
E.N. Central	4	11	1	928	5	47
Illinois	—	1	—	418	3	15
Indiana	2	1	—	119	1	1
Michigan	—	6	1	144	—	11
Ohio	2	2	—	180	1	12
Wisconsin	—	1	—	67	—	8
W.N. Central	3	11	—	402	29	14
Iowa	—	2	—	42	1	—
Kansas	—	1	—	64	4	—
Minnesota	—	1	—	161	1	5
Missouri	2	4	—	80	13	7
Nebraska	1	3	—	32	5	—
North Dakota	—	—	—	5	—	—
South Dakota	—	—	—	18	5	2
S. Atlantic	—	6	—	2,221	3	67
Delaware	—	—	—	19	—	2
District of Columbia	—	—	—	41	—	2
Florida	—	N	—	821	1	19
Georgia	—	6	N	415	—	11
Maryland	—	N	—	218	1	16
North Carolina	—	—	—	251	1	5
South Carolina	—	—	—	164	—	—
Virginia	—	—	—	273	—	12
West Virginia	—	—	—	19	—	—
E.S. Central	1	6	—	569	5	4
Alabama	1	—	—	168	—	—
Kentucky	—	1	N	77	1	—
Mississippi	—	N	—	122	—	1
Tennessee	—	5	—	202	4	3
W.S. Central	1	3	—	1,879	24	25
Arkansas	—	3	N	82	17	—
Louisiana	—	—	—	194	—	—
Oklahoma	—	N	—	102	7	2
Texas	1	N	—	1,501	—	23
Mountain	2	3	2	536	8	12
Arizona	—	1	—	232	—	2
Colorado	—	1	2	85	3	6
Idaho	—	—	—	18	—	1
Montana	—	N	—	8	2	—
Nevada	1	1	—	106	—	3
New Mexico	—	—	—	48	1	—
Utah	1	—	—	37	—	—
Wyoming	—	—	—	2	2	—
Pacific	5	21	9	2,969	9	101
Alaska	—	N	1	37	2	1
California	5	21	8	2,470	1	90
Hawaii	—	N	—	117	—	5
Oregon	—	N	—	89	1	1
Washington	—	N	—	256	5	4
Territories						
American Samoa	—	N	N	4	—	1
C.N.M.I.	—	—	—	32	—	—
Guam	—	—	—	102	—	—
Puerto Rico	2	N	N	63	—	—
U.S. Virgin Islands	—	—	—	—	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

¶¶¶ Totals reported to the Division of Tuberculosis Elimination, NCHHSTP, as of May 14, 2010.

TABLE 2. (Continued) Reported cases of notifiable diseases,* by geographic division and area — United States, 2009

Area	Vancomycin-intermediate <i>Staphylococcus aureus</i>	Vancomycin-resistant <i>Staphylococcus aureus</i>	Varicella		Vibriosis
			Morbidity	Mortality****	
United States	78	1	20,480	2	789
New England	8	—	1,096	—	41
Connecticut	2	—	486	—	27
Maine	—	—	235	—	4
Massachusetts	6	—	4	—	—
New Hampshire	N	—	202	—	6
Rhode Island	—	—	57	—	2
Vermont	—	—	112	—	2
Mid. Atlantic	30	—	2,052	—	52
New Jersey	1	—	470	—	32
New York (Upstate)	11	—	N	N	N
New York City	16	—	—	—	20
Pennsylvania	2	—	1,582	—	N
E.N. Central	12	1	6,415	1	30
Illinois	—	—	1,582	—	13
Indiana	N	—	457	1	3
Michigan	4	1	1,888	—	2
Ohio	5	—	1,911	N	6
Wisconsin	3	—	577	—	6
W.N. Central	11	—	1,272	—	9
Iowa	—	—	N	N	N
Kansas	N	N	554	—	N
Minnesota	3	—	—	—	9
Missouri	8	—	573	—	—
Nebraska	—	—	N	N	N
North Dakota	—	—	92	—	N
South Dakota	—	—	53	—	N
S. Atlantic	9	—	2,567	1	238
Delaware	—	—	12	—	5
District of Columbia	N	N	30	—	1
Florida	6	—	1,125	1	112
Georgia	1	—	N	N	26
Maryland	—	—	N	—	34
North Carolina	2	—	N	N	15
South Carolina	—	—	134	—	16
Virginia	—	—	773	—	29
West Virginia	—	—	493	—	N
E.S. Central	—	—	554	—	39
Alabama	N	N	549	—	18
Kentucky	N	N	N	N	1
Mississippi	—	—	5	N	12
Tennessee	—	—	N	—	8
W.S. Central	6	—	5,086	—	111
Arkansas	—	—	501	—	N
Louisiana	2	—	140	—	41
Oklahoma	—	—	N	N	2
Texas	4	—	4,445	—	68
Mountain	1	—	1,342	—	33
Arizona	—	—	—	—	19
Colorado	N	—	515	—	12
Idaho	N	N	N	N	N
Montana	N	N	164	—	N
Nevada	1	—	N	N	N
New Mexico	N	N	119	—	1
Utah	—	—	544	—	1
Wyoming	—	—	—	—	—
Pacific	1	—	96	—	236
Alaska	N	N	57	—	—
California	N	N	—	—	139
Hawaii	1	—	39	—	30
Oregon	N	N	N	N	19
Washington	N	N	N	N	48
Territories	—	—	—	—	—
American Samoa	—	—	N	N	N
C.N.M.I.	—	—	—	—	—
Guam	—	—	32	—	2
Puerto Rico	—	—	530	—	N
U.S. Virgin Islands	—	—	—	—	—

N: Not reportable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

**** Totals reported to the Division of Viral Diseases, National Center for Immunization and Respiratory Diseases (NCIRD), as of June 30, 2010.

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 August 14, 2010 (32nd week)*

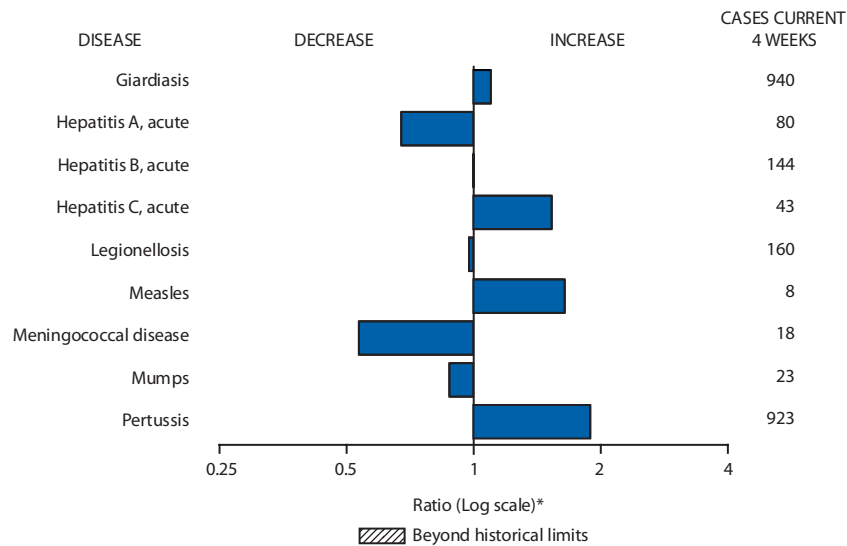
Disease	Current week	Cum 2010	5-year weekly average [†]	Total cases reported for previous years					States reporting cases during current week (No.)
				2009	2008	2007	2006	2005	
Anthrax	—	—	—	1	—	1	1	—	
Botulism, total	2	51	4	118	145	144	165	135	
foodborne	—	5	1	10	17	32	20	19	
infant	2	38	2	83	109	85	97	85	OK (1), WA (1)
other (wound and unspecified)	—	8	1	25	19	27	48	31	
Brucellosis	1	75	3	115	80	131	121	120	FL (1)
Chancroid	—	30	0	28	25	23	33	17	
Cholera	—	2	0	10	5	7	9	8	
Cyclosporiasis [§]	1	117	5	141	139	93	137	543	MD (1)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases ^{§, ¶} :									
California serogroup virus disease	—	10	5	55	62	55	67	80	
Eastern equine encephalitis virus disease	1	5	1	4	4	4	8	21	RI (1)
Powassan virus disease	—	2	0	6	2	7	1	1	
St. Louis encephalitis virus disease	—	2	0	12	13	9	10	13	
Western equine encephalitis virus disease	—	—	—	—	—	—	—	—	
<i>Haemophilus influenzae</i> ,** invasive disease (age <5 yrs):									
serotype b	—	7	0	35	30	22	29	9	
nonsertotype b	—	123	3	236	244	199	175	135	
unknown serotype	—	138	3	178	163	180	179	217	
Hansen disease [§]	—	25	1	103	80	101	66	87	
Hantavirus pulmonary syndrome [§]	—	10	0	20	18	32	40	26	
Hemolytic uremic syndrome, postdiarrheal [§]	3	101	8	242	330	292	288	221	OK (1), CA (2)
HIV infection, pediatric (age <13 yrs) ^{††}	—	—	1	—	—	—	—	380	
Influenza-associated pediatric mortality ^{§, §§}	—	54	1	358	90	77	43	45	
Listeriosis	20	445	22	851	759	808	884	896	NY (2), PA (1), OH (4), MI (1), VA (1), NC (2), GA (1), OK (1), WA (3), CA (4), CA (7)
Measles ^{¶¶}	7	40	1	71	140	43	55	66	
Meningococcal disease, invasive ^{***} :									
A, C, Y, and W-135	1	165	4	301	330	325	318	297	NC (1)
serogroup B	1	71	2	174	188	167	193	156	GA (1)
other serogroup	—	8	1	23	38	35	32	27	
unknown serogroup	2	237	8	482	616	550	651	765	NC (1), CA (1)
Mumps	7	2,270	15	1,991	454	800	6,584	314	NYC (3), PA (2), OH (1), OR (1)
Novel influenza A virus infections ^{†††}	—	1	0	43,774	2	4	NN	NN	
Plague	—	1	0	8	3	7	17	8	
Poliomyelitis, paralytic	—	—	—	1	—	—	—	1	
Polio virus Infection, nonparalytic [§]	—	—	—	—	—	—	NN	NN	
Psittacosis [§]	—	4	0	9	8	12	21	16	
Q fever, total ^{§, §§§}	—	67	3	114	120	171	169	136	
acute	—	52	1	94	106	—	—	—	
chronic	—	15	0	20	14	—	—	—	
Rabies, human	—	—	—	4	2	1	3	2	
Rubella ^{¶¶¶}	—	5	0	3	16	12	11	11	
Rubella, congenital syndrome	—	—	—	2	—	—	1	1	
SARS-CoV ^{§, ****}	—	—	—	—	—	—	—	—	
Smallpox [§]	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome [§]	—	114	1	161	157	132	125	129	
Syphilis, congenital (age <1 yr) ^{††††}	—	111	9	423	431	430	349	329	
Tetanus	—	2	0	18	19	28	41	27	
Toxic-shock syndrome (staphylococcal) [§]	2	48	1	74	71	92	101	90	PA (1), OH (1)
Trichinellosis	—	1	0	13	39	5	15	16	
Tularemia	5	57	4	93	123	137	95	154	AR (1), OK (3), WA (1)
Typhoid fever	8	224	9	397	449	434	353	324	NY (1), PA (1), OH (1), NC (1), FL (1), TX (1), CA (2)
Vancomycin-intermediate <i>Staphylococcus aureus</i> [§]	1	63	0	78	63	37	6	2	MI (1)
Vancomycin-resistant <i>Staphylococcus aureus</i> [§]	—	1	—	1	—	2	1	3	
Vibriosis (noncholera <i>Vibrio</i> species infections) [§]	31	350	17	789	588	549	NN	NN	OH (1), MD (1), NC (1), FL (4), TN (1), MS (1), TX (1), AZ (1), WA (9), OR (4), CA (7)
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 August 14, 2010 (32nd 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, STD data, TB data, 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 286 influenza-associated pediatric deaths associated with 2009 influenza A (H1N1) virus infection have been reported. Since August 30, 2009, a total of 279 influenza-associated pediatric deaths occurring during the 2009–10 influenza season have been reported. A total of 133 influenza-associated pediatric deaths occurring during the 2008–09 influenza season have been reported.
 ¶¶ Of the seven measles cases reported for the current week, two were imported, and five were 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. During 2009, three cases of novel influenza A virus infections, unrelated to the 2009 pandemic influenza A (H1N1) virus, were reported to CDC. The one case of novel influenza A virus infection reported to CDC during 2010 was identified as swine influenza A (H3N2) virus and is unrelated to pandemic influenza A (H1N1) virus. Total case count for 2009 was provided by the Influenza Division, National Center for Immunization and Respiratory Diseases (NCIRD).
 ††††† 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 August 14, 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.

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending August 14, 2010, and August 15, 2009 (32nd 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	—	1	12	142	NN	—	0	1	1	NN
New England	—	0	1	1	NN	—	0	0	—	NN
Connecticut	—	0	0	—	NN	—	0	0	—	NN
Maine [¶]	—	0	1	1	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	4	27	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	4	23	NN	—	0	0	—	NN
Pennsylvania	—	0	2	4	NN	—	0	0	—	NN
E.N. Central	—	0	2	6	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	2	5	NN	—	0	0	—	NN
Wisconsin	—	0	1	1	NN	—	0	0	—	NN
W.N. Central	—	0	2	8	NN	—	0	0	—	NN
Iowa	—	0	1	1	NN	—	0	0	—	NN
Kansas	—	0	0	—	NN	—	0	0	—	NN
Minnesota	—	0	2	7	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	11	88	NN	—	0	1	1	NN
Delaware	—	0	0	—	NN	—	0	0	—	NN
District of Columbia	—	0	0	—	NN	—	0	0	—	NN
Florida	—	0	10	78	NN	—	0	1	1	NN
Georgia	—	0	2	5	NN	—	0	0	—	NN
Maryland [¶]	—	0	0	—	NN	—	0	0	—	NN
North Carolina	—	0	0	—	NN	—	0	0	—	NN
South Carolina [¶]	—	0	1	4	NN	—	0	0	—	NN
Virginia [¶]	—	0	0	—	NN	—	0	0	—	NN
West Virginia	—	0	1	1	NN	—	0	0	—	NN
E.S. Central	—	0	1	1	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	1	1	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	1	3	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	1	1	NN	—	0	0	—	NN
Nevada [¶]	—	0	1	1	NN	—	0	0	—	NN
New Mexico [¶]	—	0	1	1	NN	—	0	0	—	NN
Utah	—	0	0	—	NN	—	0	0	—	NN
Wyoming [¶]	—	0	0	—	NN	—	0	0	—	NN
Pacific	—	0	2	8	NN	—	0	0	—	NN
Alaska	—	0	0	—	NN	—	0	0	—	NN
California	—	0	1	4	NN	—	0	0	—	NN
Hawaii	—	0	0	—	NN	—	0	0	—	NN
Oregon	—	0	0	—	NN	—	0	0	—	NN
Washington	—	0	2	4	NN	—	0	0	—	NN
Territories										
American Samoa	—	0	0	—	NN	—	0	0	—	NN
C.N.M.I.	—	—	—	—	NN	—	—	—	—	NN
Guam	—	0	0	—	NN	—	0	0	—	NN
Puerto Rico	—	7	83	1,055	NN	—	0	3	25	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.

[†] Dengue Fever includes cases that meet criteria for Dengue Fever with hemorrhage.[‡] 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 August 14, 2010, and August 15, 2009 (32nd week)*

Reporting area	Salmonellosis					Shiga toxin-producing <i>E. coli</i> (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	902	885	1,555	24,477	27,039	69	80	198	2,422	2,658	187	247	527	7,958	10,161
New England	12	30	301	1,357	1,581	2	3	33	124	171	2	5	36	200	216
Connecticut	—	0	284	284	430	—	0	33	33	67	—	0	29	29	43
Maine [§]	2	2	7	65	84	—	0	2	10	14	1	0	2	4	2
Massachusetts	9	22	47	766	719	1	2	9	57	54	1	4	18	153	144
New Hampshire	—	3	9	108	206	—	1	2	15	23	—	0	2	4	13
Rhode Island [§]	—	2	17	97	92	—	0	26	2	—	—	0	7	9	9
Vermont [§]	1	1	5	37	50	1	0	2	7	13	—	0	1	1	5
Mid. Atlantic	89	95	208	2,954	3,185	12	8	24	280	253	13	34	70	997	1,935
New Jersey	—	14	47	355	673	—	1	5	25	70	—	6	23	172	411
New York (Upstate)	45	24	78	793	732	8	3	15	116	76	4	4	19	120	134
New York City	5	25	46	734	727	—	1	4	33	38	1	7	15	177	277
Pennsylvania	39	29	68	1,072	1,053	4	2	13	106	69	8	18	35	528	1,113
E.N. Central	48	83	210	2,885	3,304	7	12	31	381	480	7	25	235	1,078	1,900
Illinois	—	26	107	1,024	950	—	2	6	62	119	—	8	228	601	411
Indiana	—	9	25	232	386	—	1	8	50	63	—	1	5	24	50
Michigan	5	15	34	487	615	—	2	16	94	83	2	4	10	134	152
Ohio	43	24	47	847	915	7	2	11	93	82	4	7	23	212	906
Wisconsin	—	9	39	295	438	—	3	8	82	133	1	4	16	107	381
W.N. Central	13	46	94	1,378	1,691	4	11	42	376	458	—	49	88	1,618	599
Iowa	2	7	36	302	273	—	2	15	98	108	—	1	5	35	45
Kansas	—	6	20	229	246	—	1	6	42	43	—	4	14	159	151
Minnesota	—	7	32	178	353	—	1	17	31	106	—	0	6	14	48
Missouri	—	13	37	438	375	—	3	29	145	86	—	44	75	1,383	331
Nebraska [§]	10	4	12	140	258	3	1	6	45	63	—	1	4	23	18
North Dakota	1	0	39	17	34	—	0	7	—	4	—	0	5	—	3
South Dakota	—	2	6	74	152	1	0	8	15	48	—	0	2	4	3
S. Atlantic	435	265	515	6,957	6,967	19	12	28	389	401	75	40	78	1,339	1,564
Delaware	—	3	9	77	62	—	0	2	3	10	—	2	10	36	63
District of Columbia	—	1	4	38	61	—	0	1	4	2	—	0	4	16	17
Florida	179	126	277	2,975	2,950	4	4	14	135	100	47	12	49	573	276
Georgia	49	40	105	1,119	1,287	6	1	7	52	46	7	12	25	410	412
Maryland [§]	20	15	44	540	453	—	2	6	50	51	2	3	11	71	278
North Carolina	128	32	91	933	978	7	1	5	40	72	14	2	12	109	299
South Carolina [§]	28	20	74	617	451	—	0	3	12	22	—	1	5	42	83
Virginia [§]	31	18	68	548	581	2	2	15	81	82	5	2	15	81	130
West Virginia	—	3	16	110	144	—	0	5	12	16	—	0	2	1	6
E.S. Central	37	51	112	1,578	1,751	6	4	10	142	141	3	12	40	423	560
Alabama [§]	1	14	40	359	485	1	1	4	31	37	—	2	10	81	106
Kentucky	14	8	29	300	296	2	1	4	30	49	1	4	28	173	136
Mississippi	4	14	44	449	507	—	0	2	10	6	—	1	3	27	26
Tennessee [§]	18	14	38	470	463	3	2	8	71	49	2	5	11	142	292
W.S. Central	62	111	547	2,456	2,970	4	4	68	131	176	47	47	251	1,338	1,945
Arkansas [§]	24	10	36	348	350	3	1	5	35	25	1	2	10	34	224
Louisiana	—	19	46	533	634	—	0	3	7	15	—	3	10	130	137
Oklahoma	22	10	46	314	341	—	0	27	13	16	7	6	96	173	167
Texas [§]	16	52	477	1,261	1,645	1	3	41	76	120	39	34	144	1,001	1,417
Mountain	1	49	133	1,443	1,885	1	9	25	292	340	7	15	39	400	744
Arizona	1	18	50	463	601	—	1	5	40	44	6	8	32	215	539
Colorado	—	11	33	367	407	—	2	18	120	116	—	2	6	67	58
Idaho [§]	—	3	10	92	114	1	1	7	37	45	1	0	3	17	5
Montana [§]	—	2	7	60	80	—	0	7	25	16	—	0	1	4	11
Nevada [§]	—	4	14	149	164	—	0	4	15	18	—	1	7	19	40
New Mexico [§]	—	5	14	153	250	—	1	3	19	24	—	2	6	66	76
Utah	—	5	17	131	210	—	1	11	26	69	—	0	4	12	14
Wyoming [§]	—	1	9	28	59	—	0	2	10	8	—	0	2	—	1
Pacific	205	115	299	3,469	3,705	14	10	46	307	238	33	21	64	565	698
Alaska	—	1	5	49	47	—	0	1	1	1	—	0	2	—	1
California	149	84	227	2,594	2,800	3	5	35	131	133	28	16	51	456	551
Hawaii	4	4	62	81	168	1	0	4	12	4	—	0	4	10	24
Oregon	4	8	48	345	280	2	1	11	48	33	—	1	4	34	34
Washington	48	14	61	400	410	8	3	19	115	67	5	2	22	65	88
Territories															
American Samoa	—	1	1	2	—	—	0	0	—	—	—	0	1	1	3
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	3	7	—	0	0	—	—	—	0	3	1	5
Puerto Rico	1	6	39	111	326	—	0	0	—	—	—	0	1	—	10
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 August 14, 2010, and August 15, 2009 (32nd 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	4	2	12	92	106	54	14	421	730	944
New England	—	0	1	—	1	—	0	1	1	9
Connecticut	—	0	0	—	—	—	0	0	—	—
Maine [§]	—	0	0	—	—	—	0	1	1	4
Massachusetts	—	0	0	—	1	—	0	1	—	5
New Hampshire	—	0	0	—	—	—	0	1	—	—
Rhode Island [§]	—	0	0	—	—	—	0	0	—	—
Vermont [§]	—	0	1	—	—	—	0	0	—	—
Mid. Atlantic	1	0	2	13	9	1	1	6	33	66
New Jersey	—	0	0	—	2	—	0	3	—	45
New York (Upstate)	—	0	1	1	—	1	0	3	7	6
New York City	—	0	1	1	—	—	0	4	17	5
Pennsylvania	1	0	2	11	7	—	0	1	9	10
E.N. Central	—	0	1	2	8	—	0	6	48	65
Illinois	—	0	1	2	1	—	0	5	16	43
Indiana	—	0	0	—	3	—	0	5	25	8
Michigan	—	0	1	—	3	—	0	2	3	1
Ohio	—	0	0	—	—	—	0	4	4	11
Wisconsin	—	0	0	—	1	—	0	1	—	2
W.N. Central	—	0	3	7	12	1	2	17	158	196
Iowa	—	0	0	—	1	—	0	1	2	4
Kansas	—	0	1	2	1	—	0	0	—	—
Minnesota	—	0	1	—	1	—	0	1	—	—
Missouri	—	0	1	4	5	—	2	16	153	188
Nebraska [§]	—	0	2	1	4	1	0	1	2	4
North Dakota	—	0	0	—	—	—	0	1	1	—
South Dakota	—	0	0	—	—	—	0	0	—	—
S. Atlantic	2	1	10	50	54	45	4	27	247	287
Delaware	—	0	1	1	—	—	0	3	11	13
District of Columbia	—	0	0	—	—	—	0	1	—	—
Florida	—	0	1	2	—	—	0	1	6	4
Georgia	—	0	6	33	44	—	0	0	—	—
Maryland [§]	—	0	1	2	2	1	0	3	16	32
North Carolina	2	0	3	8	5	37	1	21	135	179
South Carolina [§]	—	0	1	—	3	—	0	2	8	15
Virginia [§]	—	0	2	4	—	7	0	10	71	43
West Virginia	—	0	0	—	—	—	0	1	—	1
E.S. Central	1	0	2	10	5	7	3	28	203	190
Alabama [§]	—	0	1	1	2	—	1	8	39	42
Kentucky	—	0	2	6	1	—	0	0	—	—
Mississippi	—	0	0	—	—	—	0	1	2	9
Tennessee [§]	1	0	2	3	2	7	3	20	162	139
W.S. Central	—	0	3	1	6	—	1	408	34	113
Arkansas [§]	—	0	1	—	—	—	0	110	9	59
Louisiana	—	0	0	—	—	—	0	1	1	2
Oklahoma	—	0	2	—	5	—	0	287	15	38
Texas [§]	—	0	1	1	1	—	0	11	9	14
Mountain	—	0	2	2	10	—	0	3	5	18
Arizona	—	0	2	—	4	—	0	2	1	7
Colorado	—	0	0	—	1	—	0	0	—	—
Idaho [§]	—	0	0	—	—	—	0	1	2	—
Montana [§]	—	0	1	2	4	—	0	1	1	6
Nevada [§]	—	0	0	—	—	—	0	0	—	1
New Mexico [§]	—	0	0	—	—	—	0	1	1	1
Utah	—	0	0	—	—	—	0	0	—	1
Wyoming [§]	—	0	0	—	1	—	0	0	—	2
Pacific	—	0	2	7	1	—	0	1	1	—
Alaska	N	0	0	N	N	N	0	0	N	N
California	—	0	2	6	1	—	0	0	—	—
Hawaii	N	0	0	N	N	N	0	0	N	N
Oregon	—	0	1	1	—	—	0	1	1	—
Washington	—	0	0	—	—	—	0	0	—	—
Territories										
American Samoa	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	N	0	0	N	N	N	0	0	N	N
Puerto Rico	N	0	0	N	N	N	0	0	N	N
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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