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Nonfatal Scald-Related Burns Among Adults Aged ≥65 Years — United States, 2001–2006

Scalds, which are burns attributed to hot liquids or steam, account for 33%–58% of all patients hospitalized for burns in the United States (*1*–*3*). Adults aged ≥65 years have a worse prognosis than younger patients after scald burns because of age-related factors and comorbid medical conditions (*4*), and they are subject to more extensive medical treatment than younger adults. To estimate the number of emergency department (ED) visits for nonfatal scald burns among U.S. adults aged ≥65 years and describe their characteristics, CDC analyzed ED visit data from the National Electronic Injury Surveillance System All Injury Program (NEISS-AIP) for 2001–2006. This report summarizes the results, which indicated that adults aged ≥65 years made an estimated 51,700 initial visits to EDs for nonfatal scald burns during 2001–2006, for an average of 8,620 visits per year and an estimated average annual rate of 23.8 visits per 100,000 population. Two thirds of visits were made by women. Most (76%) of the nonfatal scald injuries occurred at home; 42% were associated with hot food and 30% with hot water or steam. The findings in this report highlight the need for effective scald-prevention programs targeted to older persons.

NEISS–AIP, maintained by the Consumer Product Safety Commission (CPSC), collects data on initial ED visits for all types and causes of injuries. The system uses a nationally representative sample of hospitals from 66 of the 100 NEISS–AIP hospitals that have 24-hour EDs in the United States (*5*). Data are collected from the medical records of new ED admissions, and only the most severe injury is recorded for each visit. Data include up to two product codes and a two-line narrative describing the circumstances of the injury (*5*).

For this analysis, a visit for nonfatal scald burn was defined as a visit by a patient aged ≥65 years to a hospital ED for scald burns at any time during the study period, 2001–2006. Visits were included if they met all three of the following conditions: 1) the principal diagnosis was "scald," "scald burn," "scald related," or "burn due to hot liquid or steam," or the narrative describing burn circumstance contained a common product involving hot liquid or steam (e.g., pressure cooker, microwave, or bathtub), 2) the ED visit was the first visit for treatment of this scald burn, and 3) the scald-burn incident was not work related. Visits were excluded if the burn involved only smoke, fire, chemical, electrical, radiation, or flash burns. Patients who were dead on arrival or died shortly thereafter were excluded.

All ED narratives associated with nonfatal scald burns were reviewed. NEISS–AIP provides space for coding two products associated with the injury. For visits with two product codes, the code deemed to be more descriptive of the circumstances of the injury was retained in the analysis to create a mutually

INSIDE

997 National, State, and Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2008
1002 Update on Vaccine-Derived Polioviruses — Worldwide, January 2008–June 2009
1006 Updated Recommendations from the Advisory Committee on Immunization Practices (ACIP) for Use of Hepatitis A Vaccine in Close Contacts of Newly Arriving International Adoptees
1008 Licensure of a *Haemophilus influenzae* Type b (Hib) Vaccine (Hiberix) and Updated Recommendations for Use of Hib Vaccine
1009 Update: Influenza Activity — United States, April–August 2009
1013 QuickStats

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exclusive set of product categories.* If multiple body parts were injured, only the most serious injury was used to create a set of mutually exclusive categories for analysis.

Visit estimates were based on weighted data from patients aged ≥65 years who were treated for nonfatal scald burns at EDs that reported data to NEISS-AIP. For each scald-related visit, NEISS–AIP assigns a sample weight based on its inverse probability of selection; these weights are summed to provide national estimates of nonfatal scald-related burns. Rates per 100,000 persons were calculated using U.S. Census Bureau population estimates (*6*). Subgroup estimates with <20 visits or with a coefficient of variation >30% were considered unstable and were not reported. A direct variance estimation procedure that accounts for the sample weights and complex sample design was used to calculate 95% confidence intervals.

A total of 705 ED visits for nonfatal scald burns were identified during the study period. No consistent temporal variation in the number of visits was observed across the 6 years,† or by hours of the day, days of the week, or seasons of the year. In 536 (76%) of the 705 visits, the nonfatal scald burn occurred at home, most commonly in the kitchen (60%), dining area (20%), and bathroom (11%). Hot food was involved in 42% of burns (rate = 9.9 per 100,000), hot water or steam in 30% (rate = 7.2), and contact with cookware in 9% (rate = 2.2); 8% (rate = 1.9) of nonfatal scald burns were related to home or kitchen appliances, including 3% with microwave ovens. Among the 705 visit narratives, 90% recorded the type of liquids associated with the burn, including hot (boiling) water (42%), hot oil (21%), coffee (15%), food (12%), steam (7%), and tea (3%).

Scald burn visits were more common among females (rate = 27.2) than males (rate = 19.0). The most commonly affected body parts were upper extremities (arm/hand) (42%) and lower extremities (leg/foot) (38%), followed by head/neck (8%) and lower trunk (7%). Overall, 93% of ED visits resulted in discharge after treatment; 4.2% of the patients were hospitalized, and 2% of the patients were transferred to other hospitals for more specialized care.

During 2001–2006, an estimated 139,770 initial ED visits by persons aged ≥65 years occurred for nonfatal fire or burn injuries, of which 53,600 (38%) were nonfatal scald burns. After excluding work-related scald burns, the remaining 51,700 visits for nonfatal scald-related burns yielded a

* If one of the two codes listed food, the other product code was recorded. For example, if the two codes referred to a microwave and food, microwave was recorded. If one of the two codes was water or steam, the other product code was recorded; water/steam was only assigned when no other information was available, because all scald burns involve a heated liquid or steam. For visits with two nonwater or nonfood product codes, the narratives were reviewed to choose which product was most descriptive of the injury circumstances.

† Number of visits by year: 2001 (110), 2002 (142), 2003 (92), 2004 (123), 2005 (122), and 2006 (116).

national estimated annual incidence of 23.8 per 100,000 persons (Table 1). During the 6-year period, the estimated average annual number of initial ED visits for nonfatal scald-related burns in persons aged ≥65 years was 8,620. The highest estimated annual numbers of ED visits were for scald burns to the arm/hand and leg/foot, and the highest number of ED visits were for scald burns caused by food or water/steam (Table 2).

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Editorial Note: This report provides the first national estimate of ED visits for nonfatal scald burns in older adults. Compared with younger adults, older adults with scald-related burns are more frequently admitted to hospitals, experience longer intensive-care unit and hospital stays, have increased hospital mortality, and are transferred more frequently to rehabilitation and long-term nursing facilities (*3,4*). The results of the analysis in this report indicate that, during 2001–2006, older adults made a substantial number of visits to U.S. EDs annually for scald burns. The burns resulted mainly in injuries to the arm/hand and leg/foot, were caused mostly by hot food and hot water or steam, and occurred predominantly in the kitchen, dining area, or bathroom. Greater awareness of the risk for these injuries and the use of simple precautions might help reduce these injuries (*7,8*) (Box).

The closest parallel analysis to the one reported here is the National Burn Registry (NBR) (*2*). However, NBR collects data on inpatients from burn centers rather than from ED visits to general hospitals, the source for NEISS–AIP data. The NBR results corroborate the findings of this report: the leading causes of nonfatal scald burns were contact with hot food, liquids, and steam. The NBR results also indicate that nonfatal scald burns occurred mainly in the kitchen, dining area, and bathroom. NBR data show that 14% of patients hospitalized with all types of burns were aged ≥60 years, and approximately 35% of these patients sustained nonfatal scald burns from hot liquids, steam, or boiling tap water. Notably, the National Fire Protection Association determined that 41% of all scald burns from cooking equipment in 2006 were caused by microwave ovens (*9*).

The findings in this report are subject to at least four limitations. First, the report underestimates the prevalence of nonfatal scald burns because it does not include patients treated outside of hospital EDs (e.g., outpatient clinics, private doctor's offices, and emergency walk-in clinics). Second, the report might underestimate the number of scald burns in patients with multiple injuries because the system records only one injury diagnosis. Third, narrative descriptions from medical

TABLE 1. Average annual estimates and rates* of emergency department visits for nonfatal scald burns, adults aged ≥65 years, by age group, sex, and disposition — National Electronic Injury Surveillance System (NEISS) All Injury Program, 2001–2006

Characteristic	No.	(%)	Rate	(95% CI†)
Total	**8,620**	**(100)**	**23.8**	**(20.0–27.6)**
Age group (yrs)				
65–79	6,460	(75)	24.9	(21.0–28.8)
≥80	2,160	(25)	21.0	(15.6–26.3)
Sex				
Male	2,870	(33)	19.0	(14.8–23.3)
Female	5,740	(67)	27.2	(22.8–31.6)
Disposition				
Treated, released	7,970	(93)	22.0	(18.6–25.4)
Hospitalized/transferred	510	(6)	1.4	(1.0–1.9)
Other§	130	(2)	0.4	(0.0–0.7)

* Per 100,000 population, based on 2000 U.S. Census. Estimates might not sum to totals because of rounding.
† Confidence interval.
§ Patients left against medical advice or left without being seen by attending physician. Estimate are unstable because the coefficient of variation is >30%.

TABLE 2. Annual estimates and percentages* of emergency department visits for nonfatal scald burns, adults aged ≥65 years, by affected body part and associated product — National Electronic Injury Surveillance System (NEISS) All Injury Program, 2001–2006

Burn site and source	No.	(%)	(95% CI†)
Total	**8,620**	**(100)**	**(7,240–9,993)**
Body part§			
Head/neck	680	(8)	(426–941)
Upper trunk	370	(4)	(174–561)
Lower trunk	580	(7)	(357–792)
Arm/hand	3,580	(42)	(3,011–4,140)
Leg/foot	3,310	(38)	(2,770–3,846)
Other¶	90	(1)	(6–153)
Unknown¶	20	(0)	(-22–67)
Associated product			
Food	3,580	(42)	(2,867–4,298)
Water/steam	2,600	(30)	(1,954–3,243)
Cookware**	780	(9)	(518–1,043)
Home/kitchen appliances††	690	(8)	(481–901)
Bathroom products§§	220	(3)	(92–356)
Dining accessories¶¶	220	(3)	(92–345)
Other***	480	(6)	(275–675)
Unknown¶	50	(1)	(-9–102)

* Estimates might not sum to totals because of rounding.
† Confidence interval.
§ If multiple bodty parts were injured, only the most serious injury was recorded. Categories are mutually exclusive.
¶ Estimates are unstable because the coefficient of variation of the estimate is >30%.
** Includes metal cookware and pressure cookers.
†† Includes microwave, oven, range, and heaters.
§§ Includes bathtub, shower, and whirlpool.
¶¶ Includes tableware and candles.
*** Includes products and product categories (e.g., personal care items) for which estimates were unstable.

records did not always provide details or consistent information on circumstances, products involved, injury severity, or mechanism of nonfatal scald burns. Finally, the number of ED visits in certain subgroups was small and did not support stable national estimates.

This report provides a baseline national estimate that can be used for comparison in future studies. The rapid growth in the U.S. population of older persons (*10*) makes monitoring of these injuries especially important. To reduce scald burns among older persons, further development of education and prevention strategies is needed, and these strategies should be evaluated for effectiveness.

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References

1. CDC. Web-based Injury Statistics Query and Reporting System (WISQARS). Atlanta, GA: US Department of Health and Human Services, CDC, National Center for Injury Prevention and Control; 2009. Available at http://www.cdc.gov/injury/wisqars/index.html.
2. American Burn Association. National Burn Repository, 2005 report. Chicago, IL: American Burn Association; 2006. Available at http://www.ameriburn.org/NBR2005.pdf.
3. Ehrlich AR, Kathpalia S, Boyarsky Y, Schechter A, Bijur P. Elderly patients discharged home from the emergency department with minor burns. Burns 2005;31:717–20.
4. Alden NE, Bessey PQ, Rabbitts A, Hyden PJ, Yurt RW. Tap water scalds among seniors and the elderly: socio-economics and implications for prevention. Burns 2007;33:666–9.
5. US Consumer Product Safety Commission. NEISS All Injury Program: sample design and implementation. Washington, DC: US Consumer Product Safety Commission; 2001.
6. CDC. Vintage 2005 bridged-race postcensal population estimates. Atlanta, GA: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2006. Available at http://www.cdc.gov/nchs/nvss/bridged_race.htm.
7. American Burn Association. Scalds: a burning issue: a campaign kit for Burn Awareness Week 2000. Chicago, IL: American Burn Association; 2000. Available at http://www.ameriburn.org/Preven/2000Prevention/Scald2000PrevetionKit.pdf.
8. US Fire Administration, National Fire Protection Association. Other cooking, food, and hot beverage burns [Chapter 8]. In: Behavioral mitigation of cooking fires through strategies based on statistical analysis. Emmitsburg, MD: US Department of Homeland Security, US Fire Administration; 2007:55–8. Available at http://www.usfa.dhs.gov/downloads/pdf/publications/cooking/fa-312.pdf.
9. Hall JR, Jr. Home fires involving cooking equipment. Quincy, MA: National Fire Protection Association; 2008. Available at http://www.nfpa.org/assets/files/PDF/Microwavefactsheet.pdf.
10. Day JC. Population projections of the United States, by age, sex, race, and Hispanic origin: 1993 to 2050. Current Population Reports, P25-1104. Washington, DC: US Department of Commerce, Bureau of the Census; 1993.

BOX. Suggested measures to reduce residential scald-related burns in older persons living independently at home*

Kitchen

- Plan ahead before cooking. Wear short- or tight-sleeved garments while cooking. Always ask for assistance if physically challenged.
- Plug ovens and other cooking appliances directly into an outlet. Never use an extension cord for a cooking appliance; it can trip the user, which can cause hot food spills. Keep all appliance cords coiled and away from counter edges.
- When deep frying, prevent contact of water and steam with hot oil; allow hot oil to cool before removal.
- To prevent spills, turn pot handles away from the stove's edge and use the back burner when possible.
- Only use dry oven mitts or potholders when moving hot food from ovens, microwave ovens, or stovetops.
- During meals, place hot items in the center of the table; use nonslip placemats instead of tablecloths.
- Treat a burn right away by putting it in cool water. Cool the burn for 3–5 minutes and immediately seek medical attention.

Use Microwave Ovens Safely

- Place the microwave oven at a safe height, within easy reach of all users, and lower than the face of the person using the microwave.
- Heat foods only in containers or dishes that are safe for microwave use. Never microwave uncracked eggs.
- To prevent steam build-up, remove tight lids on food containers, puncture plastic wraps, or use vented containers.
- Open heated food containers slowly, away from face or hands, to avoid steam scalds. Let cooked food stand for 1–2 minutes before removing from microwave oven.
- Foods heat unevenly in microwave ovens; stir and test before eating.

Bathrooms and Sinks

- Adjust thermostat on water heater to keep hot water <120°F. Install antiscald tempering valves or thermostatic mixing valves.
- Before using, check water temperature with a kitchen thermometer or test with your elbow, wrist, or hand with spread fingers.
- Start to fill bathtub with cold water and slowly mix with hot water. Avoid running water in other rooms during this time (it might increase the temperature of the water filling the bathtub) and turn off the hot water first.

*Adapted from recommendations of the American Burn Association and the National Fire Protection Association.

National, State, and Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2008

In recent years, the Advisory Committee on Immunization Practices (ACIP) has recommended three newly licensed vaccines: meningococcal conjugate vaccine (MCV4; 1 dose); tetanus, diphtheria, acellular pertussis vaccine (Tdap; 1 dose); and (for girls) quadrivalent human papillomavirus vaccine (HPV4; 3 doses) (*1*). ACIP also recommends that adolescents receive recommended vaccinations that were missed during childhood: measles, mumps, rubella vaccine (MMR; 2 doses); hepatitis B vaccine (HepB; 3 doses); and varicella vaccine (VAR; 2 doses) (*1*). Since 2006, CDC has conducted the National Immunization Survey–Teen (NIS-Teen) to estimate vaccination coverage from a national sample of adolescents aged 13–17 years (*2*). This report summarizes results from the 2008 NIS-Teen and, for the first time, includes estimates for each of the 50 states and selected local areas. Nationally, vaccination coverage for the three most recently recommended adolescent vaccinations and one childhood vaccination increased from 2007 to 2008: MCV4 (from 32.4% to 41.8%), Tdap (from 30.4% to 40.8%), ≥1 dose of HPV4 (from 25.1% to 37.2%), and ≥2 doses of VAR among those without disease history (from 18.8% to 34.1%). However, substantial variability in vaccination coverage was observed in 2008 among state and local areas and by race/ethnicity and poverty status. For the first time, the *Healthy People 2010* target of 90% coverage among adolescents aged 13–15 years was met for MMR and HepB. Public health agencies should continue annual monitoring of adolescent vaccination coverage levels to identify trends and differences by geographic area, race/ethnicity, and poverty status.

NIS-Teen collects vaccination information on adolescents aged 13–17 years* in the 50 states and selected local areas† using a random-digit–dialed sample of household telephone numbers. After parents/guardians grant permission, surveys are mailed to all of the adolescents' vaccination providers identified by the parents/guardians to obtain vaccination histories (*2*). During 2008, NIS-Teen was expanded; the survey was administered over four quarters compared with only the fourth quarter in 2006 and 2007 (*2,3*), and the analytic sample size increased nearly fivefold from 2006 and 2007 (*2,3*). For 2008 NIS-Teen, the household response rate§ was 58.7%; a total of 17,835 adolescents with provider-verified vaccination records were included in this report. A description of NIS-Teen methods and survey content has been published (*2*). Statistical differences in vaccination coverage were evaluated using chi square and t-tests and were considered statistically significant at $p<0.05$.

Among adolescents aged 13–17 years, vaccination coverage with ≥1 dose of tetanus, diphtheria toxoid vaccine (Td) or Tdap after age 10 years remained stable at 72.2%; however, coverage with ≥1 dose of Tdap increased from 30.4% in 2007 to 40.8% in 2008 (Table 1). Vaccination coverage with ≥1 dose of MCV4 increased from 32.4% in 2007 to 41.8% in 2008. For HPV4, 37.2% of adolescent females had initiated the vaccination series (≥1 dose) in 2008, compared with 25.1% in 2007, and 17.9% of females had received ≥3 doses. Among adolescent females who initiated the HPV4 series, 79.4% had received their first dose at least 24 weeks before the interview date (the minimum period in which to complete the series) (*4*); of these, 59.6% (95% confidence interval [CI] = 55.5–63.5) had received ≥3 doses.

Vaccination coverage with ≥2 doses of MMR and ≥3 doses of HepB remained steady compared with 2007 (Table 1). Fewer adolescents had a reported history of varicella disease in 2008 (59.8%) compared with 2007 (65.8%), and more adolescents had received ≥1 dose and ≥2 doses of VAR (Table 1).

Substantial differences were observed in vaccination coverage estimates among states and local areas (Table 2). Three states (Arizona, New Hampshire, and New York) had coverage of >50% for all three vaccines routinely recommended for adolescents (Tdap, MCV4, and HPV4). Other states with coverage >50% for at least one of the three vaccines, including Colorado, New Mexico, Pennsylvania, and Wisconsin (≥1 dose of Tdap); Delaware, District of Columbia, Louisiana, Maryland, Massachusetts, New Jersey, Pennsylvania, Rhode Island, and Wisconsin (≥1 dose of MCV4); and Massachusetts, Rhode Island, and Vermont (≥1 dose of HPV4).

Variability in coverage was observed among racial/ethnic¶ groups and by poverty status** (Table 3). Blacks (87.9%) had lower vaccination coverage percentages than whites (93.7%) for

* Eligible participants were born during January 1990–February 1996.

† Six local areas that received federal immunization grants were sampled separately: District of Columbia; Chicago, Illinois; New York, New York; Philadelphia County, Pennsylvania; Bexar County, Texas; and Houston, Texas.

§ The Council of American Survey Research Organizations (CASRO) household response rate is the product of the resolution rate (82.2%), screening completion rate (83.8%), and interview completion rate (85.2%).

¶ Respondents who self-identified as white, black, Asian, or American Indian/Alaska Native were all 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 744 adolescents.

TABLE 1. Estimated vaccination coverage among adolescents aged 13–17 years,* by age at interview and selected vaccines and doses — National Immunization Survey–Teen, United States, 2008

	Age (yrs)										Overall			
	13 (n = 3,455)		14 (n = 3,641)		15 (n = 3,666)		16 (n = 3,731)		17 (n = 3,342)		2008 (n = 17,835)		2007 (n = 2,947)	
Vaccines and doses	%	(95% CI†)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
MMR§ ≥2 doses	90.3	(88.0–92.2)	91.8	(89.8–93.4)	90.1	(88.1–91.8)	86.2	(83.6–88.4)	88.1	(86.1–89.9)	**89.3**	**(88.4–90.2)**	**88.9**	**(87.3–90.4)**
Hepatitis B ≥3 doses	92.8	(91.2–94.1)	93.1	(91.5–94.3)	89.6	(87.0–91.7)	81.5	(78.6–84.1)	82.9	(80.7–84.8)	**87.9**	**(86.9–88.8)**	**87.6**	**(86.0–89.0)**
Varicella														
History of varicella disease¶	42.3	(39.2–45.5)	50.1	(47.1–53.1)	62.8	(59.5–66.0)	68.2	(65.1–71.2)	74.8	(71.3–78.1)	**59.8**	**(58.4–61.3)****	**65.8**	**(63.5–68.0)**
Among adolescents without history of disease:														
≥1 dose	89.6	(87.1–91.6)	85.2	(81.6–88.2)	80.2	(75.2–84.4)	76.5	(71.8–80.6)	68.2	(61.7–74.1)	**81.9**	**(80.2–83.5)****	**75.7**	**(72.2-79.0)**
≥2 doses	40.5	(36.4–44.9)	34.5	(29.9–39.3)	34.2	(29.1–39.7)	28.1	(22.9–34.0)	26.9	(18.9–36.8)	**34.1**	**(31.8–36.6)****	**18.8**	**(15.9-22.0)**
History of disease or received ≥1 dose varicella vaccine	94.0	(92.5–95.2)	92.6	(90.7–94.2)	92.6	(90.5–94.3)	92.5	(91.0–93.8)	92.0	(90.5–93.3)	**92.7**	**(92.0–93.4)**	**91.7**	**(90.3–92.9)**
Td or Tdap since age 10 years††														
≥1 dose Td or Tdap	64.1	(61.0–67.2)	69.7	(66.5–72.7)	77.7	(75.2–80.0)	74.8	(71.9–77.5)	73.7	(70.7–76.6)	**72.2**	**(70.8–73.4)**	**72.3**	**(70.3-74.3)**
≥1 dose Tdap	51.9	(48.7–55.1)	47.3	(44.0–50.6)	41.5	(38.2–44.9)	35.1	(32.1–38.1)	28.7	(25.5–32.1)	**40.8**	**(39.3–42.3)****	**30.4**	**(28.2-32.7)**
MCV4 ≤1 dose§§	42.0	(38.8–45.1)	43.0	(39.8–46.4)	46.4	(43.0–49.7)	40.5	(37.4–43.6)	36.7	(33.5–40.0)	**41.8**	**(40.3–43.2)****	**32.4**	**(30.2–34.7)**
HPV4¶¶														
≥1 dose	35.2	(31.1–39.6)	33.8	(29.6–38.2)	42.2	(37.5–47.2)	35.7	(31.7–39.9)	38.5	(33.3–43.9)	**37.2**	**(35.2–39.3)****	**25.1**	**(22.3-28.1)**
≥3 doses	14.5	(11.9–17.5)	16.6	(13.6–20.2)	18.5	(15.5–21.8)	18.8	(15.6–22.4)	20.9	(16.3–26.3)	**17.9**	**(16.3–19.6)**	**—****	

* Adolescents (N = 17,835) in 2008 NIS-Teen were born during January 1990–February 1996.
† Confidence interval.
§ Measles, mumps, and rubella vaccine.
¶ By parent/guardian report or provider records.
** Significant difference compared with NIS-Teen 2007 overall estimates (p<0.05).
†† Includes percentages receiving tetanus and diphtheria toxoids vaccine (Td), tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap), or tetanus-unknown type vaccine.
§§ Includes percentages receiving meningococcal conjugate vaccine (MCV4) or meningococcal-unknown type vaccine.
¶¶ Quadrivalent human papillomavirus vaccine. Percentages reported among females only (n = 8,607); HPV4 vaccine is not recommended for males.
*** Estimate not reported because unweighted sample size for the denominator was <30.

TABLE 2. Estimated vaccination coverage among adolescents aged 13–17 years,* by state and selected areas and selected vaccines and doses — National Immunization Survey–Teen, United States, 2008

	Vaccine doses routinely recommended during childhood (adolescent catch-up vaccines)						Vaccine doses routinely recommended for adolescents							
	≥2 MMR†		≥3 HepB§		≥1 VAR¶		≥1 Td or Tdap**		≥1 Tdap		≥1 MCV4††		≥1 HPV4§§	
State/Area	%	(95% CI¶¶)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
United States	**89.3**	**(88.4–90.2)**	**87.9**	**(86.9–88.8)**	**81.9**	**(80.2–83.5)**	**72.2**	**(70.8–73.4)**	**40.8**	**(39.3–42.3)**	**41.8**	**(40.3–43.2)**	**37.2**	**(35.2–39.3)**
Alabama	89.8	(85.7–92.8)	68.2	(62.3–73.5)	71.2	(61.6–79.2)	70.1	(64.6–75.1)	44.0	(38.3–49.8)	29.9	(24.8–35.5)	32.8	(25.5–41.1)
Alaska	84.4	(79.3–88.5)	86.9	(82.3–90.5)	66.7	(55.4–76.4)***	68.3	(62.2–73.7)	42.1	(36.2–48.3)	30.5	(25.1–36.5)	38.8	(30.6–47.8)
Arizona	82.4	(75.7–87.6)	83.9	(77.9–88.5)	85.4	(74.1–92.3)	74.0	(66.5–80.3)	53.8	(46.4–61.0)	51.5	(44.2–58.7)	50.5	(40.3–60.7)***
Arkansas	90.2	(86.3–93.1)	90.9	(87.1–93.7)	84.9	(77.5–90.1)	46.1	(40.4–52.0)	23.8	(19.2–29.1)	14.5	(10.8–19.1)	22.4	(16.2–30.2)
California	91.9	(86.9–95.1)	89.9	(83.8–93.8)	92.9	(87.4–96.1)	71.3	(64.1–77.5)	43.7	(36.3–51.4)	48.0	(40.5–55.6)	46.6	(36.3–57.3)***
Colorado	91.0	(86.8–94.0)	94.6	(91.0–96.8)	85.3	(77.3–90.8)	77.4	(70.8–82.9)	63.0	(55.9–69.5)	32.4	(26.3–39.2)	33.5	(25.5–42.6)
Connecticut	95.7	(91.5–97.9)	98.4	(94.8–99.5)	97.6	(91.6–99.4)	79.8	(73.2–85.0)	45.4	(38.5–52.5)	45.2	(38.2–52.4)	45.0	(35.6–54.8)
Delaware	94.8	(90.4–97.3)	95.2	(91.9–97.2)	86.1	(78.7–91.2)	78.6	(72.9–83.3)	43.1	(36.9–49.6)	58.6	(52.1–64.7)	46.8	(37.9–56.0)
District of Columbia	94.6	(89.9–97.2)	94.8	(90.7–97.2)	96.4	(92.1–98.4)	84.7	(79.9–88.6)	32.7	(27.1–38.9)	58.1	(51.7–64.2)	38.7	(30.0–48.3)
Florida	92.3	(85.8–96.0)	92.8	(87.6–96.0)	80.0	(66.1–89.1)***	79.4	(70.3–86.2)	29.0	(22.6–36.2)	33.6	(26.7–41.2)	36.7	(26.7–48.0)***
Georgia	92.8	(87.4–96.0)	91.6	(87.4–94.5)	91.4	(83.2–95.8)	70.9	(64.6–76.4)	37.8	(31.6–44.4)	41.6	(35.2–48.3)	18.5	(13.0–25.5)
Hawaii	91.4	(86.9–94.4)	93.1	(88.9–95.8)	89.7	(82.4–94.3)	71.6	(65.7–76.9)	32.0	(26.5–38.0)	44.1	(38.1–50.3)	40.2	(32.3–48.6)
Idaho	73.2	(66.4–79.0)	73.1	(66.4–78.8)	61.1	(47.3–73.3)***	51.3	(44.5–58.0)	31.7	(25.7–38.3)	29.9	(24.1–36.5)	28.4	(20.5–38.0)
Illinois	89.5	(85.1–92.7)	93.2	(89.5–95.7)	74.2	(65.0–81.6)	72.9	(67.7–77.6)	45.4	(39.9–51.0)	41.9	(36.5–47.6)	27.0	(20.8–34.3)
Chicago	83.4	(78.3–87.5)	90.2	(85.5–93.5)	79.3	(70.8–85.8)	71.8	(65.6–77.3)	44.2	(38.0–50.5)	41.1	(35.1–47.5)	28.6	(20.8–37.9)
Rest of state	91.1	(84.8–95.0)	94.0	(88.6–96.9)	73.0	(60.2–82.8)***	73.5	(66.4–79.5)	45.5	(38.4–52.9)	42.8	(35.7–50.2)	25.7	(18.0–35.3)
Indiana	91.7	(88.2–94.1)	86.2	(81.4–90.0)	70.4	(59.9–79.1)	53.6	(47.4–59.7)	31.2	(26.1–36.7)	31.8	(26.5–37.8)	26.1	(19.8–33.6)
Iowa	86.4	(81.7–90.1)	79.2	(73.9–83.6)	68.4	(56.4–78.4)***	65.9	(59.4–71.8)	43.5	(37.4–49.9)	31.9	(26.4–38.0)	41.9	(32.6–51.9)
Kansas	84.1	(78.3–88.6)	71.4	(64.6–77.4)	62.5	(49.5–73.9)***	69.9	(63.4–75.6)	46.8	(40.1–53.7)	25.6	(20.0–32.3)	30.1	(21.7–40.0)
Kentucky	96.2	(93.2–97.9)	93.3	(89.3–95.9)	74.7	(63.9–83.1)	82.0	(76.2–86.6)	28.1	(22.6–34.3)	30.9	(25.3–37.0)	26.3	(18.8–35.4)
Louisiana	89.0	(84.8–92.2)	85.1	(80.3–88.9)	68.9	(57.3–78.6)***	74.9	(69.3–79.8)	35.3	(29.8–41.3)	53.6	(47.5–59.6)	36.6	28.3–45.6
Maine	92.6	(88.9–95.2)	81.4	(76.0–85.7)	89.7	(81.5–94.5)	75.0	(69.1–80.1)	43.0	(36.9–49.3)	35.6	(29.9–41.7)	40.3	(32.2–49.0)
Maryland	92.3	(88.1–95.1)	91.2	(87.1–94.1)	86.7	(78.4–92.1)	79.0	(73.0–83.9)	37.9	(32.2–44.0)	54.6	(48.2–60.7)	41.1	(32.4–50.5)
Massachusetts	99.5	(98.2–99.8)	97.4	(95.0–98.6)	95.0	(85.1–98.4)	94.4	(90.5–96.8)	43.3	(37.2–49.7)	55.9	(49.4–62.2)	53.3	(43.8–62.6)
Michigan	94.6	(91.4–96.7)	92.8	(89.3–95.2)	86.8	(77.5–92.6)	69.9	(63.9–75.3)	33.6	(27.9–39.8)	39.9	(33.8–46.2)	32.3	(23.8–42.1)

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–Teen, United States, 2008

State/Area	Vaccine doses routinely recommended during childhood (adolescent catch-up vaccines)						Vaccine doses routinely recommended for adolescents							
	≥2 MMR†		≥3 HepB§		≥1 VAR¶		≥1 Td or Tdap**		≥1 Tdap		≥1 MCV4††		≥1 HPV4§§	
	%	(95% CI¶¶)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Minnesota	90.1	(85.5–93.4)	89.7	(85.4–92.9)	84.8	(76.2–90.6)	88.7	(84.2–92.0)	40.7	(34.8–46.8)	38.9	(33.1–45.1)	33.6	(26.4–41.7)
Mississippi	94.5	(91.6–96.5)	60.8	(55.0–66.2)	40.0	(31.0–49.8)	28.7	(23.7–34.3)	19.6	(15.3–24.7)	14.8	(10.9–19.8)	15.8	(10.6–23.0)
Missouri	84.2	(79.0–88.4)	87.0	(82.4–90.5)	62.7	(51.6–72.6)***	67.9	(62.0–73.3)	44.1	(38.1–50.2)	35.3	(29.9–41.2)	31.6	(23.9–40.6)
Montana	84.1	(78.6–88.3)	75.2	(69.4–80.1)	70.1	(58.4–79.7)***	69.1	(62.6–74.8)	44.2	(37.8–50.7)	17.8	(13.1–23.6)	—	†††
Nebraska	88.5	(83.7–92.0)	90.6	(86.1–93.8)	86.1	(78.3–91.4)	71.5	(65.6–76.7)	42.2	(36.5–48.0)	37.2	(31.8–42.9)	29.5	(23.0–37.0)
Nevada	88.8	(83.5–92.6)	82.7	(76.6–87.4)	64.8	(53.0–75.0)***	69.0	(61.6–75.5)	45.9	(38.6–53.2)	29.6	(23.3–36.9)	30.0	(21.2–40.4)
New Hampshire	94.9	(90.0–97.5)	92.7	(88.2–95.5)	93.2	(85.7–96.9)	84.2	(77.1–89.4)	53.1	(45.8–60.2)	54.6	(47.3–61.7)	54.4	(44.3–64.1)
New Jersey	91.8	(87.6–94.6)	94.5	(91.0–96.7)	86.2	(78.9–91.2)	78.1	(72.4–83.0)	43.0	(36.9–49.3)	60.6	(54.3–66.6)	43.0	(34.3–52.1)
New Mexico	84.2	(78.2–88.7)	83.1	(76.5–88.1)	69.0	(58.7–77.8)	75.1	(68.8–80.6)	50.4	(43.7–57.0)	39.6	(33.3–46.3)	48.3	(38.4–58.4)***
New York	92.6	(89.7–94.8)	93.0	(89.7–95.3)	88.7	(83.0–92.6)	85.5	(81.9–88.5)	53.8	(48.9–58.6)	56.0	(51.1–60.8)	50.2	(43.1–57.3)
New York City	89.7	(84.0–93.5)	90.9	(86.0–94.1)	85.7	(75.1–92.3)	85.4	(80.0–89.5)	49.4	(42.3–56.5)	53.5	(46.4–60.5)	48.3	(38.0–58.7)***
Rest of state	94.6	(91.2–96.8)	94.5	(89.3–97.3)	90.9	(84.1–95.0)	85.6	(80.6–89.5)	56.8	(50.1–63.2)	57.7	(51.1–64.0)	51.5	(41.9–61.0)
North Carolina	82.2	(76.4–86.8)	81.4	(75.2–86.4)	57.7	(47.1–67.7)***	63.6	(56.9–69.8)	28.0	(22.8–33.8)	30.7	(25.2–36.9)	34.4	(26.3–43.6)
North Dakota	93.7	(90.4–96.0)	87.9	(83.4–91.3)	76.1	(66.1–83.8)	75.0	(69.4–79.9)	47.8	(42.2–53.5)	47.4	(41.7–53.1)	28.7	(21.9–36.7)
Ohio	84.8	(79.7–88.8)	76.9	(71.0–81.9)	77.4	(65.9–85.9)***	57.8	(51.3–64.1)	30.6	(25.2–36.7)	37.7	(31.7–44.0)	29.1	(21.6–37.9)
Oklahoma	90.2	(85.9–93.3)	88.9	(84.0–92.4)	83.1	(73.6–89.6)	59.5	(53.1–65.5)	28.6	(23.3–34.5)	25.1	(20.0–30.9)	35.5	(27.3–44.7)
Oregon	87.7	(82.3–91.6)	88.0	(81.5–92.4)	89.0	(79.6–94.3)	64.1	(56.6–71.0)	38.9	(32.2–45.9)	29.6	(23.7–36.3)	34.8	(25.6–45.3)
Pennsylvania	94.6	(91.5–96.6)	95.3	(91.8–97.3)	94.2	(89.7–96.8)	82.0	(77.1–86.0)	51.2	(45.8–56.6)	59.7	(54.2–65.1)	46.1	(38.7–53.7)
Philadelphia County	89.3	(84.7–92.6)	93.3	(89.4–95.8)	91.8	(85.8–95.4)	79.7	(73.9–84.5)	48.6	(42.4–54.8)	66.3	(60.1–72.1)	51.8	(43.3–60.3)
Rest of state	95.5	(91.4–97.7)	95.2	(90.4–97.6)	94.9	(89.5–97.6)	81.9	(76.0–86.7)	48.6	(42.1–55.2)	56.2	(49.5–62.6)	46.5	(37.5–55.7)
Rhode Island	96.3	(92.9–98.1)	98.4	(96.7–99.3)	97.8	(89.1–99.6)	91.5	(86.5–94.8)	41.6	(34.7–48.9)	62.6	(55.3–69.5)	54.7	(44.2–64.8)***
South Carolina	90.9	(87.0–93.7)	92.0	(88.4–94.5)	61.0	(51.3–69.9)	53.7	(47.8–59.5)	27.3	(22.4–32.9)	25.1	(20.1–30.8)	18.7	(13.2–25.9)
South Dakota	86.7	(82.1–90.2)	65.2	(59.2–70.7)	52.7	(41.0–64.1)***	45.3	(39.3–51.4)	19.3	(15.1–24.4)	14.0	(10.3–18.9)	45.9	(37.9–54.1)
Tennessee	85.9	(80.5–90.0)	82.4	(76.1–87.3)	72.0	(62.4–79.9)	50.3	(44.1–56.4)	34.3	(28.7–40.3)	36.5	(30.9–42.6)	29.6	(21.6–39.2)
Texas	81.6	(75.6–86.5)	86.5	(81.2–90.5)	79.4	(66.5–88.2)***	79.3	(73.4–84.3)	40.8	(34.0–48.1)	37.4	(30.9–44.3)	31.6	(23.2–41.5)
Bexar County	82.2	(75.6–87.2)	83.9	(76.7–89.3)	83.6	(71.0–91.4)***	77.7	(71.0–83.2)	42.0	(35.0–49.3)	43.2	(36.2–50.5)	40.7	(30.6–51.7)***
Houston	87.0	(80.2–91.7)	86.4	(79.3–91.3)	86.0	(75.6–92.5)	73.0	(63.8–80.6)	42.6	(34.0–51.8)	51.9	(42.9–60.7)	30.2	(20.3–42.4)***
Rest of state	80.1	(71.3–86.7)	86.8	(79.0–92.0)	78.2	(57.4–90.5)***	80.2	(71.5–86.8)	41.5	(32.0–51.8)	34.6	(25.9–44.5)	—	
Utah	82.6	(76.5–87.4)	70.2	(63.1–76.5)	67.5	(53.7–78.7)***	62.7	(54.9–69.9)	46.8	(39.4–54.3)	31.3	(24.9–38.6)	—	
Vermont	95.2	(91.5–97.4)	94.8	(91.4–96.9)	93.0	(83.8–97.2)	79.8	(73.7–84.8)	49.2	(42.5–55.9)	20.0	(15.2–25.8)	50.4	(40.9–59.8)
Virginia	83.0	(76.7–87.9)	83.7	(76.8–88.8)	69.4	(57.6–79.1)***	70.3	(63.6–76.3)	49.1	(42.1–56.1)	43.8	(37.1–50.8)	40.6	(31.9–50.0)
Washington	78.0	(71.7–83.3)	81.3	(75.6–85.9)	78.9	(67.8–87.0)	64.2	(57.4–70.5)	34.7	(28.7–41.2)	40.0	(33.5–46.8)	46.5	(37.1–56.1)
West Virginia	80.8	(75.1–85.5)	72.4	(66.2–77.8)	66.5	(55.0–76.3)***	44.7	(38.3–51.2)	24.1	(19.1–29.9)	30.2	(24.6–36.4)	33.6	(25.7–42.6)
Wisconsin	93.0	(89.0–95.7)	87.8	(82.4–91.6)	84.4	(73.4–91.4)	75.4	(69.1–80.8)	53.8	(47.1–60.4)	52.2	(45.5–58.9)	47.0	(37.0–57.2)***
Wyoming	87.3	(82.2–91.1)	80.9	(75.1–85.7)	69.5	(58.8–78.5)	79.1	(73.1–84.1)	28.3	(23.0–34.3)	32.8	(27.2–39.0)	36.2	(27.7–45.7)

* Adolescents (N = 17,835) in the 2008 NIS-Teen were born during January 1990–February 1996.
† ≥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.
** 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.
†† ≥1 dose of meningococcal conjugate vaccine or meningococcal-unknown type vaccine.
§§ ≥1 dose of quadrivalent human papillomavirus vaccine. Percentage reported among females only (n = 8,607); HPV4 vaccine is not recommended for males.
¶¶ Confidence interval.
*** Estimate might not be reliable; CI width >20.
††† Estimate not reported because unweighted sample size for the denominator was <30.

protection against varicella (i.e., history of varicella disease or ≥1 dose of VAR) and Tdap (36.0% versus 41.7%). Overall, the percentage of adolescents with history of varicella or ≥1 dose of VAR was lower for those living below the poverty level (88.9%) compared with children at or above poverty (93.5%). Compared with whites, coverage was higher among American Indian/Alaska Natives for MMR (93.9% versus 89.9%) and Td/Tdap (81.4% versus 71.6%). Coverage also was higher among Hispanics than whites for ≥1 dose of MCV4 (46.8% versus 39.7%) and ≥1 dose of HPV4 (44.4% versus 35.0%). Adolescent females living below the poverty level had a higher vaccination coverage percentage for ≥1 dose of HPV4 (46.4%) than adolescent females living at or above the poverty level (35.8%).

Healthy People 2010 established vaccination coverage targets of 90% for adolescents aged 13–15 years for ≥3 doses of HepB, ≥2 doses of MMR, ≥1 dose of Td or Tdap, and ≥1 dose of VAR, among those without history of disease (*5*). For the first time, *Healthy People 2010* targets were achieved for ≥3 doses of HepB (91.8%, CI = 90.7–92.8) and ≥2 doses of MMR (90.7%, CI = 89.6–91.8). Vaccination coverage remained stable at 70.7% (CI = 69.0–72.4) for ≥1 dose of Td or Tdap, and increased from 80.2% in 2007 to 85.5% (CI = 83.5–87.3) in 2008 for ≥1 dose of VAR.

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TABLE 3. Estimated vaccination coverage among adolescents aged 13–17 years,* by race/ethnicity,† poverty level,§ and selected vaccines and doses — National Immunization Survey–Teen, United States, 2008

	Race/Ethnicity										Poverty status			
	White (n = 12,628)		Black (n = 1,934)		Hispanic (n = 2,017)		American Indian/ Alaska Native (n = 234)		Asian (n = 334)		Below poverty level (n = 2,140)		At or above poverty level (n = 14,951)	
Vaccines and doses	%	(95% CI¶)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
MMR** ≥2 doses	89.9	(88.8–90.8)	89.1	(86.5–91.2)	87.5	(84.4–90.0)	93.9	(88.3–96.9)††	87.2	(77.4–93.1)	**87.1**	**(84.1–89.6)**	**89.6**	**(88.6–90.6)**
Hepatitis B ≥3 doses	88.1	(87.0–89.1)	86.0	(83.3–88.3)	89.8	(87.0–92.0)	86.6	(77.6–92.4)	89.9	(80.0–95.2)	**86.7**	**(83.9–89.1)**	**88.0**	**(87.0–89.1)**
Varicella														
History of varicella disease§§	63.1	(61.6–64.6)	53.5	(49.2–57.7)††	55.1	(50.5–59.7)††	66.2	(54.0–76.5)¶¶	58.2	(48.1–67.6)	**51.5**	**(47.0–55.9)††**	**61.8**	**(60.3–63.3)**
Among adolescents without history of disease														
≥1 dose	82.8	(81.0–84.5)	74.0	(68.4–78.9)††	84.5	(79.0–88.8)	83.5	(68.4–92.2)¶¶	89.1	(82.0–93.6)	**77.0**	**(71.1–82.1)††**	**82.9**	**(81.2–84.4)**
≥2 doses	31.6	(29.5–33.9)	35.0	(28.1–42.6)	38.5	(31.8–45.7)		—***	36.1	(24.0–50.3)¶¶	**35.8**	**(28.9–43.4)**	**33.9**	**(31.5–36.3)**
History of disease or received ≥1 dose varicella vaccine	93.7	(93.0–94.3)	87.9	(85.1–90.2)††	93.0	(90.4–95.0)	94.4	(88.9–97.3)	95.4	(92.4–97.3)	**88.9**	**(85.8–91.3)††**	**93.5**	**(92.8–94.1)**
Td or Tdap since age 10 years†††														
≥1dose Td or Tdap	71.6	(70.1–73.0)	71.4	(67.6–74.9)	74.1	(70.0–77.8)	81.4	(72.6–87.8)††	76.9	(67.2–84.4)	**70.9**	**(67.0–74.4)**	**72.7**	**(71.3–74.1)**
≥1dose Tdap	41.7	(40.2–43.3)	36.0	(31.9–40.2)††	41.9	(37.5–46.5)	43.5	(31.7–56.1)¶¶	44.4	(34.4–54.9)¶¶	**38.6**	**(34.2–43.2)**	**41.2**	**(39.7–42.8)**
MCV4 ≤1 dose§§§	39.7	(38.2–41.2)	43.1	(39.0–47.3)	46.8	(42.2–51.4)††	47.3	(35.4–59.5)¶¶	50.5	(40.3–60.8)¶¶	**40.8**	**(36.6–45.2)**	**42.0**	**(40.5–43.6)**
HPV4¶¶¶														
≥1 dose	35.0	(32.9–37.1)	35.7	(29.5–42.4)	44.4	(38.0–50.9)††	52.8	(35.4–69.6)¶¶	40.6	(27.6–55.2)¶¶	**46.4**	**(39.8–53.1)††**	**35.8**	**(33.7–37.9)**
≥3 doses	19.5	(17.8–21.3)	14.9	(9.7–22.3)	14.7	(11.4–18.8)††		—		—	**14.9**	**(9.6–22.2)**	**18.6**	**(17.0–20.3)**

* Adolescents (N = 17,835) in the 2008 NIS-Teen were born during January 1990–February 1996.
† Respondents who self-identified as white, black, Asian, or American Indian/Alaska Native were all considered non-Hispanic. Persons who self-identified as Hispanic might be of any race. Native Hawaiian or other Pacific Islanders and persons of multiple races (n = 688) were not included because of small sample sizes.
§ 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 744 adolescents.
¶ Confidence interval.
** Measles, mumps, and rubella vaccine.
†† Statistically significant difference at p<0.05 in estimated vaccination coverage. For race/ethnicity, referent group was white, non-Hispanic adolescents; for poverty status, referent group was at or above poverty level.
§§ By parent/guardian report or provider records.
¶¶ Estimate might not be reliable; CI width >20.
*** Estimate not reported because unweighted sample size for the denominator was <30.
††† Tetanus and diphtheria toxoids vaccine (Td) or tetanus toxoid, reduced diphtheria toxoid, acellular pertussis (Tdap), or tetanus-unknown type vaccine.
§§§ Includes percentages receiving meningococcal conjugate vaccine (MCV4) or meningococcal-unknown type vaccine.
¶¶¶ Quadrivalent human papillomavirus vaccine. Percentages reported among females only (n = 8,607); HPV4 vaccine is not recommended for males.

Editorial Note: This is the third annual report of national adolescent vaccination coverage based on provider-reported vaccination histories from NIS-Teen and the first report of state and local area estimates. Coverage levels for vaccines routinely recommended for adolescents continued to increase nationally; however, coverage varied substantially among state and local areas. Differences also were observed by race/ethnicity and poverty status including higher HPV4 (≥1 dose) coverage among Hispanic females compared with whites and among adolescents living below compared with those living at or above the poverty level.

The wide variation in adolescent coverage levels among states might be the result of changes in immunization policies, recent experiences with outbreaks of vaccine preventable diseases, or efforts to remove cost as a barrier to vaccination. For example, Colorado, a state with high Tdap coverage, implemented a Tdap requirement for 6th and 10th grade students during the 2007–08 school year, incrementally increasing the grades covered until 2011, when the requirement will apply to all students in grades 6–12 (J. Reynolds, Colorado Immunization Program, personal communication, 2009). During the 2007–08 school year, 22 states reported having a requirement for a tetanus-containing vaccine for entry into middle school (only seven specified Tdap formulation); no states reported requirements for MCV4 or HPV4 vaccines.†† In New Hampshire, an increase in funds contributed by insurance companies for state purchase of vaccine soon after HPV4 was recommended allowed the state to provide universal coverage to females aged 11–18 years (M. Bobinsky, New Hampshire Immunization Program, personal communication, 2009). However, in 2008, only seven states provided universal coverage of all routinely

†† Additional information available at http://www2a.cdc.gov/nip/schoolsurv/combinedlaws2007.pdf.

recommended pediatric vaccines for all children.[§§] Further evaluation of NIS-Teen data is needed to assess the impact state middle school requirements and vaccine-financing policies have on adolescent vaccination coverage.

Among vaccines routinely recommended for adolescents, coverage with ≥1 dose of HPV4, which was approved only 2 years before the survey, had the greatest percentage-point increase (12.1) in vaccination coverage from 2007 to 2008. The percentage of females initiating the HPV4 series was 9.4 percentage points higher among Hispanics compared with whites and 10.6 percentage points higher among those who live below the poverty level than those who live at or above the poverty level. These findings are important because certain HPV infections are a major cause of cervical cancer and Hispanic adult females and those who live below the poverty level tend to have lower cervical cancer screening rates and higher rates of cervical cancer incidence and mortality (*4*).

Why HPV4 vaccination coverage was higher among Hispanic adolescent females than whites was not clear. However, among survey participants, a much greater percentage of Hispanic adolescents were living below the poverty level (43.2%) than whites (6.7%). Higher coverage for the first dose of HPV4 among adolescents living below the poverty level might be explained by vaccine financing concerns. Because HPV4 is the most expensive vaccine recommended for adolescents (*6*), its availability through the Vaccines for Children (VFC) program has removed cost as a barrier to receiving HPV4 among VFC-eligible adolescents (i.e., adolescents who are uninsured, Medicaid eligible, or of American Indian/Alaska Native descent). Financial barriers to purchasing and administering HPV4 vaccine have been reported among private health-care providers (*7*), which might account for the lower coverage observed among adolescents who live at or above the poverty line and are more likely to be privately insured. Differences by poverty status were not observed for 3-dose HPV4 coverage; however, coverage overall was low (17.9%). Barriers other than cost might affect the ability of adolescent females to complete the HPV4 series, and further studies are needed to understand and address the barriers to receiving all of the recommended doses of HPV4.

The findings in this report are subject to at least four limitations. First, NIS-Teen is a landline telephone survey; although studies indicate that statistical adjustments adequately compensate for exclusion of households without telephones (*8*), sampling bias might remain. Second, underestimates of vaccination coverage might have resulted from the exclusive use of provider-verified vaccination histories because completeness of these records is unknown. Third, sample sizes were insufficient to adequately compare vaccine coverage rates among racial/ethnic groups stratified by poverty status. Finally, annual estimates for state and local areas and by racial/ethnic groups should be interpreted with caution because of smaller sample sizes and wider confidence intervals.

CDC will continue to monitor vaccination coverage among adolescents annually, enabling further analysis of coverage trends by race/ethnicity, poverty status, and geographic area. Results from a systematic review in 2000 identified several strategies shown to improve vaccination coverage among children, adolescents, and adults, including 1) client and provider reminder, 2) vaccination requirements for school attendance, 3) reduction of out-of-pocket costs, 4) increased vaccination access in health-care settings, and 5) assessment and feedback to vaccination providers (*9*). The majority of studies from which these efforts were identified targeted infant vaccination; therefore, additional research to identify evidence-based strategies for improving vaccination coverage among adolescents specifically will be needed to achieve high coverage levels in this population.

[§§] Additional information available at http://www.cdc.gov/vaccines/programs/vfc/projects/data/vacc-supply-public-2008.htm.

References

1. CDC. Recommended immunization schedules for persons aged 0–18 years—United States. 2009. MMWR 2008;57(51&52).
2. Jain N, Singleton JA, Montgomery M, Skalland B. Determining accurate vaccination coverage rates for adolescents: the National Immunization Survey-Teen 2006. Public Health Rep 2009;124:642–51.
3. CDC. Vaccination coverage among adolescents aged 13–17 years—United States, 2007. MMWR 2008;57:1100–3.
4. CDC. Quadrivalent human papillomavirus vaccine. Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2007;56(No. RR-2).
5. US Department of Health and Human Services. Objective 14-27: increase routine vaccination coverage levels for adolescents. Healthy people 2010 (conference ed, in 2 vols). Washington, DC: US Department of Health and Human Services; 2000. Available at http://www.healthypeople.gov/document/html/objectives/14-27.htm.
6. CDC. CDC vaccine price list. September 2, 2009. Available at http://www.cdc.gov/vaccines/programs/vfc/cdc-vac-price-list.htm.
7. Freed GL, Cowan AE, Clark SJ. Primary care physician perspectives on reimbursement for childhood immunizations. Pediatrics 2008; 122:1319–24.
8. Molinari N, Wolter KM, Skalland B, et al. Quantifying bias in a health survey: an application of total survey error modeling to the National Immunization Survey. Presented at the annual meeting of the American Association for Public Opinion Research, May 14–17, 2009, Hollywood, FL.
9. Briss PA, Rodewald LE, Hinman AR, et al. Reviews of evidence regarding interventions to improve vaccination coverage in children, adolescents, and adults. The Task Force on Community Preventive Services. Am J Prev Med 2000;18(1 suppl):97–140.

Update on Vaccine-Derived Polioviruses — Worldwide, January 2008–June 2009

In 1988, the World Health Assembly resolved to eradicate poliomyelitis worldwide (*1*). Subsequently, the Global Polio Eradication Initiative of the World Health Organization (WHO) reduced the global incidence of polio associated with wild polioviruses (WPVs) from an estimated 350,000 cases in 125 countries in 1988 to 1,651 reported cases in 2008 and reduced the number of countries that have never interrupted WPV transmission to four (Afghanistan, India, Nigeria, and Pakistan) (*1*). Under current WHO plans, when the goal of eradicating all WPV transmission is attained, oral poliovirus vaccine (OPV) use worldwide eventually will be discontinued. However, because vaccine-derived polioviruses (VDPVs) can produce polio outbreaks in areas with low rates of Sabin OPV coverage and can replicate for years in immunodeficient persons, enhanced strategies are needed to limit emergence of VDPVs (*2*). This report updates previous summaries (*3,4*) and describes VDPVs detected worldwide during January 2008–June 2009. During this period, 1) two new outbreaks of circulating VDPVs (cVDPVs) (accounting for 4–20 cases) were identified in the Democratic Republic of Congo and Ethiopia; 2) a previously identified outbreak in Nigeria ultimately resulted in a cumulative total of 292 cases; 3) two newly identified paralyzed immunodeficient persons in Argentina and the United States were found to excrete VDPVs; and 4) isolated VDPVs were found among persons and environmental samples in 11 countries. All countries need to maintain 1) high rates of poliovirus vaccination coverage to prevent VDPV spread and 2) sensitive poliovirus surveillance to detect VDPVs.

Properties of VDPVs

VDPVs can cause paralytic polio in humans and have the potential for sustained circulation. VDPVs resemble WPVs biologically (*2*) and differ from most Sabin vaccine-related poliovirus (VRPV) isolates by having genetic properties consistent with prolonged replication or transmission. Because poliovirus genomes evolve at a rate of approximately 1% per year, Sabin VRPV isolates that differ from the corresponding OPV strain by >1% of nucleotide positions (usually determined by sequencing the genomic region encoding the major viral surface protein, VP1) are estimated to have replicated for at least 1 year in one or more persons after administration of an OPV dose. This is substantially longer than the normal period of vaccine virus replication of 4–6 weeks in an OPV recipient.

Poliovirus isolates are divided into three serotypes: type 1, type 2, and type 3. Isolates are divided further into three categories, based on the extent of VP1 nucleotide sequence divergence from the corresponding Sabin OPV strain: 1) Sabin VRPVs (≤1% divergent), 2) VDPVs (VRPVs that are >1% divergent from the corresponding Sabin strain), and 3) WPVs (no genetic evidence of derivation from any vaccine strain) (*3*). VDPVs are further categorized as 1) circulating VDPVs (cVDPVs), when evidence of person-to-person transmission in the community exists; 2) immunodeficiency-associated VDPVs (iVDPVs), which are isolated from persons with primary immunodeficiencies who have prolonged VDPV infections; and 3) ambiguous VDPVs (aVDPVs), which are either clinical isolates from persons with no known immunodeficiency or sewage isolates whose ultimate source is unknown (*2*).

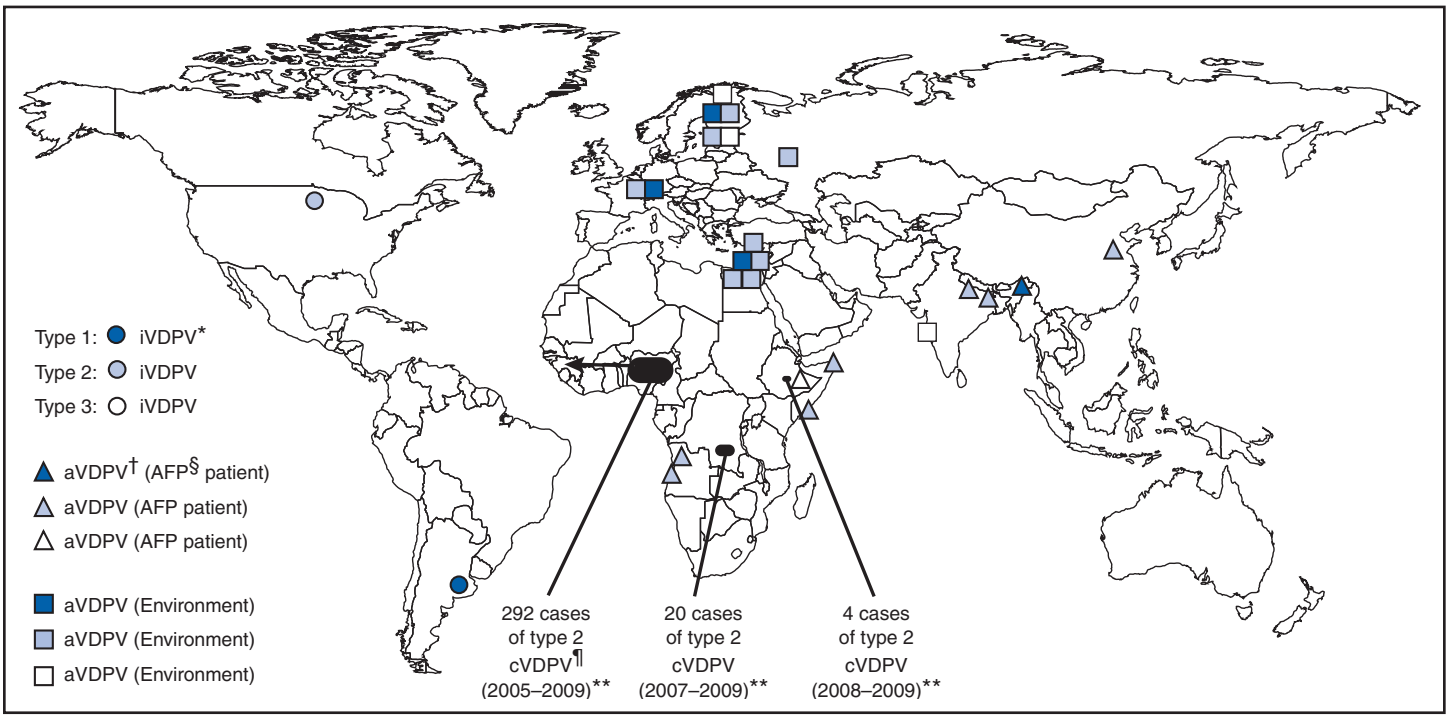
Virologic Testing for VDPVs

Soon after the recognition of a cVDPV outbreak in Hispaniola in 2001 laboratories of the Global Polio Laboratory Network (GPLN) implemented a protocol to screen for VDPVs, using a combination of molecular and antigenic methods. VRPV isolates identified by molecular methods that had "non–vaccine-like" antigenic properties were candidate VDPVs and were sequenced (*2*). However, since 2007, some VDPVs, especially less divergent type 2 VDPV (VDPV2) isolates, have undergone limited antigenic evolution and were missed by this screening protocol. A new method based on real-time reverse transcription–polymerase chain reaction (rRT-PCR), which targets nucleotide substitutions that occur early in VDPV emergence, has been evaluated and shown to detect VDPVs with much higher sensitivity and is being implemented as a routine screening method by GPLN as of 2009 (*5*).

cVDPVs

Democratic Republic of Congo. Retrospective and ongoing characterization of Sabin 2-related isolates by rRT-PCR found 20 acute flaccid paralysis (AFP) cases associated with cVDPV2 (1.1%–2.0% divergent) during 2005–2009 (Figure). Most (n = 15) cases occurred in Katanga Province during 2008–2009, but others occurred in Bandundu (n = 2) in 2005, Sud-Kivu (n = 1) in 2007, Orientale (n = 1) in 2007, and Kasai-Occidental (n = 1) in 2008. The Katanga and Kasai-Occidental isolates had diverged into two main clusters of related lineages, whereas the remaining isolates were unlinked genetically. An additional 13 Sabin 2-related isolates with 0.6%–1.0% VP1 divergence were found in Katanga and elsewhere, some of which clustered geographically and genetically with outbreak viruses.

FIGURE. Vaccine-derived polioviruses (VDPVs) detected worldwide, January 2008–June 2009



* Immunodeficiency-associated VDPV.
† Ambiguous VDPV.
§ Acute flaccid paralysis.
¶ Circulating VDPV.
** Spread of cVDPVs followed the elimination of the corresponding serotype of indigenous wild poliovirus, but with continued introduction of oral poliovirus vaccine into communities with growing immunity gaps. All of the cVDPV outbreaks were detected first by the laboratory, using sequence data and evolutionary analyses.

Ethiopia. Four closely-related cVDPV2 isolates (1.1%–1.2% divergent) were isolated during October 2008 and February 2009 from AFP patients in East Harerghe.

Guinea. A girl aged 6 years, who had received 1 dose of OPV in 2003 and was living in a camp for refugees from Côte d'Ivoire, had AFP onset in May 2009. A VDPV2 (3.5% divergent) was isolated and was found to be closely related to several 2008–2009 cVDPV2 isolates from northern Nigeria.

Nigeria. Since 2005, 292 AFP cases associated with an outbreak of cVDPV2 have been reported in 11 northern and three central states of Nigeria. The outbreak is ongoing, with one case in 2005, 20 in 2006, 68 in 2007, 63 in 2008, and 140 during January–June 2009. Twenty-eight percent (81 of 292) of all cVDPV isolates were from Kano state, which has been a major reservoir for WPV type 1 (WPV1) and WPV3 circulation within Nigeria (*1*,*3*). However, the proportion of cVDPV cases occurring outside of Kano increased to 81% during January 2008–June 2009. Genetic analysis of outbreak viruses indicated that the detected cases actually represent several concurrent outbreaks arising from multiple independent cVDPV2 emergences during 2004–2006.

VDPV circulation was largely limited to the northern Nigerian states, where WPV1 and WPV3 circulation has continued (*1*). Two independent introductions of cVDPV2 into the Republic of Niger from Nigeria were detected in 2006 (*3*), and an introduction into Guinea was found in 2009. By comparison, WPV1 and WPV3 from Nigeria have spread widely in neighboring countries of Africa (*6*).

Of the 26 targeted supplementary immunization activities (SIAs)* conducted in Nigeria since 2006, 16 have used monovalent OPV type 1 (mOPV1), five have used mOPV3, and sixhave used trivalent OPV (tOPV) (most recently during May 30–June 2, 2009 [as of June 30, 2009]). Routine immunization uses tOPV, but its use is estimated to be only 61% nationwide and much lower in the northern states.

iVDPVs

Since the introduction of OPV in 1961, approximately 40 persons with B-cell immunodeficiencies have been found

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

to be excreting iVDPVs, which are indicative of prolonged infections. Currently, no effective therapies to clear iVDPV infections are available.

Argentina. A boy aged 15 months with x-linked agammaglobulinemia, who had received three OPV doses in his first months of life, developed AFP in April 2009. iVDPV1 (3.6%–3.8% divergent) was isolated from two serial stool specimens. No other VDPVs were detected among 87 contacts tested.

United States. OPV use in the United States ceased after 1999.[†] In December 2008, a woman aged 44 years with a >20 year history of common-variable immunodeficiency developed ascending paralysis in all limbs and respiratory insufficiency. She died in March 2009 from various complications of her chronic illness, including neurologic sequelae. Highly divergent (12.3%) iVDPV2 was isolated from a pre-mortem stool specimen. A household member had received three OPV doses 13 years before onset of AFP in the decedent, and the estimated age of the iVDPV2 suggests that one of those doses could have been the source of exposure. This infection is independent of the VDPV1 that circulated in an undervaccinated rural Minnesota community in 2005 (*7*).

aVDPVs

aVDPVs have been isolated in 11 countries during January 2008–June 2009 (Table). Descriptions of the most divergent aVDPVs, all from sewage samples, follow.

Estonia. Highly divergent (approximately 15%) aVDPV2 and aVDPV3 were isolated from separate sewage samples taken in September and December 2008. The isolates had sequence properties that suggested that they originated from a common infection, and the aVDPV3 is related to another Estonian aVDPV3 isolated from sewage described previously (*2,8*).

Finland. Highly divergent (approximately 15%) aVDPV1, aVDPV2, and aVDPV3 were isolated from sewage samples collected in Tampere in December 2008 and June 2009. The isolates had sequence properties that suggested that they originated from a common infection. The Finnish aVDPVs are distinct from the Estonian aVDPVs.

Israel. Environmental monitoring for polioviruses was implemented by Israel after its 1987–1988 WPV1 outbreak. Monitoring sewage samples from the Tel Aviv area (sampling populations of approximately 350,000 and 10,000) yielded two groups of type 2 aVDPVs (*9*). The first group was detected initially in 1998, and 19 more highly divergent representatives (approximately 15% divergent) were detected during 2008–2009. The second group, detected since 2006, is less divergent (approximately 7%) and is defined by 10 isolates. Despite follow-up investigations, no source for these VDPVs has been identified. An aVDPV1 (8.2% divergent) was isolated from an environmental sample collected from a site sampling a different population in Haifa on February 22, 2009.

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Editorial Note: The recent VDPV emergences reinforce some key lessons for the Global Polio Eradication Initiative. The cVDPV2 outbreak in Nigeria, whose 4-year duration is surpassed only by the decade-long cVDPV2 outbreak in Egypt during 1983–1993 (*10*), further demonstrates that cVDPVs, like WPV, can circulate indefinitely in settings with low rates of poliovirus vaccination coverage. The emergence of multiple independent cVDPV2 lineages in Nigeria and the unrelated cVDPV2 outbreaks in the Democratic Republic of Congo and Ethiopia highlight the particular risks for emergence of cVDPV2 in settings of low tOPV coverage (*10*). Improvements in laboratory methods for the identification of VDPV2 facilitated early detection of the outbreaks in the Democratic Republic of Congo and Ethiopia, but maintenance of sensitive AFP surveillance was crucial; any temporal and geographic clustering of vaccine-related isolates of the same serotype should prompt further investigation.

The appearance of an iVDPV case in the United States 13 years after the likely exposure and 9 years after cessation of OPV use illustrates the continued risk among immunodeficient persons from past OPV use. Chronic iVDPV excretors (i.e., excretion for >5 years) have been described in several countries that have shifted to inactivated poliovirus vaccine (IPV) (*2*), and the highly divergent aVDPVs found in sewage in Israel, Estonia, and Finland have similar genetic properties to iVDPVs from chronic excretors. The appearance of an iVDPV case in Argentina further underscores the risks of prolonged iVDPV excretion in middle-income countries (*2,3*).

Several of the aVDPVs described in this report show only limited divergence (1.1%–1.5%) and were detected after implementation of the new rRT-PCR screening methods. In some settings such isolates are observed sporadically, and no genetically linked VDPVs are found subsequently. However, in settings of potential low local tOPV coverage, the sporadic detection of aVDPVs should prompt further clinical investigation (when the patient is identified), review of surveillance and polio vaccination coverage data, and implementation of

[†] Additional information available at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4905a1.htm.

TABLE. Vaccine-derived polioviruses (VDPVs) detected worldwide, January 2008–June 2009

Category	Country	Year(s) detected*	Source	Sero-type	No. of isolates†			VP1 divergence from Sabin OPV§ strain (%)	Routine coverage with 3 doses of poliovirus vaccine (%)¶	Estimated duration of VDPV replication**	Current status (date of last outbreak case, last patient isolate, or last environmental sample)
					Cases	Contacts	Environmental samples				
cVDPV††	Nigeria§§	2005–2009	Outbreak (292 cases)¶¶	2	292	—	—	1.0–5.1	61	5 yrs	June 27, 2009
	Guinea	2009	Importation (1 case)***	2	1	—	—	3.5	71	—	May 12, 2009
	Democratic Republic of Congo	2005–2009	Outbreak (20 cases)¶¶	2	33	—	—	1.0–2.0	68	4 yrs	March 7, 2009
	Ethiopia	2008–2009	Outbreak (4 cases)	2	4	—	—	1.2	75	1 yr	February 16, 2009
iVDPV†††	Argentina	2009	AFP§§§ patient (XLA¶¶¶)	1	1	—	2	3.6–3.8	94	≥15 mos	Alive (April 23, 2009)
	United States	2009	AFP patient (CVID****)	2	1	—	—	12.3	96 (IPV††††)	13 yrs	Died in March 2009
aVDPV§§§§	Angola	2008	AFP patient	2	1	—	—	1.1	75	1 yr	May 5, 2008
		2008	AFP patient	2	1	—	—	1.1		1 yr	May 25, 2008
	China	2009	AFP patient	2	1	—	—	1.2	99	1 yr	February 22, 2009
	Egypt	2008	Environment	2	—		1	1.7	97	1.5 yrs	April 7, 2008
	Estonia	2008	Environment	2	—	—	1	14.5	95	>15 yrs	September 25, 2008
		2008	Environment	3	—		1	15.6		>15 yrs	December 29, 2008
	Ethiopia	2009	AFP patient	3	1	—	—	1.3	75	1 yr	April 30, 2009
	Finland	2008–2009	Environment	1	—	—	1¶¶¶¶	12.4	97 (IPV)	13 yrs	December 15, 2008
		2008–2009	Environment	2	—	—	1	12.7		13 yrs	December 15, 2008
		2009	Environment	3	—	—	1	14.6		14 yrs	June 26, 2009
	India	2009	AFP patient	1	1	—	—	1.1	66	1 yr	April 7, 2009
		2009	AFP patient	2	1	—	—	1.3		1 yr	April 30, 2009
		2009	AFP patient	2	1	—	—	1.1		1 yr	June 29, 2009
		2009	Environment	3	—	—	1	1.2		1 yr	May 20, 2009
	Israel	2009	Environment	1	—	—	1	8.2	95 (IPV)	8 yrs	February 22, 2009
		1998–2009	Environment	2	—	—	33*****	8.8–15.3		>15 yrs	January 20, 2009
		2006–2009	Environment	2	—	—	10*****	6.6–9.7		10 yrs	November 25, 2008
	Malawi	2008†††††	AFP patient	3	1	—	—	3.1	92	3 yrs	January 14, 2008
	Russia	2008	Healthy child	1	1	—	—	1.4	98 (IPV)	1 yr	Alive (March 2008)
	Somalia	2008	AFP patient	2	1	—	—	1.1	24	1 yr	April 5, 2008
		2008	AFP patient	2	1	1	—	1.6		1 yr	June 24, 2008
	Switzerland	2008	Environment	2	—	—	1	1.2	95 (IPV)	1 yr	January 2008
		2008	Environment	1	—	—	1	1.1		1 yr	March 2008

* Total years detected and cumulative totals for the previously reported cVDPV outbreak (Nigeria).
† Includes environmental aVDPV isolates (Israel).
§ Oral poliovirus vaccine.
¶ Based on 2008 data from the World Health Organization (WHO) Vaccine Preventable Diseases Monitoring System (2009 global summary) and WHO-UNICEF coverage estimates, available at http://www.who.int/immunization_monitoring/en/globalsummary/countryprofileselect.cfm. National data might not reflect weaknesses at subnational levels.
** Duration of cVDPV circulation was estimated from extent of VP1 nucleotide divergence from the corresponding Sabin OPV strain; duration of immunodeficiency-associated VDPV replication was estimated from clinical record by assuming that exposure was from initial receipt of OPV; duration of ambiguous VDPV replication was estimated from sequence data.
†† Circulating VDPV. Most cVDPV isolates from Nigeria, Democratic Republic of Congo, Ethiopia, and Guinea were vaccine/nonvaccine recombinants.
§§ Previously reported outbreak; OPV coverage <50% around cases.
¶¶ Excludes isolates 0.5%–1.0% divergent from Sabin 2 that are closely related to the cVDPV isolates: 16 from Nigeria and 13 from Democratic Republic of Congo. Some of the isolates formed genetic lineages.
*** Importation from Nigerian cVDPV outbreak. Isolate shared >60% of nucleotide differences from Sabin 2 with cVDPV isolates from northern Nigeria.
††† Immunodeficiency-associated VDPV. None of the iVDPV isolates appeared to be vaccine/nonvaccine recombinants.
§§§ Acute flaccid paralysis.
¶¶¶ X-linked agammaglobulinemia.
**** Common variable immunodeficiency.
†††† Inactivated poliovirus vaccine.
§§§§ Ambiguous VDPV. None of the aVDPV isolates appeared to be vaccine/nonvaccine recombinants.
¶¶¶¶ Types 1 and 2 aVDPVs were isolated from the same environmental sample.
***** Two separate lineages of type 2 aVDPVs were isolated from environmental samples in Israel.
††††† AFP onset on December 23, 2007.

vaccination campaigns (mop-ups and SIAs, usually with tOPV) to prevent virus spread.

Experience has underscored the importance of routine immunization either with IPV or tOPV to prevent VDPV spread (*10*). In countries with low rates of routine vaccination, closing the immunity gaps to all three poliovirus serotypes by periodic but regular use of tOPV in SIAs is important. However, high rates of tOPV coverage will not prevent or clear VDPV infections in immunodeficient hosts. WHO, in collaboration with other partners, is exploring antiviral compounds for their potential to clear iVDPV infections (*3*).

References

1. CDC. Progress toward interruption of wild poliovirus transmission—worldwide, 2008. MMWR 2009;58:308–12.
2. CDC. Update on vaccine-derived polioviruses. MMWR 2006;55:1093–7.
3. CDC. Update on vaccine-derived polioviruses—worldwide, January 2006–August 2007. MMWR 2007;56:996–1001.
4. CDC. Laboratory surveillance for wild and vaccine-derived polioviruses—worldwide, January 2007–June 2008. MMWR 2008;57:967–70.
5. CDC. Laboratory surveillance for wild and vaccine-derived polioviruses—worldwide, January 2008–June 2009. MMWR 2009;58:950–4.
6. CDC. Wild poliovirus type 1 and type 3 importations—15 countries, Africa, 2008–2009. MMWR 2009;58:357–62.
7. Alexander JP, Ehresmann K, Seward J, et al. Transmission of imported vaccine-derived poliovirus in an under-vaccinated community—Minnesota, USA. J Infect Dis 2009;199:391–7.
8. Blomqvist S, Savolainen C, Laine P, et al. Characterization of a highly evolved vaccine-derived poliovirus type 3 isolated from sewage in Estonia. J Virol 2004;78:4876–83.
9. Shulman LM, Manor Y, Sofer D, et al. Neurovirulent vaccine-derived polioviruses in sewage from highly immune populations. PLoS One 2006;1:e69.
10. Kew OM, Sutter RW, de Gourville EM, Dowdle WR, Pallansch MA. Vaccine-derived polioviruses and the endgame strategy for global polio eradication. Annu Rev Microbiol 2005;59:587–635.

Updated Recommendations from the Advisory Committee on Immunization Practices (ACIP) for Use of Hepatitis A Vaccine in Close Contacts of Newly Arriving International Adoptees

On February 25, 2009, the Advisory Committee on Immunization Practices (ACIP) recommended routine hepatitis A vaccination for household members and other close personal contacts (e.g., regular babysitters) of adopted children newly arriving from countries with high or intermediate hepatitis A endemicity. This new recommendation complements previous ACIP recommendations for hepatitis A vaccination for persons traveling from the United States to countries with high or intermediate hepatitis A endemicity (*1,2*) (including persons with travel related to international adoption), and postexposure prophylaxis for contacts of persons with hepatitis A (*1*). This report introduces the new recommendation and outlines the underlying epidemiologic and programmatic rationale.

Rationale and Methods

Hepatitis A virus (HAV) can produce either asymptomatic or symptomatic infection in humans after an average incubation period of 28 days (range: 15–50 days) (*3*). Peak infectivity occurs during the 2-week period before onset of jaundice or elevation of liver enzymes, when concentration of virus in stool is highest (*4*). Illness caused by HAV typically has an abrupt onset that can include fever, malaise, anorexia, nausea, abdominal discomfort, dark urine, and jaundice. The likelihood of having symptoms with HAV infection increases with age. Fewer than 10% of infections among children aged 0–4 years result in jaundice; this percentage increases to 30%–40% among children aged 5–9 years, 60%–80% among youths aged 10–17 years, and 80%–90% among adults aged ≥18 years (*5*). When signs and symptoms occur, typically they last <2 months, although 10%–15% of symptomatic persons have prolonged or relapsing disease lasting up to 6 months (*6*). The case-fatality rate for HAV infection increases with age: 1.8% for persons adults aged >50 years compared with 0.6% for persons aged <50 years. The case-fatality rate is also increased among persons with chronic liver disease, who are at increased risk for acute liver failure (*7*).

In making its recommendation, ACIP considered the likelihood that a child adopted by parents in the United States might be actively infected with HAV and shedding virus at the time of adoption. During 1998–2008, approximately 18,000 children (range: 15,583 to 22,884) were adopted from foreign countries by families in the United States each year.* Approximately 99.8% of these children came from countries where hepatitis A is considered to be of high or intermediate endemicity (*2*), and approximately 85% of were aged <5 years. Country-specific policies pertaining to foreign adoption are changing constantly, leading to rapid changes in the numbers of international adoptees entering the United States from various countries. Although South Korea was the most common country of origin for adoptions in the United States in the early 1990s, Russia and China became prominent in international adoption in the late 1990s, and currently the largest numbers

* Additional information available at http://adoption.state.gov/news/total_chart.html.

of adopted children come from Guatemala, China, Russia, and Ethiopia. The incidence of HAV infection is highest in these countries among children aged <5 years, when HAV infection is likely to be asymptomatic.

ACIP also considered recent reports of HAV infection among persons in close contact with new adoptees from countries of high or intermediate hepatitis A endemicity. Such persons are at greater risk for HAV infection. In 2007, CDC was notified of a case of fulminant hepatitis A in a nontraveling household contact of an asymptomatic Ethiopian adoptee confirmed to have acute hepatitis A (immunoglobulin M [IgM] antibody to HAV [anti-HAV] positive). This case prompted further investigation that led to identification of 20 other cases of acute hepatitis A among persons who had close personal contact with newly arriving internationally adopted children and no history of traveling abroad (*8*). Two acute hepatitis A cases were identified among traveling parents who had not been vaccinated. This same study found that 98% of parents traveling to pick up their children had been vaccinated against hepatitis A in accordance with existing ACIP recommendations (*8*).

Since 2007, CDC has received 14 additional reports of acute hepatitis A following exposure to nonjaundiced adoptees newly arriving from countries of high or intermediate hepatitis A endemicity. Although these numbers are small compared with the total number of hepatitis A cases (2,979) reported to CDC in 2007 (*9*), they likely represent an underestimate of the number of hepatitis A cases associated with international adoptions because contact with an international adoptee is not asked routinely as part of national hepatitis A surveillance. All of the 14 adoptee-associated cases identified since 2007 were in close contacts who had not been vaccinated against hepatitis A and had no history of travel and no other risk factors for hepatitis A. In one instance, both adoptive parents developed hepatitis A that required hospitalization (CDC, unpublished data, 2008). In another instance, a 2008 community outbreak with 12 hepatitis A cases was associated with an asymptomatic HAV-infected international adoptee; two infected contacts were hospitalized, and disease was identified among tertiary contacts in an elementary school (CDC, unpublished data, 2009).

Data from a study conducted at three adoption clinics in the United States, each screening 100–200 incoming adoptees for hepatitis A each year, indicate that 1%–6% of newly arrived international adoptees are acutely infected with HAV (nonjaundiced; IgM anti-HAV positive). A proportion of these adoptees represent a source of infection for susceptible close contacts (*9*). The risk for hepatitis A among close personal contacts of international adoptees is estimated at 106 (range: 90–819) per 100,000 household contacts of international adoptees within the first 60 days of their arrival in the United States (CDC, unpublished data, 2009). By comparison, according to surveillance data, the estimated rate of symptomatic hepatitis A in the U.S. general population in 2007 was 1.0 per 100,000 population (*10*).

Updated Recommendation

Based on this evidence, on February 25, ACIP updated its guidance by recommending hepatitis A vaccination for all previously unvaccinated persons who anticipate close personal contact (e.g., household contact or regular babysitting) with an international adoptee from a country of high or intermediate endemicity during the first 60 days following arrival of the adoptee in the United States. The first dose of the 2-dose hepatitis A vaccine series should be administered as soon as adoption is planned, ideally 2 or more weeks before the arrival of the adoptee.

References

1. CDC. Update: prevention of hepatitis A after exposure to hepatitis A virus and in international travelers: updated recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2007; 56:1080–4.
2. CDC. Prevention of hepatitis A through active or passive immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2006;55(No. RR-7).
3. Krugman S, Giles JP. Viral hepatitis: new light on an old disease. JAMA 1970;212:1019–29.
4. Tassopoulos NC, Papaevangelou GJ, Ticehurst JR, Purcell RH. Fecal excretion of Greek strains of hepatitis A virus in patients with hepatitis A and in experimentally infected chimpanzees. J Infect Dis 1986;154:231–7.
5. Armstrong GL and Bell BP. Hepatitis A virus infections in the United States: model-based estimates and implications for childhood immunization. Pediatrics 2002;109:839–45.
6. Glikson M, Galun E, Oren R, Tur-Kaspa R, Shouval D. Relapsing hepatitis A: review of 14 cases and literature survey. Medicine 1992;71:14–23.
7. Williams I, Bell B, Kaluba J, Shapiro C. Association between chronic liver disease and death from hepatitis A, United States, 1989–92 [abstract no. A39]. IX Triennial International Symposium on Viral Hepatitis and Liver Disease. Rome, Italy, April 21–25, 1996.
8. Fischer GE, Teshale EH, Miller C, et al. Hepatitis A among international adoptees and their contacts. Clin Infect Dis 2008;47:812–4.
9. Advisory Committee on Immunization Practices. ACIP presentation slides: February 2009 meeting. Hepatitis vaccines. Available at http://www.cdc.gov/vaccines/recs/acip/slides-feb09.htm#hev.
10. CDC. Surveillance for acute viral hepatitis—United States, 2007. MMWR 2009;58(No. SS-3).

Licensure of a *Haemophilus influenzae* Type b (Hib) Vaccine (Hiberix) and Updated Recommendations for Use of Hib Vaccine

On August 19, 2009, the Food and Drug Administration (FDA) licensed Hiberix (GlaxoSmithKline Biologicals, Rixensart, Belgium), a *Haemophilus influenzae* type b (Hib) conjugate vaccine composed of *H. influenzae* type b capsular polysaccharide (polyribosyl-ribitol-phosphate [PRP]) conjugated to inactivated tetanus toxoid (PRP-T). Hiberix is licensed for use as the booster (final) dose of the Hib vaccine series for children aged 15 months through 4 years (before the 5th birthday) who have received previously the primary series of Hib vaccination (consisting of 2 or 3 doses, depending on the formulation) (*1*). The Advisory Committee on Immunization Practices (ACIP) recommends Hib booster vaccination for children at ages 12 through 15 months; however, because of the recent shortage of Hib vaccines, many children have deferred the booster dose and therefore require catch-up vaccination (*2*). This report summarizes the indications for Hiberix use and provides guidance on Hib booster dose administration based on increasing vaccine supplies. Vaccination recommendations in this report update the previous advisory on Hib booster administration (June 26, 2009) (*2*), which advised that children with deferred booster doses receive it at the next regularly scheduled visit. Vaccination providers are now recommended to begin recall of children in need of the booster dose when feasible and monovalent Hib vaccine supply in the office is adequate.

Hiberix Licensure

FDA licensed the new vaccine after review of safety and immunogenicity data from seven core studies conducted outside the United States that evaluated Hiberix for the booster dose in 1,008 children (*3,4*). The children in these studies received various Hib conjugate vaccines for the primary series, including Hiberix (not approved for primary series in the United States), and the monovalent Hib vaccines currently licensed for primary series in the United States, ActHIB (PRP-T, Sanofi Pasteur, Swiftwater, Pennsylvania) and PedvaxHIB (PRP-OMP, Merck & Co., Inc., West Point, Pennsylvania). In the seven core studies, Hiberix was given concomitantly with one of the following vaccines (all non-U.S. formulations, not licensed in the United States; GlaxoSmithKline Biologicals): diphtheria, tetanus, and acellular pertussis vaccine (DTaP), DTaP-hepatitis B vaccine (DTaP-HBV), DTaP-HBV-inactivated polio vaccine (DTaP-HBV-IPV), or DTaP-inactivated polio vaccine (DTaP-IPV). Serologic endpoints showed that the booster dose of Hiberix provided levels of antibodies protective against Hib invasive disease. Rates of adverse events generally were comparable to those observed with other childhood vaccines. In one of the core studies with 371 children, the frequencies of solicited local symptoms (i.e., redness, pain, or swelling) were each less than 25% (*3*), comparable to that reported in studies of currently licensed monovalent Hib conjugate vaccines (*1*). Hiberix was first introduced to markets outside the United States in 1996 and is used in nearly 100 countries (*3,4*).

Hiberix is supplied as a lyophilized powder for reconstitution in sterile 0.9% saline solution (*3*). Each 0.5 mL intramuscular dose of Hiberix contains 10 μg of purified *H. influenzae* type b capsular polysaccharide (polyribosyl-ribitol-phosphate [PRP]) conjugated to inactivated tetanus toxoid (PRP-T) (*3*). Hiberix does not contain thimerosal (*3*).

Indications and Guidance for Use

Hiberix is licensed for use as the booster (final) dose for Hib vaccination for children aged 15 months through 4 years (before the 5th birthday) who have received a primary Hib vaccination series of 2 or 3 doses (depending on the formulation of the primary series vaccines). ACIP recommends Hib booster dosing at ages 12 through 15 months (*1*). To facilitate timely booster vaccination, Hiberix and other Hib conjugate vaccines can be administered as early as age 12 months, in accordance with Hib vaccination schedules for routine and catch-up immunization (*5*). Hiberix is not licensed for the primary Hib vaccination series; however, if Hiberix is administered inadvertently during the primary vaccination series, the dose should be counted as a valid PRP-T dose that does not need to be repeated if it was administered according to schedule (*5*). In these children, a total of 3 doses will complete the routine primary series.

Children aged 12 months through 4 years (before the fifth birthday) who did not receive a booster because of the recent shortage of Hib vaccines should receive a booster with any of the available Hib-containing vaccines at the earliest opportunity (*2*). With licensure of Hiberix and anticipated distribution, the increased supply of Hib-containing vaccines will be sufficient to support a provider-initiated notification process to contact all children whose Hib booster dose had been deferred. When feasible and when vaccine supply in the office is sufficient, vaccination providers should review electronic or paper medical records or immunization information system (e.g., registry) records to identify and recall children in need of a booster dose. If supplies are not adequate, providers should

continue to follow previous recommendations to provide the booster dose at the child's next regularly scheduled visit (*2*).

Information Regarding Supply of Hiberix, ActHib, and Pentacel

At this time, production of Merck Hib vaccine products remains suspended; however, supplies of Sanofi Pasteur vaccines ActHIB (monovalent Hib vaccine) and Pentacel (DTaP-IPV/Hib) are available for use for the primary Hib vaccination series and booster in infants and children. Vaccination providers with questions about supplies of Hiberix monovalent Hib vaccine purchased with nonpublic funds should contact GlaxoSmithKline Biologicals' customer service department (telephone, 866-475-8222). Providers with questions about supplies of ActHIB or Pentacel purchased with nonpublic funds should contact Sanofi Pasteur's customer service department (telephone, 800-822-2463). For public vaccine supplies, including Vaccines for Children Program vaccine, providers should contact their state/local immunization program to obtain vaccine. Providers ordering Hiberix through the Vaccines for Children Program may place orders in early October.

This recommendation reflects CDC's assessment of the existing national Hib vaccine supply and will be updated if the supply changes. Updated information about the national Hib vaccine supply is available at http://www.cdc.gov/vaccines/vac-gen/shortages/default.htm. Details about the routine Hib vaccination schedule are available at http://www.cdc.gov/vaccines/recs/schedules/default.htm#child. Adverse events after receipt of any vaccine should be reported to the Vaccine Adverse Event Reporting System at http://vaers.hhs.gov.

References

1. CDC. Recommendations for use of *Haemophilus* b conjugate vaccines and a combined diphtheria, tetanus, pertussis, and *Haemophilus* b vaccine. Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1993;42(No. RR-13).
2. CDC. Updated recommendations for use of *Haemophilus influenzae* type b (Hib) vaccine: reinstatement of the booster dose at ages 12–15 months. MMWR 2009;58:673–4.
3. Food and Drug Administration. Product approval information: package insert. Hiberix (*Haemophilus* b conjugate [tetanus toxoid conjugate] vaccine). Available at http://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm179530.pdf.
4. Food and Drug Administration. Accelerated approval of Hiberix to help sustain adequate vaccine supply vaccine approved as a Hib booster dose. Available at http://www.fda.gov/newsevents/newsroom/pressannouncements/ucm179533.htm.
5. CDC. Immunization schedules. Childhood schedule (birth to 6 years old). Available at http://www.cdc.gov/vaccines/recs/schedules/default.htm#child.

Update: Influenza Activity — United States, April–August 2009

On September 10, this report was posted as an MMWR Early Release *on the* MMWR *website* (http://www.cdc.gov/mmwr).

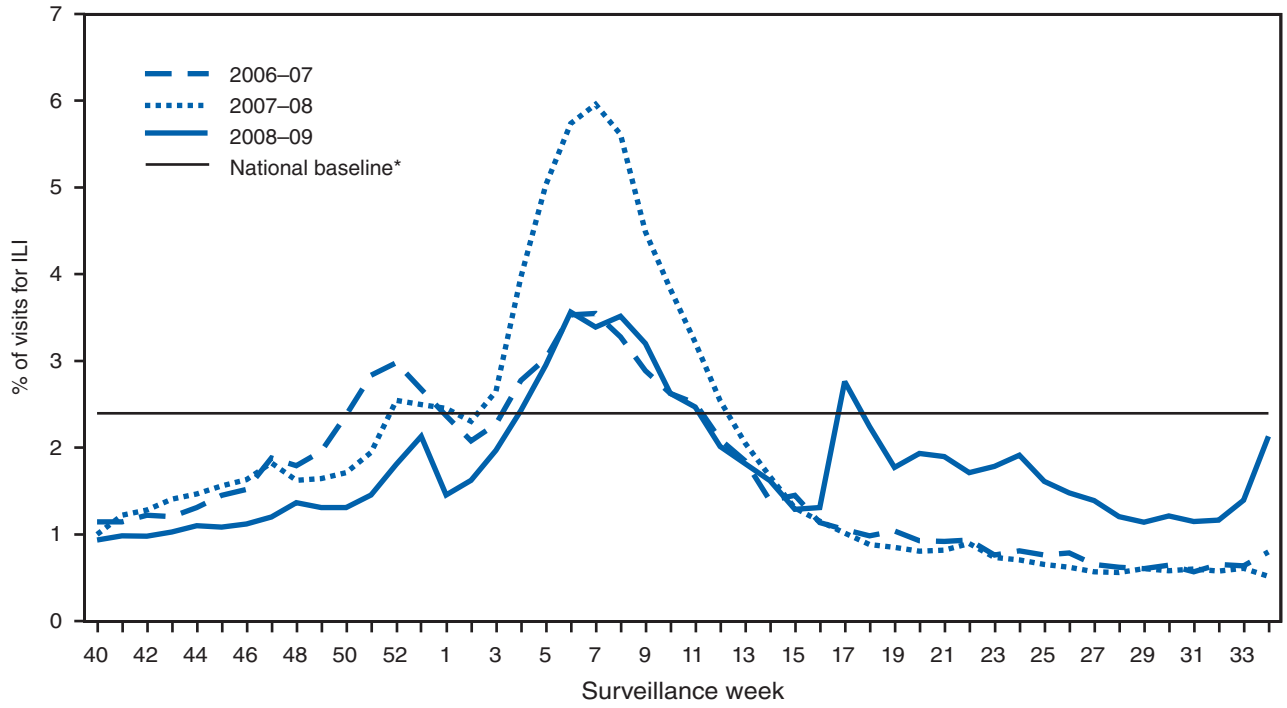
The first 2009 pandemic influenza A (H1N1) virus infections were identified in the United States in April 2009 (*1*). By August, the cumulative number of infections in the United States was estimated to be at least 1 million.* This report provides an overview of influenza activity during April–August 2009 and recommendations for the upcoming 2009–10 influenza season. Pandemic H1N1 influenza activity peaked in the United States during May and June and declined during July and early August. However, levels of influenza activity remained above normal for summer months, and focal outbreaks were reported throughout the summer. During the last 2 weeks of August, pandemic H1N1 influenza activity increased in certain areas of the United States. Clinicians and public health officials should be aware that these recent increases might signal an early start to the 2009–10 influenza season, with pandemic H1N1 influenza viruses predominating at least initially.

In the United States, CDC's National Influenza Surveillance System consists of nine different systems that monitor influenza viruses and the geographic spread and level of influenza activity. In addition to these ongoing systems, in April 2009, in response to the emergence and spread of the pandemic H1N1 virus, the states and CDC implemented line-listed reporting for cases of pandemic H1N1. In May, this system transitioned to include aggregate counts of pandemic H1N1 influenza cases, hospitalizations, and deaths. On July 24, CDC recommended that states discontinue reporting of individual confirmed and probable cases of pandemic H1N1 virus infection but to continue to provide aggregate reports of influenza-associated hospitalizations and deaths. From mid-April to August 30, a total of 9,079 hospitalizations and 593 deaths associated with laboratory-confirmed 2009 pandemic influenza A (H1N1) virus infections were reported to CDC.

World Health Organization and National Respiratory and Enteric Virus Surveillance System collaborating laboratories located in all 50 states and the District of Columbia report to CDC the number of respiratory specimens tested for influenza and the number positive by influenza type and subtype. Since May 3, the majority of influenza viruses identified have been pandemic H1N1 influenza A viruses. As of September 4, all of the influenza A H1N1 viruses characterized at CDC have been related antigenically to the reference strain chosen for the influenza A (H1N1) monovalent vaccine: A/California/7/2009(H1N1)pdm. Of 1,372 pandemic H1N1

* Additional information available at http://www.cdc.gov/h1n1flu/surveillanceqa.htm.

FIGURE 1. Percentage of visits for influenza-like illness (ILI) reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), by surveillance week — United States, 2008–09, 2007–08, and 2006–06 influenza seasons



* The national baseline is the mean percentage of visits for ILI during noninfluenza weeks for the previous three seasons plus two standard deviations. A noninfluenza week is a week during which <10% of specimens tested positive for influenza. Use of the national baseline for regional data is not appropriate.

viruses tested for antiviral resistance at CDC from ill persons in the United States, 1,364 (99.4%) have been susceptible to oseltamivir. All eight pandemic H1N1 viruses found to be resistant to oseltamivir were obtained from persons taking oseltamivir for treatment or prophylaxis at the time of specimen collection. All viruses tested have been susceptible to zanamivir, and all have been resistant to amantadine and rimantadine.

Outpatient visits to health-care providers for influenza-like illness (ILI) are monitored in the United States through the Outpatient Influenza-like Illness Surveillance Network (ILINet). Visits to health-care providers were highest in February during the 2008–09 influenza season, but rose again in May 2009 after the 2009 H1N1 virus emerged (Figure 1). Visits to health-care providers for ILI were higher than usual in the summer and increased during the last 2 weeks of August. During that period, the proportion of outpatient visits for ILI in Department of Health and Human Services Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee) increased to a level usually seen only during peak winter periods.

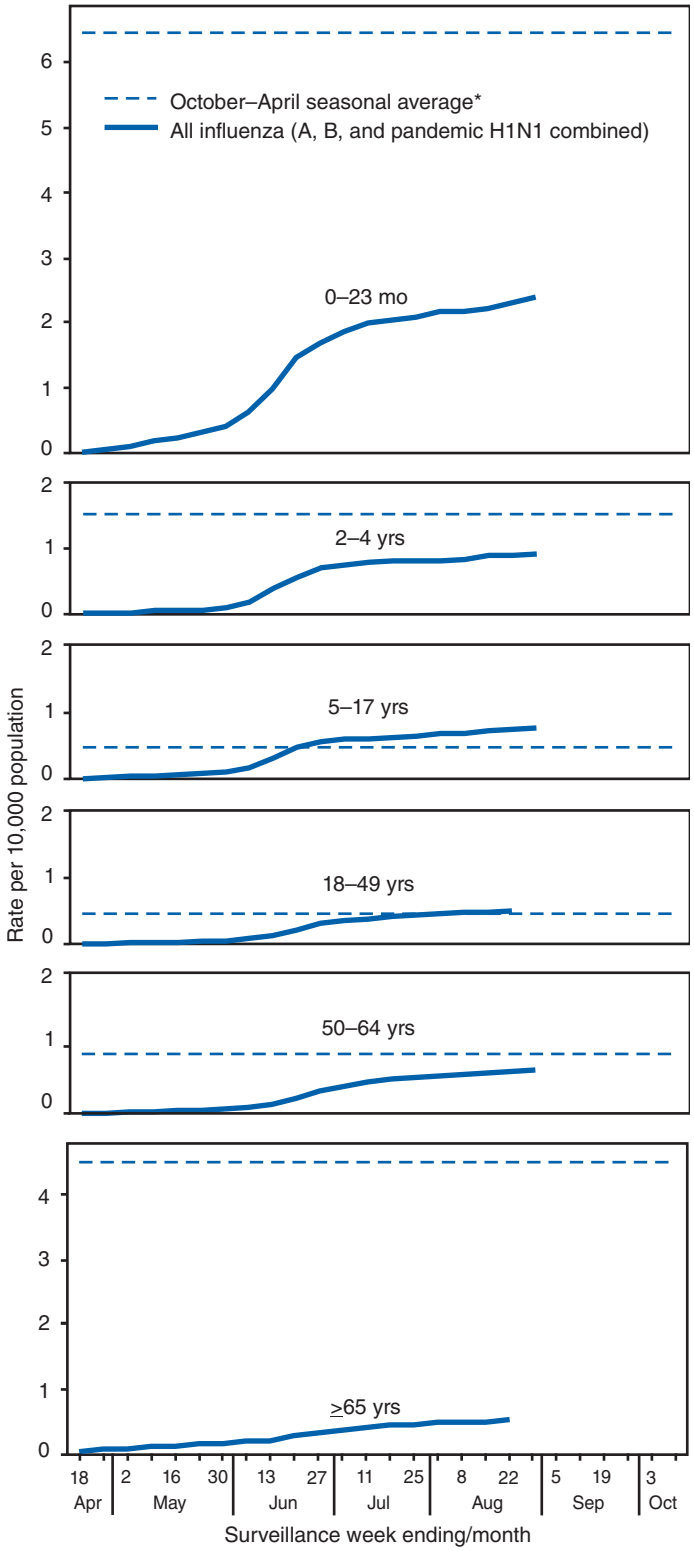
Laboratory-confirmed influenza-associated hospitalizations are monitored in two population-based surveillance networks: the New Vaccine Surveillance Network and the Emerging Infections Program. Total influenza hospitalization rates by age group for adults and children during April–August generally were similar to or lower than seasonal influenza hospitalization rates but were higher than usual for that period. (Figure 2).

Data from the 122 Cities Mortality Reporting System indicate that the proportion of deaths attributed to pneumonia and influenza was within the bounds of what is expected in the summer and did not exceed the epidemic threshold for 2 or more consecutive weeks at any time during April–August. However, 47 pediatric deaths associated with laboratory-confirmed pandemic H1N1 influenza occurred during April 26–August 29 and were reported to CDC.

Six states (Alabama, Alaska, Florida, Georgia, Mississippi, and South Carolina) and Puerto Rico reported widespread influenza activity for the most recent reporting week (August 23–29) (Figure 3). Any widespread influenza activity in August is uncommon. Thirteen additional states reported regional influenza activity.

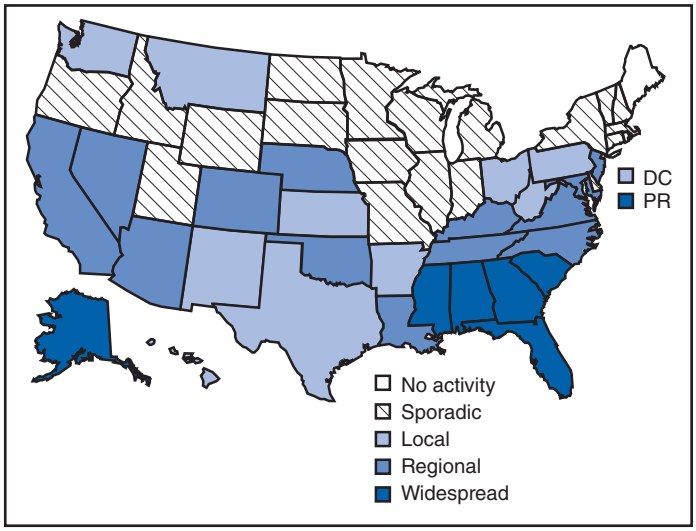
Reported by: *L Finelli, DrPH, L Brammer, MPH, L Blanton, MPH, S Epperson, MPH, R Dhara, MPH, A Fowlkes, MPH, D Mustaquim, MPH, L Kamimoto, MD, K Kniss, MPH, A Klimov, PhD, L Gubareva, PhD, A Fry, MD, A Fiore, MD, D Jernigan, MD, J Bresee, MD, Influenza Div; D Swerdlow, MD, National Center for Immunization and Respiratory Diseases, CDC.*

FIGURE 2. Laboratory-confirmed influenza hospitalization rates per 10,000 population, by age group and surveillance week — Emerging Infections Program, United States, April–August 2009



* Age group–specific average influenza rate, October–April, 2005–06, 2006–07, and 2007–08 influenza seasons.

FIGURE 3. Estimated influenza activity levels reported by state epidemiologists, by level of activity — United States, week ending August 29, 2009



* Levels of activity are 1) *no activity*; 2) *sporadic*: isolated laboratory-confirmed influenza cases or a laboratory-confirmed outbreak in one institution, with no increase in activity; 3) *local*: increased influenza-like illness (ILI), or at least two institutional outbreaks (ILI or laboratory-confirmed influenza) in one region with recent laboratory evidence of influenza in that region (virus activity no greater than sporadic in other regions); 4) *regional*: increased ILI activity or institutional outbreaks (ILI or laboratory-confirmed influenza) in at least two but less than half of the regions in the state with recent laboratory evidence of influenza in those regions; and 5) *widespread*: increased ILI activity or institutional outbreaks (ILI or laboratory-confirmed influenza) in at least half the regions in the state with recent laboratory evidence of influenza in the state.

Editorial Note: Influenza activity during April–August 2009 was higher than expected for this period in all surveillance systems except for the 122 Cities Mortality Reporting System, and 2009 pandemic influenza A (H1N1) virus has continued to circulate as the predominant influenza virus. During the last 2 weeks of August, influenza activity increased in the southeastern United States to levels of ILI usually seen during winter seasonal influenza peaks. This increase might signal that other areas of the country also will have early influenza activity during the 2009–10 influenza season. Physicians, businesses, schools, and others are reminded that the timing and severity of influenza activity can be unpredictable, but that increased influenza activity resulting from pandemic H1N1, in addition to the usual seasonal influenza viruses, is expected this season. Changes in geographic spread of the virus will be monitored and reported weekly in the online FluView report.[†] Regular updates will be published in MMWR during the season as well. Additional guidance for this influenza season also is available online.[§]

[†] Available at http://www.cdc.gov/flu/weekly.
[§] Available at http://www.cdc.gov/h1n1flu.

CDC recently issued updated guidance to schools, universities, child care and early education programs, and businesses regarding methods to limit the spread of influenza in each of these settings (*2–4*). These guidance documents stress actions that will limit exposure to potentially infectious persons, such as the recommendation to stay home when ill and the separation of ill persons from well persons. CDC also updated recommendations for the amount of time a person with ILI should remain at home and away from school and work (*5*). CDC currently recommends that persons with ILI stay home for 24 hours after they are free from fever (100°F[37.8°C]) without taking fever-reducing medications. In addition, strict adherence to respiratory etiquette and hand hygiene should be stressed in school and work settings and in other settings where close contact between persons can occur.

Updated guidance on the use of influenza antiviral medications was issued by CDC on September 8 (*6*). Early treatment of all persons with severe illness from suspected or confirmed influenza, including those who are hospitalized, is recommended. In addition, this guidance recommends the early evaluation and treatment of persons with suspected influenza who are at greater risk for influenza-associated complications.¶ However, most healthy children, adolescents, and adults with uncomplicated influenza-like illness do not require antiviral treatment. Approximately 97% of all influenza viruses currently circulating in the United States are pandemic H1N1 viruses that are sensitive to oseltamivir or zanamivir. Thus, CDC recommends either oseltamivir or zanamivir for treatment or chemoprophylaxis for influenza when use of antiviral medications is indicated. Clinical judgment always is an important component of treatment decision-making for persons who present with suspected influenza. When treatment is given, efforts to ensure that treatment is started as early as possible after symptom onset are critical.

The best means to prevent influenza illness is vaccination. CDC continues to recommend vaccination against seasonal influenza viruses, especially for all children, persons aged ≥50 years, and persons at greater risk for influenza complications (*7*). Seasonal influenza vaccines are widely available now. Vaccines against the pandemic H1N1 influenza virus are expected to be available by mid-October and will be administered as separate vaccinations. The pandemic H1N1 monovalent vaccine is being prepared by the same manufacturers as the seasonal influenza vaccine. Many persons will be recommended to receive both the seasonal influenza vaccine and the pandemic H1N1 vaccine. During the early phase of vaccine availability, the number of pandemic H1N1 vaccine doses will not be enough to vaccinate the entire U.S. population. The Advisory Committee on Immunization Safety has recommended that immunization programs focus initially on providing protection for persons who are at greater risk for infection or influenza complications, including pregnant women, household contacts and caregivers for children aged <6 months, health-care and emergency medical services personnel, all persons aged 6 months–24 years, and persons aged 25–64 years who have health conditions associated with greater risk for medical complications from influenza (*8*).

The Council of State and Territorial Epidemiologists and CDC have developed new case definitions for aggregate reporting of influenza-associated hospitalizations and deaths for the 2009–10 influenza season. These new case definitions will be implemented for the week ending September 5 (surveillance week 35). For aggregate reporting purposes, the 2008–09 influenza season was closed out on August 30; the total aggregate numbers of hospitalizations and deaths associated with pandemic H1N1 were reported on September 4. The first week of reporting influenza-associated hospitalizations and deaths for the 2009–10 season will include both seasonal and pandemic H1N1–associated hospitalizations and deaths, and will be reported on September 11.

¶ Persons who are at greater risk for complications include 1) those aged <5 years (with highest risk among person age <2 years), 2) those aged >64 years, and, 3) those who have an underlying health condition (e.g., pregnancy or a chronic heart, lung, kidney, liver, metabolic, neurologic, or neuromuscular condition, or immunodeficiency).

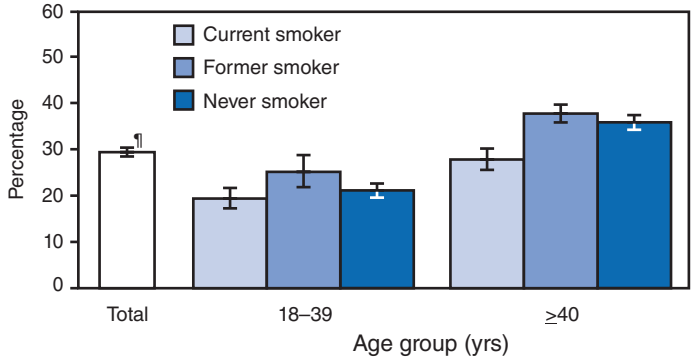
References

1. CDC. Swine influenza A (H1N1) infection in two children—southern California, March–April 2009. MMWR 2009;58:400–2.
2. CDC. CDC guidance for state and local public health officials and school administrators for school (K-12) responses to influenza during the 2009–2010 school year. Atlanta, GA: CDC; August 31, 2009. Available at http://www.cdc.gov/h1n1flu/schools/schoolguidance.htm.
3. CDC. CDC guidance for responses to influenza for institutions of higher education during the 2009–2010 academic year. Atlanta, GA: CDC; August 26, 2009. Available at http://www.cdc.gov/h1n1flu/institutions/guidance.
4. CDC. CDC guidance on helping child care and early childhood programs respond to influenza during the 2009–2010 influenza season. Atlanta, GA: CDC; September 4, 2009. Available at http://www.cdc.gov/h1n1flu/childcare/guidance.htm.
5. CDC. CDC recommendations for the amount of time persons with influenza-like illness should be away from others. Atlanta, GA: CDC; August 5, 2009. Available at http://www.cdc.gov/h1n1flu/guidance/exclusion.htm.
6. CDC. Updated interim recommendations for the use of antiviral medications in the treatment and prevention of influenza for the 2009–2010 season. Atlanta, GA: CDC; September 8, 2009. Available at http://www.cdc.gov/h1n1flu/recommendations.htm.
7. CDC. Prevention and control of seasonal influenza with vaccines: recommendations of the advisory committee on immunization practices (ACIP), 2009. MMWR 2009;58(No. RR-8).
8. CDC. Novel H1N1 vaccination recommendations. Atlanta, GA: CDC; July 30, 2009. Available at http://www.cdc.gov/h1n1flu/vaccination/acip.htm.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Adults Aged ≥18 Years Who Have Ever Had An Oral Cancer Examination,* by Smoking Status and Age Group† — National Health Interview Survey, United States, 2008§



* Based on affirmative responses to either of the following questions: "Have you ever had an exam for oral cancer in which the doctor, dentist, or other health professional pulls on your tongue, sometimes with gauze wrapped around it, and feels under the tongue and inside the cheeks?" or "Have you ever had an exam for oral cancer in which the doctor, dentist, or other health professional feels your neck?"

† Based on responses to the following questions: "Have you smoked at least 100 cigarettes in your entire life?" and "Do you now smoke cigarettes every day, some days, or not at all?" Lifetime smoking status was defined as follows: Never smoker (never smoked at all or smoked less than 100 cigarettes in lifetime); former smoker (smoked at least 100 cigarettes in lifetime but not currently smoking); and current smoker (smoked at least 100 cigarettes in lifetime and currently smoking).

§ Estimates are based on household interviews of a sample of the civilian, noninstitutionalized U.S. population.

¶ 95% confidence interval.

In 2008, 29.4% of adults aged ≥18 years had ever had an oral cancer examination in which a doctor, dentist, or other health professional pulled on their tongue or palpated their neck. Adults aged ≥40 years were more likely to have ever had an examination than those aged 18–39 years, regardless of smoking status. Those most at risk for oral cancer (current smokers aged ≥40 years) were less likely to have ever had an oral cancer examination than former smokers or never smokers.

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

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending September 12, 2009 (36th week)*

Disease	Current week	Cum 2009	5-year weekly average†	Total cases reported for previous years 2008	2007	2006	2005	2004	States reporting cases during current week (No.)
Anthrax	—	—	0	—	1	1	—	—	
Botulism:									
foodborne	—	12	1	17	32	20	19	16	
infant	—	33	2	109	85	97	85	87	
other (wound and unspecified)	—	17	1	19	27	48	31	30	
Brucellosis	2	67	2	80	131	121	120	114	CA (2)
Chancroid	2	20	0	25	23	33	17	30	NY (2)
Cholera	—	4	0	5	7	9	8	6	
Cyclosporiasis§	1	105	2	139	93	137	543	160	FL (1)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup	—	16	5	62	55	67	80	112	
eastern equine	—	3	1	4	4	8	21	6	
Powassan	—	1	0	2	7	1	1	1	
St. Louis	—	7	1	13	9	10	13	12	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§,**:									
Ehrlichia chaffeensis	4	489	19	1,137	828	578	506	338	NY (2), DE (1), TN (1)
Ehrlichia ewingii	—	4	0	9	—	—	—	—	
Anaplasma phagocytophilum	5	355	17	1,026	834	646	786	537	NY (5)
undetermined	—	79	4	180	337	231	112	59	
Haemophilus influenzae,††									
invasive disease (age <5 yrs):									
serotype b	—	16	0	30	22	29	9	19	
nonserotype b	1	141	2	244	199	175	135	135	OK (1)
unknown serotype	—	170	2	163	180	179	217	177	
Hansen disease§	—	45	2	80	101	66	87	105	
Hantavirus pulmonary syndrome§	—	6	1	18	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal§	3	128	8	330	292	288	221	200	NE (1), FL (1), CA (1)
Hepatitis C viral, acute	7	1,363	14	878	845	766	652	720	NY (1), MI (1), GA (1), FL (3), TX (1)
HIV infection, pediatric (age <13 years)§§	—	—	2	—	—	—	380	436	
Influenza-associated pediatric mortality§,¶¶	2	115	0	90	77	43	45	—	KS (1), TN (1)
Listeriosis	16	470	22	759	808	884	896	753	NY (4), PA (1), OH (1), MI (1), MN (1), MO (1), MD (1), VA (1), SC (1), FL (2), AR (1), CA (1)
Measles***	—	55	1	140	43	55	66	37	
Meningococcal disease, invasive†††:									
A, C, Y, and W-135	—	185	4	330	325	318	297	—	
serogroup B	—	96	2	188	167	193	156	—	
other serogroup	1	19	0	38	35	32	27	—	CO (1)
unknown serogroup	4	324	9	616	550	651	765	—	NY (1), MD (1), CA (2)
Mumps	4	263	13	454	800	6,584	314	258	SC (1), FL (2), NV (1)
Novel influenza A virus infections	—	§§§	0	2	4	N	N	N	
Plague	—	6	0	3	7	17	8	3	
Poliomyelitis, paralytic	—	—	—	—	—	—	1	—	
Polio virus infection, nonparalytic§	—	—	—	—	—	N	N	N	
Psittacosis§	—	7	0	8	12	21	16	12	
Q fever total§,¶¶¶:	1	57	3	124	171	169	136	70	
acute	1	48	1	110	—	—	—	—	MO (1)
chronic	—	9	0	14	—	—	—	—	
Rabies, human	—	1	0	2	1	3	2	7	
Rubella****	—	4	0	16	12	11	11	10	
Rubella, congenital syndrome	—	1	—	—	—	1	1	—	
SARS-CoV§,††††	—	—	—	—	—	—	—	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	—	99	1	157	132	125	129	132	
Syphilis, congenital (age <1 yr)	—	121	8	434	430	349	329	353	
Tetanus	1	7	1	19	28	41	27	34	MO (1)
Toxic-shock syndrome (staphylococcal)§	—	55	2	71	92	101	90	95	
Trichinellosis	—	12	0	39	5	15	16	5	
Tularemia	—	47	3	123	137	95	154	134	
Typhoid fever	5	244	12	449	434	353	324	322	CT (1), MD (1), FL (2), CA (1)
Vancomycin-intermediate *Staphylococcus aureus*§	1	52	1	63	37	6	2	—	PA (1)
Vancomycin-resistant *Staphylococcus aureus*§	—	—	—	—	2	1	3	1	
Vibriosis (noncholera *Vibrio* species infections)§	13	338	12	492	549	N	N	N	MD (2), VA (1), FL (2), WA (3), CA (5)
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 September 12, 2009 (36th week)*

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

* Incidence data for reporting year 2008 and 2009 are provisional, whereas data for 2004, 2005, 2006, and 2007 are finalized.

† Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. The total sum of incident cases is then divided by 25 weeks. Additional information is available at http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf.

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

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

** The names of the reporting categories changed in 2008 as a result of revisions to the case definitions. Cases reported prior to 2008 were reported in the categories: Ehrlichiosis, human monocytic (analogous to *E. chaffeensis*); Ehrlichiosis, human granulocytic (analogous to *Anaplasma phagocytophilum*), and Ehrlichiosis, unspecified, or other agent (which included cases unable to be clearly placed in other categories, as well as possible cases of *E. ewingii*).

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

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

¶¶ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. A total of 113 influenza-associated pediatric deaths occurring during the 2008–09 influenza season have been reported. One influenza-associated pediatric death occurring during the 2009–10 influenza season beginning September 1, 2009, has been reported.

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

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

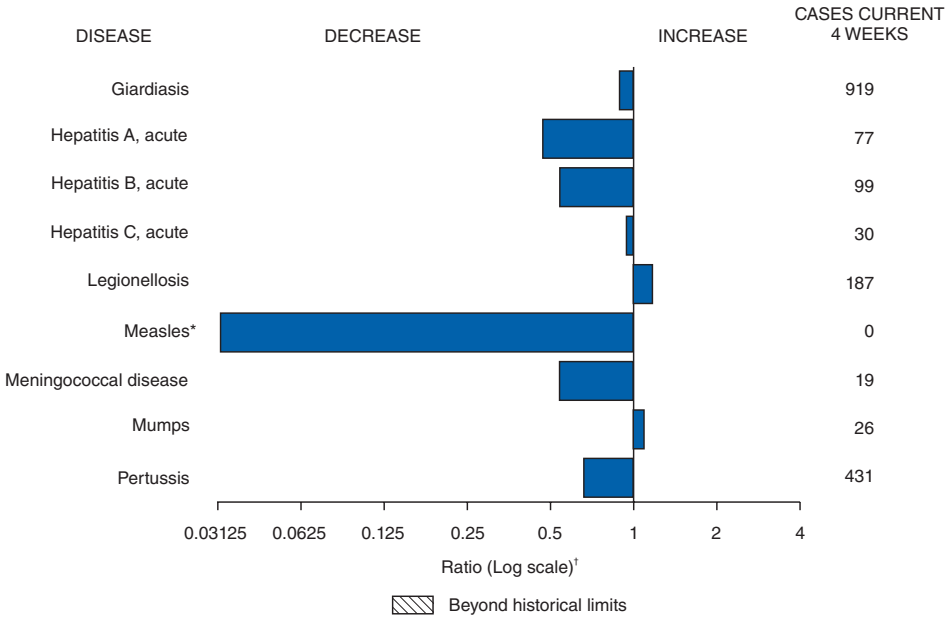
§§§ CDC discontinued reporting of individual confirmed and probable cases of novel influenza A (H1N1) viruses infections on July 24, 2009. CDC will report the total number of novel influenza A (H1N1) hospitalizations and deaths weekly on the CDC H1N1 influenza website (http://www.cdc.gov/h1n1flu).

¶¶¶ In 2008, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.

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

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

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals September 12, 2009, with historical data



* No measles cases were reported for the current 4-week period yielding a ratio for week 36 of zero (0).

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

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TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Chlamydia†					Coccidiodomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 week		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	9,302	22,513	25,700	770,096	811,453	175	160	472	7,643	4,444	101	124	401	4,298	5,185
New England	661	766	1,655	27,870	25,465	—	0	1	1	1	3	5	30	238	303
Connecticut	169	222	1,306	7,978	7,349	N	0	0	N	N	—	0	23	23	41
Maine§	61	48	75	1,692	1,732	N	0	0	N	N	—	0	5	22	31
Massachusetts	362	342	945	13,672	12,235	N	0	0	N	N	2	2	13	111	126
New Hampshire	—	39	63	1,162	1,407	—	0	1	1	1	—	1	4	39	47
Rhode Island§	69	66	244	2,576	1,939	—	0	0	—	—	—	0	3	4	7
Vermont§	—	22	53	790	803	N	0	0	N	N	1	1	5	39	51
Mid. Atlantic	2,150	2,926	6,734	106,134	100,782	—	0	0	—	—	7	13	30	502	507
New Jersey	260	415	838	14,296	15,437	N	0	0	N	N	—	0	3	8	30
New York (Upstate)	523	580	4,563	21,266	18,506	N	0	0	N	N	7	4	13	145	168
New York City	990	1,146	3,130	41,057	38,675	N	0	0	N	N	—	1	8	50	77
Pennsylvania	377	835	1,072	29,515	28,164	N	0	0	N	N	—	7	19	299	232
E.N. Central	993	3,494	4,382	116,429	132,748	1	0	4	23	35	10	29	105	947	1,366
Illinois	—	1,088	1,367	35,040	40,147	N	0	0	N	N	—	2	11	93	138
Indiana	279	428	713	16,206	14,903	N	0	0	N	N	—	3	17	129	128
Michigan	566	853	1,332	31,600	31,276	1	0	3	12	26	3	5	13	172	178
Ohio	41	761	1,300	21,800	31,656	—	0	2	11	9	7	9	59	285	391
Wisconsin	107	346	494	11,783	14,766	N	0	0	N	N	—	8	40	268	531
W.N. Central	577	1,322	1,664	44,566	45,937	—	0	1	7	1	20	17	47	666	674
Iowa	187	192	256	6,730	6,026	N	0	0	N	N	—	4	13	154	214
Kansas	9	154	549	5,312	6,296	N	0	0	N	N	—	1	5	50	55
Minnesota	—	254	342	8,070	9,930	—	0	0	—	—	11	4	33	194	139
Missouri	318	510	646	18,021	16,818	—	0	1	7	1	2	3	12	122	124
Nebraska§	63	105	219	3,688	3,657	N	0	0	N	N	7	2	5	71	79
North Dakota	—	24	60	772	1,250	N	0	0	N	N	—	0	10	7	2
South Dakota	—	58	81	1,973	1,960	N	0	0	N	N	—	2	6	68	61
S. Atlantic	1,272	4,107	5,453	134,459	165,931	—	0	1	5	3	25	21	49	710	615
Delaware	93	85	180	3,285	2,524	—	0	1	1	1	—	0	1	6	10
District of Columbia	138	126	226	4,737	4,829	—	0	0	—	—	—	0	2	2	9
Florida	473	1,420	1,597	50,427	49,134	N	0	0	N	N	23	8	35	270	270
Georgia	3	753	1,909	20,762	28,834	N	0	0	N	N	1	6	23	257	164
Maryland§	119	426	772	14,450	16,080	—	0	1	4	2	1	1	5	30	28
North Carolina	—	0	1,193	—	22,885	N	0	0	N	N	—	1	16	58	26
South Carolina§	—	534	1,422	16,540	18,073	N	0	0	N	N	—	1	7	34	36
Virginia§	446	618	926	21,815	21,370	N	0	0	N	N	—	1	6	43	53
West Virginia	—	68	101	2,443	2,202	N	0	0	N	N	—	0	2	10	19
E.S. Central	1,160	1,751	2,209	63,042	57,814	—	0	0	—	—	2	3	10	132	110
Alabama§	—	475	624	15,693	17,403	N	0	0	N	N	—	1	4	37	50
Kentucky	134	256	458	9,190	8,099	N	0	0	N	N	—	1	4	39	23
Mississippi	490	454	841	16,941	13,568	N	0	0	N	N	—	0	3	10	12
Tennessee§	536	580	809	21,218	18,744	N	0	0	N	N	2	1	5	46	25
W.S. Central	284	2,883	5,300	100,641	102,269	—	0	1	1	3	15	11	271	324	907
Arkansas§	7	273	418	9,737	9,893	N	0	0	N	N	—	1	10	32	47
Louisiana	261	420	1,134	14,718	14,642	—	0	1	1	3	—	1	6	29	42
Oklahoma	16	178	2,735	9,589	9,185	N	0	0	N	N	5	2	16	85	63
Texas§	—	1,967	2,520	66,597	68,549	N	0	0	N	N	10	7	258	178	755
Mountain	451	1,465	2,145	49,220	50,954	126	110	369	5,925	3,011	5	9	22	329	422
Arizona	22	460	735	15,717	16,986	122	108	365	5,853	2,933	—	1	4	25	63
Colorado	189	390	728	12,261	12,022	N	0	0	N	N	1	2	10	104	80
Idaho§	64	68	313	2,437	2,716	N	0	0	N	N	3	1	7	57	44
Montana§	—	54	88	1,903	2,109	N	0	0	N	N	—	0	4	27	38
Nevada§	126	167	455	6,929	6,732	4	1	3	44	43	—	0	4	14	11
New Mexico§	50	176	540	5,958	5,290	—	0	2	8	23	1	2	10	74	141
Utah	—	99	251	2,679	4,082	—	0	2	20	10	—	0	3	13	30
Wyoming§	—	34	97	1,336	1,017	—	0	1	—	2	—	0	2	15	15
Pacific	1,754	3,645	4,689	127,735	129,553	48	41	172	1,681	1,390	14	11	24	450	281
Alaska	—	96	199	3,128	3,225	N	0	0	N	N	—	0	1	5	3
California	1,213	2,817	3,599	99,468	100,673	48	41	172	1,681	1,390	12	6	20	269	163
Hawaii	—	119	247	4,050	3,972	N	0	0	N	N	—	0	1	1	2
Oregon§	375	198	631	6,683	6,924	N	0	0	N	N	1	3	8	122	51
Washington	166	414	571	14,406	14,759	N	0	0	N	N	1	1	6	53	62
American Samoa	—	0	0	—	73	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	2	8	—	107	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	130	332	5,076	5,010	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	9	17	290	478	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes†				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	235	320	641	11,353	11,945	2,130	5,318	7,164	181,989	229,250	20	60	124	2,147	2,001
New England	12	28	55	943	1,090	96	94	301	3,345	3,586	1	3	16	140	116
Connecticut	—	5	14	162	230	48	45	275	1,534	1,682	—	0	12	42	27
Maine§	—	4	12	127	112	6	2	9	96	63	—	0	2	14	9
Massachusetts	10	12	31	429	463	29	39	112	1,374	1,513	1	2	5	71	57
New Hampshire	—	2	10	104	110	—	2	6	70	73	—	0	2	7	9
Rhode Island§	—	1	8	35	61	13	6	19	241	228	—	0	7	3	6
Vermont§	2	3	15	86	114	—	1	4	30	27	—	0	1	3	8
Mid. Atlantic	49	63	116	2,130	2,175	452	592	1,138	21,269	22,425	3	12	25	437	370
New Jersey	—	7	17	215	358	66	87	123	2,991	3,695	—	2	7	84	63
New York (Upstate)	36	25	81	851	720	96	109	664	3,950	4,138	—	3	20	103	107
New York City	2	16	30	519	573	197	210	577	7,647	7,059	—	2	11	84	64
Pennsylvania	11	16	46	545	524	93	190	267	6,681	7,533	3	4	10	166	136
E.N. Central	27	44	80	1,492	1,817	307	1,080	1,627	35,965	47,492	6	12	28	472	322
Illinois	—	9	23	272	501	—	332	494	10,750	14,000	—	3	9	117	102
Indiana	N	0	11	N	N	106	149	252	5,257	6,039	—	1	22	50	56
Michigan	7	12	22	406	387	145	281	493	10,174	11,645	—	0	3	16	17
Ohio	20	16	27	553	583	30	245	455	6,793	11,426	3	2	6	76	99
Wisconsin	—	8	19	261	346	26	93	140	2,991	4,382	3	3	20	213	48
W.N. Central	20	25	143	1,042	1,304	112	283	393	9,592	11,600	—	3	15	112	148
Iowa	6	6	18	213	208	22	34	53	1,137	1,050	—	0	0	—	2
Kansas	—	2	7	70	110	5	36	83	1,360	1,532	—	0	2	11	17
Minnesota	—	0	106	250	403	—	43	65	1,328	2,171	—	0	10	40	46
Missouri	10	7	28	332	341	68	129	183	4,539	5,549	—	1	4	37	53
Nebraska§	4	3	9	118	140	17	23	54	942	994	—	0	4	19	21
North Dakota	—	0	16	9	10	—	2	7	43	79	—	0	4	5	9
South Dakota	—	1	7	50	92	—	7	20	243	225	—	0	0	—	—
S. Atlantic	47	70	109	2,533	1,918	380	1,168	2,042	38,601	58,253	7	13	31	522	510
Delaware	—	0	3	18	28	24	16	37	655	770	—	0	1	3	6
District of Columbia	—	0	5	16	46	37	51	88	1,870	1,773	—	0	2	—	5
Florida	31	37	59	1,318	795	187	421	486	14,661	16,439	4	4	10	178	132
Georgia	1	13	67	661	475	1	251	876	7,056	10,692	2	3	9	115	104
Maryland§	7	5	9	170	184	24	121	212	3,845	4,260	1	1	6	65	74
North Carolina	N	0	0	N	N	—	0	470	—	10,072	—	1	17	57	54
South Carolina§	5	2	8	67	81	—	170	413	5,234	6,588	—	1	5	37	47
Virginia§	3	8	31	251	257	107	150	308	4,928	7,131	—	1	6	42	70
West Virginia	—	1	3	32	52	—	11	23	352	528	—	0	3	25	18
E.S. Central	3	7	20	238	317	364	514	714	18,160	20,939	1	3	9	119	107
Alabama§	—	3	12	111	182	—	142	216	4,432	6,856	—	0	4	26	16
Kentucky	N	0	0	N	N	37	86	135	2,668	3,172	—	0	5	18	6
Mississippi	N	0	0	N	N	167	143	252	5,302	4,951	—	0	1	4	11
Tennessee§	3	4	13	127	135	160	162	273	5,758	5,960	1	2	6	71	74
W.S. Central	8	9	22	306	284	100	865	1,383	29,334	35,156	1	2	22	80	90
Arkansas§	3	2	8	94	94	1	83	134	3,001	3,230	—	0	2	13	11
Louisiana	—	3	8	96	101	83	146	420	4,745	6,345	—	0	1	12	8
Oklahoma	5	4	18	116	89	16	70	613	3,348	3,371	1	1	20	54	64
Texas§	N	0	0	N	N	—	551	725	18,240	22,210	—	0	1	1	7
Mountain	20	27	59	933	1,060	45	175	313	5,780	8,027	1	5	11	173	226
Arizona	—	3	10	135	89	1	54	88	1,785	2,394	—	1	7	60	88
Colorado	14	9	27	342	362	—	56	152	1,697	2,439	1	1	6	54	42
Idaho§	6	3	10	122	132	3	2	13	70	124	—	0	1	4	12
Montana§	—	2	10	71	61	—	1	6	48	78	—	0	1	1	3
Nevada§	—	2	10	75	78	19	30	91	1,233	1,586	—	0	2	14	14
New Mexico§	—	1	7	66	83	22	24	52	769	960	—	0	3	17	34
Utah	—	4	15	91	225	—	4	15	126	357	—	0	2	20	30
Wyoming§	—	1	4	31	30	—	1	7	52	89	—	0	1	3	3
Pacific	49	51	130	1,736	1,980	274	550	765	19,943	21,772	—	2	8	92	112
Alaska	—	2	10	67	61	—	15	24	528	361	—	0	3	13	16
California	29	34	57	1,171	1,316	249	468	658	16,766	17,866	—	0	3	22	38
Hawaii	—	0	2	9	33	—	12	21	425	432	—	0	3	22	14
Oregon§	9	7	17	241	318	16	20	48	698	844	—	1	3	32	42
Washington	11	7	74	248	252	9	46	80	1,526	2,269	—	0	2	3	2
American Samoa	—	0	0	—	—	—	0	0	—	3	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	1	15	—	45	—	0	0	—	—
Puerto Rico	—	2	15	63	147	—	4	24	166	200	—	0	1	3	1
U.S. Virgin Islands	—	0	0	—	—	—	2	7	80	92	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional.
† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Hepatitis (viral, acute), by type† A: Current week	A: Previous 52 weeks Med	A: Previous 52 weeks Max	A: Cum 2009	A: Cum 2008	B: Current week	B: Previous 52 weeks Med	B: Previous 52 weeks Max	B: Cum 2009	B: Cum 2008	Legionellosis: Current week	Legionellosis: Previous 52 weeks Med	Legionellosis: Previous 52 weeks Max	Legionellosis: Cum 2009	Legionellosis: Cum 2008
United States	17	36	89	1,266	1,856	23	65	197	2,125	2,602	41	51	122	1,903	2,011
New England	1	2	8	65	91	—	1	4	27	58	2	3	18	102	137
Connecticut	1	0	4	17	18	—	0	3	10	23	2	1	5	42	27
Maine§	—	0	5	1	5	—	0	2	8	10	—	0	2	4	6
Massachusetts	—	1	3	39	46	—	0	2	6	14	—	1	6	40	58
New Hampshire	—	0	1	3	10	—	0	2	3	5	—	0	2	8	24
Rhode Island§	—	0	2	3	10	—	0	0	—	4	—	0	14	4	17
Vermont§	—	0	1	2	2	—	0	1	—	2	—	0	1	4	5
Mid. Atlantic	2	5	13	168	219	—	7	17	219	312	15	15	63	747	663
New Jersey	—	1	5	33	55	—	1	6	54	92	—	2	14	119	78
New York (Upstate)	1	1	4	37	44	—	1	11	38	43	11	5	29	245	207
New York City	—	2	6	55	74	—	1	4	42	70	—	2	20	133	91
Pennsylvania	1	1	4	43	46	—	3	8	85	107	4	6	25	250	287
E.N. Central	—	5	17	175	252	—	8	21	265	356	12	9	29	338	439
Illinois	—	1	12	77	92	—	1	6	36	138	—	1	13	26	57
Indiana	—	0	3	12	14	—	1	18	46	24	—	1	5	25	38
Michigan	—	1	5	47	92	—	2	8	92	98	2	2	10	82	125
Ohio	—	1	4	30	29	—	1	13	67	82	10	4	17	200	197
Wisconsin	—	0	3	9	25	—	0	4	24	14	—	0	6	5	22
W.N. Central	—	2	16	87	205	2	3	16	117	57	—	2	7	65	92
Iowa	—	1	2	25	98	—	0	3	23	14	—	0	2	16	13
Kansas	—	0	1	7	13	—	0	2	5	6	—	0	1	3	1
Minnesota	—	0	12	14	26	—	0	11	20	7	—	0	3	8	9
Missouri	—	0	3	20	25	1	1	5	55	24	—	1	5	28	51
Nebraska§	—	0	3	19	39	1	0	2	13	5	—	0	2	8	16
North Dakota	—	0	2	—	—	—	0	1	—	1	—	0	3	1	—
South Dakota	—	0	1	2	4	—	0	1	1	—	—	0	1	1	2
S. Atlantic	9	7	14	281	274	13	18	32	626	630	8	9	22	323	322
Delaware	—	0	1	3	6	U	0	1	U	U	—	0	5	11	9
District of Columbia	U	0	0	U	U	U	0	0	U	U	—	0	2	4	12
Florida	5	4	8	132	103	10	6	11	213	220	4	3	7	114	96
Georgia	1	1	3	44	39	3	3	9	101	120	—	1	5	33	26
Maryland§	2	0	4	28	33	—	1	5	47	57	2	2	10	77	93
North Carolina	—	0	4	25	48	—	2	19	130	51	—	0	7	39	16
South Carolina§	—	0	3	27	9	—	1	4	31	51	—	0	1	5	8
Virginia§	1	0	6	21	31	—	2	10	57	76	—	1	5	34	38
West Virginia	—	0	1	1	5	—	0	19	47	55	2	0	1	6	24
E.S. Central	—	1	5	30	58	1	7	11	209	269	—	2	11	82	87
Alabama§	—	0	2	7	8	—	2	7	63	76	—	0	1	7	13
Kentucky	—	0	2	7	21	—	2	7	53	65	—	1	3	36	41
Mississippi	—	0	1	8	4	—	1	2	18	32	—	0	1	3	1
Tennessee§	—	0	2	8	25	1	2	6	75	96	—	1	8	36	32
W.S. Central	—	3	43	103	177	3	10	99	332	516	—	1	21	44	58
Arkansas§	—	0	1	4	6	—	1	5	36	42	—	0	2	3	10
Louisiana	—	0	1	3	10	—	1	4	33	65	—	0	2	4	8
Oklahoma	—	0	6	3	7	2	2	17	71	76	—	0	6	3	3
Texas§	—	3	37	93	154	1	6	76	192	333	—	1	19	34	37
Mountain	1	3	7	113	166	1	3	7	93	144	2	2	8	75	58
Arizona	—	2	6	54	84	—	1	4	36	56	1	1	4	35	14
Colorado	—	0	5	34	29	—	0	2	16	24	—	0	2	7	6
Idaho§	—	0	1	3	16	—	0	2	6	7	—	0	1	1	3
Montana§	—	0	1	5	1	—	0	0	—	2	—	0	2	4	4
Nevada§	1	0	3	7	7	1	0	3	22	30	1	0	2	10	8
New Mexico§	—	0	1	6	15	—	0	2	5	8	—	0	2	2	5
Utah	—	0	1	4	11	—	0	1	5	12	—	0	4	15	18
Wyoming§	—	0	0	—	3	—	0	2	3	5	—	0	1	1	—
Pacific	4	7	17	244	414	3	6	36	237	260	2	3	12	127	155
Alaska	—	0	1	3	3	—	0	1	2	9	—	0	1	1	1
California	4	5	17	193	335	3	5	28	174	178	2	3	9	102	119
Hawaii	—	0	1	5	15	—	0	1	4	6	—	0	1	1	6
Oregon§	—	0	2	12	23	—	0	4	26	32	—	0	2	8	14
Washington	—	1	4	31	38	—	1	8	31	35	—	0	4	15	15
American Samoa	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	2	17	20	—	0	3	12	41	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional.
† Data for acute hepatitis C, viral are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All groups				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	187	500	1,637	19,400	23,797	6	23	46	768	812	5	17	48	624	872
New England	2	103	327	3,347	8,936	—	1	5	30	43	—	0	4	21	23
Connecticut	—	0	105	—	3,086	—	0	4	5	10	—	0	1	2	1
Maine§	—	9	73	467	312	—	0	1	1	1	—	0	1	3	4
Massachusetts	2	30	213	1,881	3,827	—	0	3	19	23	—	0	3	12	15
New Hampshire	—	13	73	750	1,299	—	0	1	2	3	—	0	1	1	2
Rhode Island§	—	0	78	54	119	—	0	1	1	2	—	0	1	2	1
Vermont§	—	4	35	195	293	—	0	1	2	4	—	0	1	1	—
Mid. Atlantic	115	247	1,401	11,621	9,529	—	5	17	175	219	1	2	5	71	96
New Jersey	—	35	264	2,629	2,837	—	0	3	—	54	—	0	2	8	13
New York (Upstate)	77	87	1,368	2,965	3,117	—	1	10	36	22	1	0	2	18	25
New York City	—	3	33	92	584	—	3	11	103	116	—	0	2	12	19
Pennsylvania	38	53	608	5,935	2,991	—	1	4	36	27	—	1	4	33	39
E.N. Central	4	19	179	1,549	1,893	2	3	8	105	114	—	3	8	100	151
Illinois	—	1	10	80	97	—	1	4	46	61	—	1	6	26	54
Indiana	—	1	4	33	31	—	0	1	7	5	—	0	3	24	22
Michigan	—	1	10	76	61	—	0	3	17	13	—	0	5	18	25
Ohio	1	1	3	33	33	2	1	6	31	22	—	0	3	26	32
Wisconsin	3	15	165	1,327	1,671	—	0	2	4	13	—	0	1	6	18
W.N. Central	1	5	336	171	441	—	1	7	39	46	—	1	9	49	76
Iowa	—	1	12	71	90	—	0	3	8	5	—	0	1	6	15
Kansas	—	0	4	15	6	—	0	2	3	4	—	0	2	7	4
Minnesota	—	0	326	67	330	—	0	7	13	19	—	0	4	10	21
Missouri	—	0	2	4	4	—	0	2	9	10	—	0	3	18	23
Nebraska§	1	0	3	13	8	—	0	1	5	8	—	0	1	5	10
North Dakota	—	0	10	—	—	—	0	0	—	—	—	0	3	1	1
South Dakota	—	0	1	1	3	—	0	1	1	—	—	0	1	2	2
S. Atlantic	59	63	207	2,476	2,767	1	6	17	237	204	1	2	9	114	122
Delaware	2	12	63	727	605	—	0	1	3	2	—	0	1	2	1
District of Columbia	—	0	5	18	54	—	0	2	5	2	—	0	0	—	—
Florida	8	1	9	55	45	—	2	7	69	36	—	1	4	42	42
Georgia	—	0	6	39	31	—	1	5	51	46	—	0	2	21	14
Maryland§	18	29	130	1,140	1,374	1	1	8	52	53	1	0	1	7	13
North Carolina	—	1	14	56	15	—	0	5	21	22	—	0	5	18	11
South Carolina§	—	0	3	19	18	—	0	1	2	8	—	0	1	10	19
Virginia§	4	12	61	322	518	—	1	4	32	33	—	0	2	9	17
West Virginia	27	0	17	100	107	—	0	1	2	2	—	0	2	5	5
E.S. Central	1	0	2	19	39	1	0	3	24	13	—	0	3	21	39
Alabama§	—	0	1	2	9	—	0	3	6	3	—	0	1	5	5
Kentucky	—	0	1	1	4	—	0	2	8	4	—	0	1	4	7
Mississippi	—	0	0	—	1	—	0	1	1	1	—	0	1	2	9
Tennessee§	1	0	2	16	25	1	0	3	9	5	—	0	1	10	18
W.S. Central	—	1	21	37	71	—	1	8	34	52	—	1	12	58	94
Arkansas§	—	0	0	—	—	—	0	1	3	—	—	0	2	5	13
Louisiana	—	0	0	—	3	—	0	1	3	2	—	0	3	11	19
Oklahoma	—	0	2	—	—	—	0	2	2	2	—	0	3	6	12
Texas§	—	1	21	37	68	—	1	7	26	48	—	1	9	36	50
Mountain	1	1	13	32	42	—	0	4	22	21	1	1	4	50	46
Arizona	—	0	2	3	7	—	0	2	6	10	—	0	2	13	6
Colorado	1	0	1	4	3	—	0	3	8	3	1	0	2	16	9
Idaho§	—	0	2	9	6	—	0	1	1	—	—	0	1	5	4
Montana§	—	0	13	2	4	—	0	3	4	—	—	0	2	4	4
Nevada§	—	0	2	12	10	—	0	1	—	4	—	0	2	4	7
New Mexico§	—	0	1	1	8	—	0	1	—	2	—	0	1	3	7
Utah	—	0	1	—	2	—	0	2	3	2	—	0	1	1	7
Wyoming§	—	0	1	1	2	—	0	0	—	—	—	0	2	4	2
Pacific	4	4	13	148	79	2	3	10	102	100	2	3	14	140	225
Alaska	—	0	1	2	5	—	0	1	2	4	—	0	2	4	6
California	2	3	12	127	41	2	2	8	77	72	2	2	8	94	166
Hawaii	N	0	0	N	N	—	0	1	1	2	—	0	1	3	4
Oregon§	—	0	3	12	26	—	0	2	9	4	—	0	6	26	26
Washington	2	0	12	7	7	—	0	3	13	18	—	0	6	13	23
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	2	—	1	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	2	2	—	0	1	—	2
U.S. Virgin Islands	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional.
† Data for meningococcal disease, invasive caused by serogroups A, C, Y, and W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	97	273	1,697	8,953	6,262	32	69	138	2,514	3,013	6	32	179	1,029	1,654
New England	3	14	27	428	712	1	8	14	225	282	—	0	2	9	4
Connecticut	—	0	4	26	40	—	3	10	101	138	—	0	0	—	—
Maine†	—	1	10	64	25	—	1	5	36	36	—	0	2	4	1
Massachusetts	3	8	21	266	557	—	0	0	—	—	—	0	1	4	1
New Hampshire	—	1	7	53	22	—	0	7	24	29	—	0	0	—	1
Rhode Island†	—	0	5	11	59	—	0	3	27	25	—	0	2	—	1
Vermont†	—	0	2	8	9	1	1	4	37	54	—	0	1	1	—
Mid. Atlantic	11	22	64	769	733	10	14	27	439	653	1	1	29	52	105
New Jersey	—	4	12	128	155	—	0	0	—	—	—	0	2	—	72
New York (Upstate)	9	5	41	145	278	10	8	20	320	357	—	0	29	10	12
New York City	—	0	21	53	49	—	0	2	1	13	—	0	4	23	10
Pennsylvania	2	13	33	443	251	—	5	17	118	283	1	0	2	19	11
E.N. Central	25	54	238	1,841	1,029	4	2	19	185	195	—	1	6	60	124
Illinois	—	11	45	284	206	3	1	9	77	81	—	1	6	37	91
Indiana	—	4	158	179	40	—	0	6	17	6	—	0	3	4	6
Michigan	7	11	27	480	167	—	1	5	50	64	—	0	2	5	3
Ohio	18	20	57	792	517	1	0	7	41	44	—	0	4	14	24
Wisconsin	—	3	12	106	99	N	0	0	N	N	—	0	0	—	—
W.N. Central	8	34	872	1,262	522	8	5	17	206	213	2	4	25	223	360
Iowa	—	6	21	135	82	—	0	5	24	17	—	0	2	4	7
Kansas	—	4	12	132	42	—	1	6	56	50	—	0	1	2	—
Minnesota	—	0	808	165	156	4	0	11	44	34	—	0	1	2	—
Missouri	6	20	51	688	165	4	1	5	51	49	2	4	24	204	334
Nebraska†	2	4	32	110	54	—	0	2	—	29	—	0	2	11	16
North Dakota	—	0	24	17	1	—	0	9	4	17	—	0	1	—	—
South Dakota	—	0	10	15	22	—	0	4	27	17	—	0	0	—	3
S. Atlantic	27	28	71	1,133	615	8	25	111	1,109	1,253	—	13	42	376	560
Delaware	—	0	2	10	11	—	0	0	—	—	—	0	3	15	26
District of Columbia	—	0	2	2	3	—	0	0	—	—	—	0	0	—	6
Florida	18	8	32	410	189	—	0	95	123	138	—	0	2	5	9
Georgia	—	3	11	106	62	—	0	71	262	279	—	1	6	37	66
Maryland†	—	3	9	78	84	7	6	14	264	323	—	1	3	27	69
North Carolina	—	0	65	204	79	N	2	4	N	N	—	7	36	225	245
South Carolina†	1	4	17	171	85	—	0	0	—	—	—	0	9	16	30
Virginia†	8	3	24	128	95	—	10	23	375	446	—	2	9	47	101
West Virginia	—	0	5	24	7	1	2	6	85	67	—	0	1	4	8
E.S. Central	4	15	33	568	220	—	2	7	70	135	2	4	19	182	241
Alabama†	—	4	19	216	30	—	0	0	—	—	—	1	6	39	63
Kentucky	—	6	15	178	59	—	1	4	36	33	—	0	1	1	1
Mississippi	—	1	4	41	77	—	0	2	—	2	—	0	1	7	10
Tennessee†	4	3	14	133	54	—	1	4	34	100	2	3	15	135	167
W.S. Central	4	55	389	1,779	995	—	0	13	45	75	1	1	161	106	224
Arkansas†	3	4	38	171	64	—	0	5	23	41	—	0	61	47	44
Louisiana	—	2	8	90	63	—	0	0	—	—	—	0	1	2	5
Oklahoma	1	0	45	37	32	—	0	13	21	32	—	0	98	44	142
Texas†	—	41	304	1,481	836	—	0	1	1	2	1	0	6	13	33
Mountain	8	17	31	594	602	—	1	9	57	67	—	1	3	19	33
Arizona	—	4	10	152	166	N	0	0	N	N	—	0	2	4	8
Colorado	3	5	12	200	111	—	0	0	—	—	—	0	0	—	1
Idaho†	5	1	5	60	22	—	0	2	—	8	—	0	1	1	1
Montana†	—	0	4	12	75	—	0	4	16	7	—	0	2	8	3
Nevada†	—	0	3	10	26	—	0	1	4	10	—	0	1	1	2
New Mexico†	—	1	10	39	32	—	0	2	16	23	—	0	1	1	4
Utah	—	3	19	113	159	—	0	6	4	7	—	0	1	1	5
Wyoming†	—	0	5	8	11	—	0	4	17	12	—	0	1	3	9
Pacific	7	19	98	579	834	1	5	12	178	140	—	0	1	2	3
Alaska	—	1	21	31	110	—	0	2	10	12	N	0	0	N	N
California	—	5	19	143	378	1	4	12	153	121	—	0	1	2	—
Hawaii	—	0	3	22	10	—	0	0	—	—	N	0	0	N	N
Oregon†	—	3	16	183	125	—	0	3	15	7	—	0	0	—	3
Washington	7	6	76	200	211	—	0	0	—	—	—	0	0	—	—
American Samoa	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	1	1	—	—	1	3	27	46	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

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U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Salmonellosis					Shiga toxin-producing *E. coli* (STEC)†					Shigellosis				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	648	916	2,323	28,712	31,353	54	86	255	2,644	3,309	146	314	1,268	10,290	13,352
New England	3	32	324	1,511	1,691	—	3	50	156	179	—	3	33	234	176
Connecticut	—	0	298	298	491	—	0	50	50	47	—	0	28	28	40
Maine§	—	2	7	83	104	—	0	3	14	13	—	0	1	2	18
Massachusetts	3	23	39	805	848	—	1	6	58	85	—	3	27	183	101
New Hampshire	—	3	42	198	107	—	1	3	23	14	—	0	3	8	4
Rhode Island§	—	2	11	87	73	—	0	1	—	7	—	0	1	8	10
Vermont§	—	1	5	40	68	—	0	6	11	13	—	0	2	5	3
Mid. Atlantic	45	91	182	3,102	3,956	5	7	18	237	341	10	56	79	1,955	1,690
New Jersey	—	10	41	237	941	—	1	5	31	103	—	13	35	416	571
New York (Upstate)	27	24	66	897	901	4	3	9	96	111	4	5	23	160	446
New York City	2	19	49	776	886	—	1	5	39	36	1	9	23	294	539
Pennsylvania	16	29	66	1,192	1,228	1	1	5	71	91	5	24	61	1,085	134
E.N. Central	33	91	141	3,243	3,589	2	12	74	428	531	5	64	132	1,856	2,592
Illinois	—	25	50	845	1,054	—	1	10	65	89	—	13	25	367	727
Indiana	—	7	50	245	415	—	1	6	39	68	—	1	21	38	499
Michigan	2	18	29	666	672	1	3	43	101	94	1	5	24	162	91
Ohio	30	27	52	1,057	906	1	3	15	101	121	2	36	80	933	996
Wisconsin	1	12	30	430	542	—	3	10	122	159	2	11	42	356	279
W.N. Central	30	50	109	1,878	2,009	10	12	38	508	579	17	15	49	622	658
Iowa	2	7	15	301	315	1	2	14	122	150	—	2	12	47	117
Kansas	—	6	19	225	327	—	1	7	30	31	—	3	11	147	28
Minnesota	13	13	51	452	513	6	2	17	152	117	7	2	14	65	227
Missouri	12	12	31	434	545	2	2	10	83	122	10	4	40	338	174
Nebraska§	3	5	41	272	171	1	2	6	66	120	—	0	3	19	5
North Dakota	—	0	30	40	31	—	0	28	3	1	—	0	9	3	32
South Dakota	—	3	22	154	107	—	0	12	52	38	—	0	1	3	75
S. Atlantic	255	262	440	7,798	7,622	10	13	30	433	588	18	47	85	1,593	2,225
Delaware	1	2	8	72	110	—	0	2	11	10	3	1	8	75	7
District of Columbia	—	0	5	20	49	—	0	1	1	5	—	0	2	6	16
Florida	170	115	197	3,683	3,098	3	3	7	115	100	9	8	24	313	622
Georgia	36	39	96	1,462	1,493	1	1	4	50	68	3	13	30	458	815
Maryland§	16	15	26	502	592	3	1	8	60	95	2	6	14	257	69
North Carolina	—	23	104	778	755	—	2	21	74	65	—	6	27	251	112
South Carolina§	20	15	54	496	703	—	0	3	21	32	1	3	14	86	431
Virginia§	11	21	88	626	671	2	2	16	82	181	—	5	59	141	125
West Virginia	1	4	23	159	151	1	0	3	19	32	—	0	3	6	28
E.S. Central	11	56	140	1,838	2,242	2	4	12	147	195	2	19	58	575	1,364
Alabama§	—	15	40	436	639	—	1	4	33	49	—	4	11	97	325
Kentucky	—	10	18	335	308	—	2	7	52	63	—	2	25	143	209
Mississippi	1	14	57	551	749	—	0	1	6	4	—	1	4	29	273
Tennessee§	10	15	62	516	546	2	2	5	56	79	2	11	48	306	557
W.S. Central	119	110	1,333	3,086	4,325	4	4	139	103	237	44	56	967	1,814	2,940
Arkansas§	9	12	34	411	508	1	0	5	26	37	2	8	20	236	388
Louisiana	—	16	43	599	754	—	0	1	—	7	—	4	17	108	498
Oklahoma	18	14	102	440	508	2	1	82	21	22	11	5	61	197	93
Texas§	92	56	1,204	1,636	2,555	1	2	55	56	171	31	42	889	1,273	1,961
Mountain	29	57	113	1,980	2,322	1	10	40	319	387	17	25	54	816	658
Arizona	12	20	48	705	727	1	1	4	55	50	13	17	41	611	320
Colorado	14	13	34	471	515	—	3	18	104	106	3	2	11	67	75
Idaho§	2	4	10	131	120	—	2	15	58	79	—	0	2	7	9
Montana§	—	2	7	73	86	—	0	3	15	28	—	0	5	13	5
Nevada§	1	4	13	180	162	—	0	4	20	13	1	1	11	48	153
New Mexico§	—	5	25	214	416	—	1	2	21	41	—	2	12	59	67
Utah	—	6	15	163	244	—	1	5	41	60	—	0	3	11	26
Wyoming§	—	1	6	43	52	—	0	2	5	10	—	0	1	—	3
Pacific	123	126	537	4,276	3,597	20	10	31	313	272	33	27	82	825	1,049
Alaska	—	1	6	56	41	—	0	1	—	5	—	0	1	2	—
California	97	95	516	3,248	2,595	7	5	15	165	123	26	20	75	665	906
Hawaii	4	5	13	177	189	—	0	1	3	11	1	0	4	27	33
Oregon§	2	8	15	282	319	3	1	6	47	48	1	1	10	28	52
Washington	20	12	85	513	453	10	3	16	98	85	5	2	11	103	58
American Samoa	—	0	1	—	2	—	0	0	—	—	—	0	2	3	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	—	10	—	0	0	—	—	—	0	1	—	14
Puerto Rico	2	8	40	249	484	—	0	1	1	—	—	0	2	7	22
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 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 September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Streptococcal diseases, invasive, group A					*Streptococcus pneumoniae*, invasive disease, nondrug resistant† Age <5 years				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max		
United States	27	101	239	3,875	4,142	14	36	122	1,191	1,238
New England	—	5	28	229	299	—	1	12	43	60
Connecticut	—	0	21	63	86	—	0	11	—	—
Maine§	—	0	2	13	20	—	0	1	3	1
Massachusetts	—	3	10	97	140	—	1	4	30	44
New Hampshire	—	1	4	34	20	—	0	2	8	8
Rhode Island§	—	0	2	9	21	—	0	2	—	7
Vermont§	—	0	3	13	12	—	0	1	2	—
Mid. Atlantic	3	19	43	784	850	1	5	33	181	155
New Jersey	—	3	6	104	154	—	1	4	31	47
New York (Upstate)	3	7	25	261	265	—	2	17	85	69
New York City	—	4	12	149	154	1	0	31	65	39
Pennsylvania	—	6	18	270	277	N	0	2	N	N
E.N. Central	1	17	42	735	787	1	6	18	180	226
Illinois	—	5	12	204	210	—	1	5	23	63
Indiana	—	3	23	117	104	—	0	13	26	26
Michigan	—	3	11	120	136	—	1	5	48	58
Ohio	—	4	13	185	215	1	1	6	53	42
Wisconsin	1	2	11	109	122	—	1	4	30	37
W.N. Central	—	6	37	319	313	—	2	11	107	68
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	1	5	37	32	N	0	1	N	N
Minnesota	—	0	34	146	150	—	0	10	60	19
Missouri	—	1	8	70	74	—	0	4	29	30
Nebraska§	—	1	3	35	31	—	0	1	8	7
North Dakota	—	0	4	11	8	—	0	3	4	6
South Dakota	—	0	3	20	18	—	0	2	6	6
S. Atlantic	9	22	48	884	843	5	6	16	221	242
Delaware	1	0	1	10	6	—	0	0	—	—
District of Columbia	—	0	3	11	12	N	0	0	N	N
Florida	5	6	12	217	193	3	1	6	52	46
Georgia	1	5	13	208	187	1	2	6	55	65
Maryland§	2	3	12	140	146	—	1	4	51	46
North Carolina	—	2	12	81	106	N	0	0	N	N
South Carolina§	—	1	5	56	51	1	1	6	33	42
Virginia§	—	3	9	127	109	—	0	4	18	37
West Virginia	—	1	4	34	33	—	0	3	12	6
E.S. Central	1	4	10	148	145	3	2	7	64	63
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	5	28	31	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	2	14	8
Tennessee§	1	3	9	120	114	3	1	6	50	55
W.S. Central	4	9	79	324	366	4	6	46	203	192
Arkansas§	—	0	2	14	8	—	0	4	21	11
Louisiana	—	0	3	11	14	—	0	3	13	11
Oklahoma	—	3	20	108	85	3	1	7	43	49
Texas§	4	5	59	191	259	1	4	34	126	121
Mountain	6	10	22	338	429	—	4	16	169	194
Arizona	3	3	7	115	151	—	2	10	88	89
Colorado	3	3	9	111	107	—	1	4	32	43
Idaho§	—	0	2	7	12	—	0	2	7	3
Montana§	N	0	0	N	N	N	0	0	N	N
Nevada§	—	0	1	5	8	—	0	1	—	3
New Mexico§	—	2	7	59	103	—	0	4	15	27
Utah	—	1	6	40	42	—	0	5	27	28
Wyoming§	—	0	1	1	6	—	0	1	—	1
Pacific	3	3	9	114	110	—	0	4	23	38
Alaska	—	1	3	21	28	—	0	3	17	24
California	N	0	0	N	N	N	0	0	N	N
Hawaii	3	3	8	93	82	—	0	2	6	14
Oregon§	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	—	0	0	—	30	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional.
† Includes cases of invasive pneumococcal disease, in children aged <5 years, caused by *S. pneumoniae*, which is susceptible or for which susceptibility testing is not available (NNDSS event code 11717).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	*Streptococcus pneumoniae*, invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages					Aged <5 years									
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	11	60	276	2,007	2,230	3	9	21	312	341	80	262	452	8,929	8,767
New England	—	1	48	35	46	—	0	5	3	7	3	5	15	228	218
Connecticut	—	0	48	—	—	—	0	5	—	—	1	1	5	42	21
Maine§	—	0	2	9	15	—	0	1	1	1	—	0	1	1	9
Massachusetts	—	0	1	3	—	—	0	1	2	—	2	4	11	161	155
New Hampshire	—	0	3	5	—	—	0	0	—	—	—	0	2	12	13
Rhode Island§	—	0	6	7	18	—	0	1	—	4	—	0	5	12	14
Vermont§	—	0	2	11	13	—	0	0	—	2	—	0	2	—	6
Mid. Atlantic	—	3	14	117	230	—	0	3	20	20	21	35	51	1,278	1,155
New Jersey	—	0	0	—	—	—	0	0	—	—	2	4	13	157	152
New York (Upstate)	—	1	10	52	48	—	0	2	10	6	1	2	8	86	93
New York City	—	0	4	3	93	—	0	2	—	1	16	23	40	802	721
Pennsylvania	—	1	8	62	89	—	0	2	10	13	2	6	12	233	189
E.N. Central	1	11	41	450	476	—	1	7	64	64	15	23	44	730	800
Illinois	N	0	0	N	N	N	0	0	N	N	—	7	19	203	322
Indiana	—	3	32	161	163	—	0	6	22	20	5	2	10	115	98
Michigan	—	0	2	19	17	—	0	1	2	2	10	3	18	175	129
Ohio	1	7	18	270	296	—	1	4	40	42	—	6	17	206	212
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	4	31	39
W.N. Central	—	2	161	94	157	—	0	3	20	32	3	6	11	214	294
Iowa	—	0	0	—	—	—	0	0	—	—	1	0	2	17	14
Kansas	—	1	5	39	59	—	0	2	13	4	2	0	3	22	24
Minnesota	—	0	156	—	23	—	0	3	—	23	—	1	6	40	73
Missouri	—	1	5	43	67	—	0	1	5	2	—	3	7	117	173
Nebraska§	—	0	0	—	—	—	0	0	—	—	—	0	3	14	10
North Dakota	—	0	3	10	2	—	0	0	—	—	—	0	1	3	—
South Dakota	—	0	2	2	6	—	0	2	2	3	—	0	1	1	—
S. Atlantic	10	26	53	956	913	3	4	14	143	149	24	64	262	2,227	1,931
Delaware	—	0	2	15	3	—	0	0	—	—	1	0	3	23	10
District of Columbia	N	0	0	N	N	N	0	0	N	N	3	3	9	120	94
Florida	9	15	36	559	521	3	2	13	89	97	—	20	31	672	717
Georgia	1	8	25	291	303	—	1	5	47	44	3	14	227	522	437
Maryland§	—	0	1	4	4	—	0	0	—	1	5	6	16	216	236
North Carolina	N	0	0	N	N	N	0	0	N	N	4	9	21	365	188
South Carolina§	—	0	0	—	—	—	0	0	—	—	—	2	6	81	58
Virginia§	N	0	0	N	N	N	0	0	N	N	8	6	15	224	183
West Virginia	—	2	13	87	82	—	0	3	7	7	—	0	2	4	8
E.S. Central	—	5	25	196	237	—	1	3	29	43	11	22	36	785	746
Alabama§	N	0	0	N	N	N	0	0	N	N	—	8	17	288	310
Kentucky	—	1	5	55	58	—	0	2	7	9	1	1	10	47	60
Mississippi	—	0	3	3	28	—	0	1	2	8	6	4	18	158	103
Tennessee§	—	3	23	138	151	—	0	3	20	26	4	8	19	292	273
W.S. Central	—	1	6	72	76	—	0	3	14	12	—	49	80	1,641	1,480
Arkansas§	—	1	5	40	13	—	0	3	9	3	—	4	35	151	112
Louisiana	—	1	5	32	63	—	0	1	5	9	—	11	40	303	403
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	7	43	53
Texas§	—	0	0	—	—	—	0	0	—	—	—	32	48	1,144	912
Mountain	—	2	7	84	93	—	0	3	17	12	1	9	18	298	443
Arizona	—	0	0	—	—	—	0	0	—	—	—	4	9	132	226
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	4	61	108
Idaho§	N	0	1	N	N	N	0	1	N	N	—	0	2	3	2
Montana§	—	0	1	—	—	—	0	0	—	—	—	0	7	—	—
Nevada§	—	1	4	33	44	—	0	2	7	5	1	1	7	66	58
New Mexico§	—	0	0	—	—	—	0	0	—	—	—	1	5	34	30
Utah	—	1	6	42	48	—	0	3	9	7	—	0	2	—	16
Wyoming§	—	0	2	9	1	—	0	1	1	—	—	0	1	2	3
Pacific	—	0	1	3	2	—	0	1	2	2	2	44	66	1,528	1,700
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	0	—	1
California	N	0	0	N	N	N	0	0	N	N	1	39	59	1,392	1,536
Hawaii	—	0	1	3	2	—	0	1	2	2	—	0	3	20	16
Oregon§	N	0	0	N	N	N	0	0	N	N	—	1	4	32	13
Washington	N	0	0	N	N	N	0	0	N	N	1	2	7	84	134
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	—	3	16	142	101
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional.
† Includes cases of invasive pneumococcal disease caused by drug-resistant *S. pneumoniae* (DRSP) (NNDSS event code 11720).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 12, 2009, and September 6, 2008 (36th week)*

Reporting area	Varicella (chickenpox)					West Nile virus disease†									
						Neuroinvasive					Nonneuroinvasive§				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
United States	74	451	1,035	12,328	20,816	1	1	70	137	480	—	1	37	142	538
New England	—	8	46	195	1,161	—	0	2	—	3	—	0	0	—	3
Connecticut	—	0	21	—	600	—	0	2	—	3	—	0	0	—	3
Maine¶	—	0	11	5	177	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	2	2	—	—	0	1	—	—	—	0	0	—	—
New Hampshire	—	4	11	141	186	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	1	4	—	—	0	1	—	—	—	0	0	—	—
Vermont¶	—	2	17	43	198	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	10	39	58	1,065	1,658	—	0	6	2	31	—	0	2	—	15
New Jersey	N	0	0	N	N	—	0	2	—	2	—	0	0	—	4
New York (Upstate)	N	0	0	N	N	—	0	3	1	15	—	0	2	—	4
New York City	—	0	0	—	—	—	0	2	—	6	—	0	1	—	5
Pennsylvania	10	39	58	1,065	1,658	—	0	1	1	8	—	0	0	—	2
E.N. Central	20	155	254	4,282	5,038	—	0	7	2	23	—	0	2	1	15
Illinois	—	35	73	904	742	—	0	4	1	4	—	0	1	—	7
Indiana	—	2	19	211	—	—	0	1	1	2	—	0	1	—	—
Michigan	5	48	90	1,322	2,105	—	0	2	—	7	—	0	1	—	4
Ohio	13	42	91	1,455	1,611	—	0	3	—	8	—	0	1	1	—
Wisconsin	2	13	55	390	580	—	0	2	—	2	—	0	0	—	4
W.N. Central	7	22	114	682	823	—	0	6	8	35	—	0	4	27	114
Iowa	N	0	0	N	N	—	0	1	—	2	—	0	1	2	2
Kansas	—	5	22	176	323	—	0	2	—	9	—	0	2	4	12
Minnesota	—	0	0	—	—	—	0	0	—	2	—	0	1	1	8
Missouri	7	10	51	449	465	—	0	3	1	5	—	0	1	—	2
Nebraska¶	N	0	0	N	N	—	0	2	4	4	—	0	3	10	29
North Dakota	—	0	108	57	—	—	0	0	—	2	—	0	1	1	35
South Dakota	—	0	4	—	35	—	0	2	3	11	—	0	2	9	26
S. Atlantic	17	57	146	1,450	3,398	—	0	2	3	15	—	0	3	—	15
Delaware	—	0	4	8	30	—	0	0	—	—	—	0	0	—	1
District of Columbia	—	0	3	8	18	—	0	0	—	4	—	0	1	—	2
Florida	11	28	67	938	1,195	—	0	0	—	3	—	0	0	—	—
Georgia	N	0	0	N	N	—	0	1	2	2	—	0	0	—	4
Maryland¶	N	0	0	N	N	—	0	2	—	3	—	0	2	—	5
North Carolina	N	0	0	N	N	—	0	0	—	2	—	0	0	—	1
South Carolina¶	—	3	54	154	602	—	0	1	1	—	—	0	0	—	1
Virginia¶	—	0	119	28	1,034	—	0	0	—	—	—	0	0	—	1
West Virginia	6	9	32	314	519	—	0	0	—	1	—	0	0	—	—
E.S. Central	—	11	28	358	879	—	0	5	23	37	—	0	5	13	50
Alabama¶	—	11	28	356	869	—	0	1	—	10	—	0	2	—	5
Kentucky	N	0	0	N	N	—	0	1	1	—	—	0	0	—	—
Mississippi	—	0	1	2	10	—	0	5	21	18	—	0	3	12	38
Tennessee¶	N	0	0	N	N	—	0	2	1	9	—	0	1	1	7
W.S. Central	—	94	747	3,259	6,243	—	0	8	41	55	—	0	5	16	45
Arkansas¶	—	3	47	96	495	—	0	1	1	6	—	0	0	—	2
Louisiana	—	1	7	76	57	—	0	3	6	13	—	0	5	6	18
Oklahoma	N	0	0	N	N	—	0	1	4	2	—	0	0	—	5
Texas¶	—	86	721	3,087	5,691	—	0	7	30	34	—	0	3	10	20
Mountain	20	33	83	957	1,524	—	0	8	39	68	—	0	15	60	148
Arizona	—	0	0	—	—	—	0	5	11	37	—	0	8	4	27
Colorado	20	12	44	388	622	—	0	4	13	13	—	0	11	38	51
Idaho¶	N	0	0	N	N	—	0	1	2	3	—	0	2	6	32
Montana¶	—	2	20	105	230	—	0	1	2	—	—	0	1	1	5
Nevada¶	N	0	0	N	N	—	0	2	7	7	—	0	1	5	6
New Mexico¶	—	2	20	134	166	—	0	1	2	4	—	0	1	1	1
Utah	—	13	31	330	496	—	0	1	—	4	—	0	1	—	18
Wyoming¶	—	0	1	—	10	—	0	1	2	—	—	0	2	5	8
Pacific	—	2	7	80	92	1	0	34	19	213	—	0	10	25	133
Alaska	—	1	6	50	44	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	1	0	33	16	209	—	0	10	18	119
Hawaii	—	1	4	30	48	—	0	0	—	—	—	0	0	—	—
Oregon¶	N	0	0	N	N	—	0	1	—	2	—	0	0	—	13
Washington	N	0	0	N	N	—	0	2	3	2	—	0	3	7	1
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	2	3	—	55	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	8	23	318	442	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting year 2008 and 2009 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.
§ Not reportable in all states. Data from states where the condition is not reportable are excluded from this table, except starting in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/epo/dphsi/phs/infdis.htm.
¶ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE III. Deaths in 122 U.S. cities,* week ending September 12, 2009 (36th week)

Reporting area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45–64	25–44	1–24	<1	
New England	458	304	94	33	15	12	44
Boston, MA	118	68	29	10	6	5	6
Bridgeport, CT	15	12	3	—	—	—	—
Cambridge, MA	13	11	1	1	—	—	1
Fall River, MA	14	9	2	2	1	—	2
Hartford, CT	30	18	8	2	1	1	1
Lowell, MA	31	25	3	3	—	—	1
Lynn, MA	10	10	—	—	—	—	—
New Bedford, MA	27	19	4	4	—	—	3
New Haven, CT	22	15	7	—	—	—	4
Providence, RI	62	37	14	6	5	—	8
Somerville, MA	1	—	1	—	—	—	—
Springfield, MA	30	18	7	2	1	2	6
Waterbury, CT	15	13	1	1	—	—	2
Worcester, MA	70	49	14	2	1	4	10
Mid. Atlantic	1,678	1,156	363	94	38	27	73
Albany, NY	50	36	6	3	1	4	2
Allentown, PA	23	20	2	—	1	—	—
Buffalo, NY	81	59	16	3	3	—	3
Camden, NJ	39	20	11	2	1	5	—
Elizabeth, NJ	10	6	2	2	—	—	—
Erie, PA	49	31	13	1	2	2	4
Jersey City, NJ	32	19	9	2	1	1	4
New York City, NY	881	617	191	53	15	5	33
Newark, NJ	32	16	9	3	1	3	5
Paterson, NJ	8	7	1	—	—	—	—
Philadelphia, PA	228	132	64	18	8	6	9
Pittsburgh, PA§	U	U	U	U	U	U	U
Reading, PA	26	23	2	1	—	—	1
Rochester, NY	113	92	14	2	4	1	4
Schenectady, NY	22	18	4	—	—	—	3
Scranton, PA	26	20	4	2	—	—	2
Syracuse, NY	6	4	2	—	—	—	1
Trenton, NJ	22	15	6	1	—	—	—
Utica, NY	12	9	2	—	1	—	1
Yonkers, NY	18	12	5	1	—	—	1
E.N. Central	1,387	901	347	81	33	25	76
Akron, OH	40	25	9	2	2	2	1
Canton, OH	39	26	11	1	—	1	5
Chicago, IL	U	U	U	U	U	U	U
Cincinnati, OH	63	31	18	3	10	1	5
Cleveland, OH	192	123	44	19	4	2	4
Columbus, OH	224	145	59	17	2	1	17
Dayton, OH	98	65	27	3	1	2	6
Detroit, MI	104	54	35	11	3	1	4
Evansville, IN	43	29	13	1	—	—	6
Fort Wayne, IN	52	36	13	1	1	1	1
Gary, IN	10	4	5	—	—	1	—
Grand Rapids, MI	40	29	6	2	1	2	4
Indianapolis, IN	150	91	45	7	3	4	6
Lansing, MI	44	32	8	2	2	—	1
Milwaukee, WI	45	32	11	1	—	1	5
Peoria, IL	35	20	12	—	1	2	2
Rockford, IL	47	29	11	5	2	—	2
South Bend, IN	37	30	4	—	—	3	3
Toledo, OH	79	67	8	2	1	1	4
Youngstown, OH	45	33	8	4	—	—	—
W.N. Central	541	330	132	48	9	21	39
Des Moines, IA	80	49	22	6	1	2	4
Duluth, MN	24	19	3	2	—	—	3
Kansas City, KS	15	4	8	3	—	—	1
Kansas City, MO	64	35	23	6	—	—	4
Lincoln, NE	29	24	4	1	—	—	5
Minneapolis, MN	62	35	17	3	3	4	4
Omaha, NE	77	55	13	5	1	3	6
St. Louis, MO	63	27	13	10	2	10	6
St. Paul, MN	67	51	8	7	—	1	3
Wichita, KS	60	31	21	5	2	1	3
S. Atlantic	1,077	656	295	72	25	29	38
Atlanta, GA	109	67	25	9	3	5	4
Baltimore, MD	145	86	43	11	2	3	12
Charlotte, NC	86	53	26	4	3	—	1
Jacksonville, FL	150	87	49	8	3	3	1
Miami, FL	82	53	18	5	3	3	2
Norfolk, VA	29	18	8	3	—	—	2
Richmond, VA	43	23	15	2	2	1	—
Savannah, GA	38	20	10	2	—	6	1
St. Petersburg, FL	48	34	9	3	2	—	3
Tampa, FL	159	107	36	9	3	4	7
Washington, D.C.	183	105	54	16	4	4	5
Wilmington, DE	5	3	2	—	—	—	—
E.S. Central	756	486	183	44	28	15	54
Birmingham, AL	173	115	34	8	8	8	10
Chattanooga, TN	52	38	9	1	3	1	4
Knoxville, TN	95	61	24	3	7	—	6
Lexington, KY	62	44	10	6	1	1	4
Memphis, TN	139	83	39	10	6	1	10
Mobile, AL	60	38	19	1	1	1	—
Montgomery, AL	58	35	17	5	1	—	5
Nashville, TN	117	72	31	10	1	3	15
W.S. Central	968	579	260	74	30	25	53
Austin, TX	69	43	16	7	2	1	2
Baton Rouge, LA	58	51	5	2	—	—	—
Corpus Christi, TX	U	U	U	U	U	U	U
Dallas, TX	182	100	47	16	7	12	11
El Paso, TX	57	36	15	4	2	—	2
Fort Worth, TX	U	U	U	U	U	U	U
Houston, TX	295	161	91	23	9	11	13
Little Rock, AR	U	U	U	U	U	U	U
New Orleans, LA	U	U	U	U	U	U	U
San Antonio, TX	182	112	50	14	6	—	17
Shreveport, LA	39	22	14	2	1	—	2
Tulsa, OK	86	54	22	6	3	1	6
Mountain	991	642	255	59	15	19	47
Albuquerque, NM	103	75	20	7	—	1	6
Boise, ID	59	43	13	2	—	1	3
Colorado Springs, CO	94	62	27	4	1	—	4
Denver, CO	82	41	23	10	2	5	4
Las Vegas, NV	220	139	64	11	3	3	10
Ogden, UT	32	27	2	3	—	—	2
Phoenix, AZ	145	78	49	8	5	5	7
Pueblo, CO	20	16	4	—	—	—	1
Salt Lake City, UT	116	76	27	9	2	2	3
Tucson, AZ	120	85	26	5	2	2	7
Pacific	1,243	820	292	80	33	18	117
Berkeley, CA	12	7	4	1	—	—	2
Fresno, CA	U	U	U	U	U	U	U
Glendale, CA	31	27	3	—	1	—	8
Honolulu, HI	70	54	11	2	3	—	6
Long Beach, CA	63	49	8	4	2	—	10
Los Angeles, CA	216	130	50	21	9	6	25
Pasadena, CA	17	11	3	2	—	1	1
Portland, OR	99	66	28	2	2	1	4
Sacramento, CA	149	95	35	12	4	3	12
San Diego, CA	45	25	11	5	4	—	5
San Francisco, CA	93	65	20	7	—	1	12
San Jose, CA	163	113	40	8	2	—	18
Santa Cruz, CA	27	18	8	—	1	—	2
Seattle, WA	114	67	35	6	3	3	8
Spokane, WA	50	26	18	3	1	2	—
Tacoma, WA	94	67	18	7	1	1	4
Total¶	**9,099**	**5,874**	**2,221**	**585**	**226**	**191**	**541**

U: Unavailable. —:No reported cases.

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

† Pneumonia and influenza.

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

¶ Total includes unknown ages.

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