

## Invasive Pneumococcal Disease in Young Children Before Licensure of 13-Valent Pneumococcal Conjugate Vaccine — United States, 2007

Invasive pneumococcal disease (IPD), caused by *Streptococcus pneumoniae* (pneumococcus), remains a leading cause of serious illness in children and adults worldwide (1). After routine infant immunization with a 7-valent pneumococcal conjugate vaccine (PCV7) began in 2000, IPD among children aged <5 years in the United States decreased by 76%; however, IPD from non-PCV7 serotypes, particularly 19A, has increased (2). In February 2010, the Advisory Committee on Immunization Practices (ACIP) issued recommendations for use of a newly licensed 13-valent pneumococcal conjugate vaccine (PCV13) (3). PCV13 contains the seven serotypes in PCV7 (4, 6B, 9V, 14, 18C, 19F, and 23F) and six additional serotypes (1, 3, 5, 6A, 7F, and 19A). To characterize the potentially vaccine-preventable IPD burden among children aged <5 years in the United States, CDC and investigators analyzed 2007 data from Active Bacterial Core surveillance (ABCs). This report summarizes the results of that analysis, which found that among 427 IPD cases with known serotype in children aged <5 years, 274 (64%) were caused by serotypes contained in PCV13. In 2007, an estimated 4,600 cases of IPD occurred in children in this age group in the United States, including approximately 2,900 cases caused by serotypes covered in PCV13 (versus 70 cases caused by PCV7 serotypes). PCV13 use has the potential to further reduce IPD in the United States. Post-licensure monitoring will help characterize the effectiveness of PCV13 in different populations and track the potential changes in disease burden caused by non-PCV13 serotypes.

ABCs\* of the Emerging Infections Program (EIP) Network is a collaboration between CDC and 10 selected sites. ABCs conducts population- and laboratory-based active surveillance. During 2006 and 2007, IPD surveillance was conducted in Connecticut, Minnesota, and New Mexico, and selected counties in California, Colorado, Georgia, Maryland, New York, Oregon, and Tennessee. In 2007, the total catchment

population of children aged <5 years for these 10 sites was 2.1 million. A case of IPD was defined as isolation of *S. pneumoniae* from a normally sterile body site (primarily blood or cerebrospinal fluid) in a resident of an ABCs area. Pneumococcal isolates were serotyped at CDC and reference laboratories. Serotype information was analyzed by vaccine serotype group (Table 1). Age-, race- and vaccine serotype-specific rates of IPD were calculated using observed IPD cases in the 2007 ABCs data as the numerator and U.S. Census Bureau projections of the 2007 population of ABCs sites as the denominator. To estimate the incidence and total number of IPD cases in the United States in 2007, rates were standardized to the entire U.S. population, adjusting for small differences between age and race distributions of ABCs areas and the U.S. population.

Investigators reviewed medical records to identify children aged 24–59 months with underlying medical conditions who are recommended by ACIP to receive the 23-valent pneumococcal polysaccharide vaccine (PPSV23) (1). Characteristics of these high-risk children and healthy children were compared by chi-square test; data from 2006 and 2007 were summed

### INSIDE

- 258 Licensure of a 13-Valent Pneumococcal Conjugate Vaccine (PCV13) and Recommendations for Use Among Children — Advisory Committee on Immunization Practices (ACIP), 2010
- 262 Short-Term Effects of Health-Care Coverage Legislation — Massachusetts, 2008
- 268 Progress Toward Poliomyelitis Eradication — Afghanistan and Pakistan, 2009
- 273 Licensure of a Meningococcal Conjugate Vaccine (Menveo) and Guidance for Use — Advisory Committee on Immunization Practices (ACIP), 2010

\* Available at <http://www.cdc.gov/abcs/index.html>.



because of the small number of IPD cases with underlying medical conditions among persons in this age group.

In 2007, a total of 493 children aged <5 years (<60 months) with IPD were identified in the ABCs population (Table 2), and information on the serotype of the pneumococcal isolate was available for 427 (87%) of those children. Among the 427, the group aged <12 months accounted for 36% of all cases, and the 12–23 months group accounted for 29%. Overall rates were highest in children aged <12 months and 12–23 months (40.5 and 31.2 cases per 100,000 population, respectively); among children aged 24–59 months, rates of all IPD decreased with each additional year of age. Information on race was available for 378 (89%) cases for which serotype information was available. Among children aged <5 years, rates of overall IPD in black children (35.8 cases per 100,000) and children of other races (30.7 cases per 100,000) were approximately twofold and 1.7-fold higher, respectively, than rates for white children (18.4 per 100,000).

Among the 427 IPD cases with known serotype in children aged <5 years, 274 (64%) were caused by serotypes contained in PCV13. Of these 274 cases, 260 (95%) were caused by three of the six additional serotypes (3, 7F, and 19A) that are not included in PCV7; overall, 180 (42%) of the 427 were caused by serotype 19A. Within each 1-year age group, the proportions of all IPD cases caused by serotypes covered by PCV13 were relatively similar, ranging from 59% to 71%. The proportions of all IPD cases caused by the 13 serotypes were comparable in black children (61%), children of other races (62%), and white children (67%).

Information on hospitalization and clinical outcome was available for 99% of serotyped IPD cases. Among 272 children with IPD caused by serotypes covered by PCV13 for whom hospitalization status, clinical presentation, and outcome were known, 168 (62%) were hospitalized, and four (2%) died; 101 (37%) had bacteremia without confirmed source, 24 (9%) had meningitis, and 115 (42%) had pneumonia with bacteremia.

The *MMWR* series of publications is published by the Office of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30333.

**Suggested citation:** Centers for Disease Control and Prevention. [Article title]. *MMWR* 2010;59:[inclusive page numbers].

#### Centers for Disease Control and Prevention

Thomas R. Frieden, MD, MPH, *Director*

Peter A. Briss, MD, MPH, *Acting Associate Director for Science*

James W. Stephens, PhD, *Office of the Associate Director for Science*

Stephen B. Thacker, MD, MSc, *Deputy Director for Surveillance, Epidemiology, and Laboratory Services*

#### MMWR Editorial and Production Staff

Frederic E. Shaw, MD, JD, *Editor, MMWR Series*

Christine G. Casey, MD, *Deputy Editor, MMWR Series*

Robert A. Gunn, MD, MPH, *Associate Editor, MMWR Series*

Teresa F. Rutledge, *Managing Editor, MMWR Series*

Douglas W. Weatherwax, *Lead Technical Writer-Editor*

Donald G. Meadows, MA, Jude C. Rutledge, *Writer-Editors*

Martha F. Boyd, *Lead Visual Information Specialist*

Malbea A. LaPete, Stephen R. Spriggs, Terraye M. Starr,  
*Visual Information Specialists*

Kim L. Bright, Quang M. Doan, MBA, Phyllis H. King,  
*Information Technology Specialists*

#### MMWR Editorial Board

William L. Roper, MD, MPH, Chapel Hill, NC, *Chairman*

Virginia A. Caine, MD, Indianapolis, IN

Jonathan E. Fielding, MD, MPH, MBA, Los Angeles, CA

David W. Fleming, MD, Seattle, WA

William E. Halperin, MD, DrPH, MPH, Newark, NJ

King K. Holmes, MD, PhD, Seattle, WA

Deborah Holtzman, PhD, Atlanta, GA

John K. Iglehart, Bethesda, MD

Dennis G. Maki, MD, Madison, WI

Sue Mallonee, MPH, Oklahoma City, OK

Patricia Quinlisk, MD, MPH, Des Moines, IA

Patrick L. Remington, MD, MPH, Madison, WI

Barbara K. Rimer, DrPH, Chapel Hill, NC

John V. Rullan, MD, MPH, San Juan, PR

William Schaffner, MD, Nashville, TN

Anne Schuchat, MD, Atlanta, GA

Dixie E. Snider, MD, MPH, Atlanta, GA

John W. Ward, MD, Atlanta, GA

TABLE 1. Serotypes included in the three pneumococcal vaccine formulations\* available in the United States, 2010

Pneumococcal serotype	Vaccine		
	PCV7	PCV13	PPSV23
4	X	X	X
6B	X	X	X
9V	X	X	X
14	X	X	X
18C	X	X	X
19F	X	X	X
23F	X	X	X
1		X	X
3		X	X
5		X	X
6A		X	
7F		X	X
19A		X	X
2			X
8			X
9N			X
10A			X
11A			X
12F			X
15B			X
17F			X
20			X
22F			X
33F			X

\* The 13-valent pneumococcal conjugate vaccine (PCV13) includes the seven serotypes in the 7-valent vaccine (PCV7) and six additional serotypes. The 23-valent pneumococcal polysaccharide vaccine (PPSV23) includes 12 of the serotypes included in PCV13 (it does not include serotype 6A) and 11 additional serotypes.

Based on the 2007 rate of IPD in children aged <5 years (22 cases per 100,000), an estimated 4,600 cases of IPD occurred in this age group in the United States. Included among those cases were an estimated 70 cases caused by serotypes covered in PCV7 and 2,900 cases caused by serotypes covered in PCV13.

During 2006–2007, a total of 301 IPD cases with a known serotype occurred among children aged 24–59 months; 31 cases (10%) occurred in a child at high risk recommended for vaccination with PPSV23 (1). Of these 31 cases, the 11 serotypes included in PPSV23 but not in PCV13 (Table 1) accounted for four cases (13%), serotypes covered in PCV13 accounted for 13 cases (42%), and the remaining 14 cases (45%) were caused by serotypes not covered in either vaccine. PCV13 serotypes accounted for a smaller proportion of cases among children with underlying medical conditions than among healthy children aged 24–59 months (42% [13 of 31] versus 65% [175 of 270];  $p = 0.01$ ).

### Reported by

MM Farley, MD, Georgia Emerging Infections Program. S Petit, MPH, Connecticut Dept of Public Health, Emerging Infections Program. LH Harrison, MD, RA Hollick, MS, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland. SM Zansky, PhD, New York State Dept of Health, Emerging Infections Program. K Gershman, MD, Colorado Dept of Public Health and Environment, W Schaffner, MD, B Barnes, T McMinn, Vanderbilt Univ School of Medicine, Nashville, Tennessee. A Thomas, Oregon Public Health Div. PD Kirley, MT, MPH, California Emerging Infections Program. J Baumbach, MD, New Mexico Dept of Health. C Lexau, PhD, Minnesota Dept of Health. J Henry, MSPH, B Beall, PhD, CG Whitney, MD, M Moore, MD, JP Nuorti, MD, Respiratory Diseases Br, Div of Bacterial Diseases, National Center for Immunization and Respiratory Diseases; JB Rosen, MD, EIS Officer, CDC.

### Editorial Note

Routine infant immunization with PCV7 since 2000 has decreased rates of IPD in young children markedly, but IPD from non-PCV7 serotypes,

TABLE 2. Number of cases and incidence of invasive pneumococcal disease (IPD), by age and serotype group, among children aged &lt;5 years — Active Bacterial Core surveillance (ABCs), 10 U.S. sites, 2007\*

Age (mos)	All IPD <sup>†</sup>			PCV13 serotypes <sup>§</sup>			Non-PCV13 serotypes			Serotype 19A		
	No.	(%)	Incidence	No.	(%)	Incidence	No.	(%)	Incidence	No.	(%)	Incidence
<12	155	(36)	40.5	104	(38)	27.2	51	(33)	13.3	60	(33)	16.2
12–23	124	(29)	31.2	73	(27)	18.4	51	(33)	12.8	57	(32)	14.7
24–35	71	(17)	17.4	43	(16)	10.5	28	(18)	6.9	32	(18)	8.3
36–47	48	(11)	12.4	34	(12)	8.8	14	(9)	3.6	20	(11)	5.2
48–59	29	(7)	7.8	20	(7)	5.4	9	(6)	2.4	11	(6)	3.1
All <60	427	(100)	22	274	(100)	14.1	153	(100)	7.9	180	(100)	9.4

\* Cases per 100,000 population. A case of IPD was defined as isolation of *Streptococcus pneumoniae* from a normally sterile body site (primarily blood or cerebrospinal fluid) in a resident of an ABCs surveillance area. Sites include Connecticut, Minnesota, and New Mexico, and selected counties in California, Colorado, Georgia, Maryland, New York, Oregon, and Tennessee.

<sup>†</sup> Excludes cases missing serotypes (13%); a total of 493 IPD cases were identified among children aged <5 years.

<sup>§</sup> The 13-valent pneumococcal conjugate vaccine (PCV13) includes serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F.

**What is already known on this topic?**

In February 2010, a new 13-valent pneumococcal conjugate vaccine (PCV13) was licensed by the Food and Drug Administration and recommended by the Advisory Committee on Immunization Practices (ACIP) for prevention of invasive pneumococcal disease in children; PCV13 succeeds the 7-valent vaccine (PCV7) used in the routine childhood immunization schedule since 2000.

**What is added by this report?**

In 2007, 64% of 427 invasive pneumococcal disease (IPD) cases observed in the Active Bacterial Core surveillance (ABCs) were caused by the serotypes covered by PCV13; 42% of cases were caused by serotype 19A alone.

**What are the implications for public health practice?**

Achieving and maintaining a high coverage of PCV13 can further reduce IPD among children aged <5 years; postlicensure monitoring will help characterize the effectiveness of PCV13 and track the potential change in disease burden caused by non-PCV13 serotypes.

predominantly serotype 19A, has increased and partially offset these reductions (2,4). Overall, rates of IPD have remained stable at 22–25 cases per 100,000 since 2002 (2,4). Based on the findings in this report, the use of PCV13 in the routine immunization schedule has the potential to further reduce IPD caused by the six additional serotypes (1, 3, 5, 6A, 7F, or 19A) among children aged <5 years.

PPSV23 has been available for use in adults aged ≥65 years and persons aged ≥2 years with certain underlying medical conditions since 1983 (1). In this analysis, approximately 42% of IPD cases among children aged 24–59 months with underlying medical conditions were caused by serotypes covered in PCV13; an additional 13% of cases were caused by serotypes not covered in PCV13 but included in PPSV23. The role for PPSV23 in high-risk children might become clearer when more data are available on disease burden and serotype distribution after routine use of PCV13.

Based on available safety, immunogenicity and disease burden data, ACIP also recommends that a single supplemental PCV13 dose be given to healthy children aged 14–59 months and to children with underlying medical conditions up to age 71 months who already have completed a schedule of PCV7 (3). In one study, a single dose of PCV13 in children aged

≥12 months who had received 3 previous doses of PCV7 induced an antibody response comparable to the 3-dose infant PCV13 series, and the safety profile of this supplemental dose was comparable to that after a fourth dose of PCV13 (5). Although rates of IPD are relatively low in these older children, ACIP also considered the emergence of multidrug-resistant serotype 19A strains causing meningitis and other severe invasive infections (6,7) and the substantial burden of noninvasive pneumococcal disease as additional factors in making the recommendation. Cost-effectiveness evaluations suggest that supplemental PCV13 vaccination appears comparable in cost effectiveness to other accepted interventions (CDC, unpublished data, 2009).

After PCV7 was introduced, rates of IPD caused by the seven serotypes covered in the vaccine also decreased substantially among unvaccinated children and adults. This indirect (or herd) effect resulted from reduced nasopharyngeal carriage of pneumococcus in vaccinated children and reduced transmission from children to unvaccinated children and adults (8). Immunization of children with PCV13 also is anticipated to have herd effects among adults. For example, as of 2007, serotype 19A had emerged as the most common cause of IPD in all age groups after PCV7 introduction (CDC, unpublished data, 2009). Colonization and disease caused by serotype 19A have a similar epidemiological pattern to those caused by PCV7 serotypes, and some degree of herd effects in the population might be expected. In contrast, some of the other new serotypes in PCV13 might have different epidemiologic characteristics (9). In particular, serotypes 1 and 5 are rarely found in the nasopharynx, so the potential herd effects of PCV13 vaccination on disease caused by these serotypes is uncertain. In the United States, however, serotypes 1 and 5 are relatively uncommon causes of IPD.

Although rates of pneumonia hospitalizations decreased after PCV7 introduction among children aged <2 years (10), the potential effects of PCV13 on noninvasive disease, such as nonbacteremic pneumonia and otitis media, are difficult to evaluate because of lack of standard case definitions, sensitive and specific diagnostic methods, and routine surveillance for these conditions. Information on these noninvasive pneumococcal diseases is not available in the ABCs dataset. Because PCV13 was licensed on the basis of immunogenicity studies rather than clinical efficacy trials, post-licensure monitoring is important to characterize

the effectiveness of PCV13 in different populations and to track the potential changes in disease burden caused by non-PCV13 serotypes.

### Acknowledgments

The findings in this report are based, in part, on contributions by W Baughman, MSPH, P Malpiedi, MPH, KE Arnold, MD, Georgia Emerging Infections Program; M Cartter, MD, Z Fraser, Connecticut Dept of Public Health, Emerging Infections Program; G Smith, N Spina, MPH, J Karr, MPH, S Solghan, MPH, G Nattanmai, New York State Dept of Health, Emerging Infections Program; MM Lewis, MPH, ER Zell, MStat, C Van Beneden, MD, KA Toews, MPH, E Weston, MPH, and C Wright, ABCs Team, Respiratory Diseases Br, Div of Bacterial Diseases, National Center for Immunization and Respiratory Diseases, Atlanta, Georgia.

### References

1. CDC. Preventing pneumococcal disease among infants and young children: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2000;49(No. RR-9).
2. Pilishvili T, Lexau C, Farley MM, et al. Sustained reductions in invasive pneumococcal disease in the era of conjugate vaccine. *J Infect Dis* 2010;201:32–41.
3. CDC. Licensure of a 13-valent pneumococcal conjugate vaccine (PCV13) and recommendations for use among children—Advisory Committee on Immunization Practices (ACIP), 2010. *MMWR* 2010;59:258–61.
4. CDC. Invasive pneumococcal disease in children 5 years after conjugate vaccine introduction—eight states, 1998–2005. *MMWR* 2008;57:144–8.
5. Kieninger DM, Kueper K, Steul K, et al. Safety and immunologic non-inferiority of 13-valent pneumococcal conjugate vaccine compared to 7-valent pneumococcal conjugate vaccine given as a 4-dose series with routine vaccines in healthy infants and toddlers. In: Proceedings of the 48th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy; October 25–28, 2008; Washington, DC. Arlington, VA: Infectious Diseases Society of America; 2008.
6. Pelton SI, Huot H, Finkelstein JA, et al. Emergence of 19A as virulent and multidrug resistant pneumococcus in Massachusetts following universal immunization of infants with pneumococcal conjugate vaccine. *Pediatr Infect Dis J* 2007;26:468–72.
7. Kaplan SL, Barson WJ, Lin PL, et al. Serotype 19A is the most common serotype causing invasive pneumococcal infections in children. *Pediatrics* 2010;125:429–36.
8. CDC. Direct and indirect effects of routine vaccination of children with 7-valent pneumococcal conjugate vaccine on incidence of invasive pneumococcal disease—United States, 1998–2003. *MMWR* 2005;54:893–7.
9. Hausdorff WP, Feikin DR, Klugman KP. Epidemiological differences among pneumococcal serotypes. *Lancet Infect Dis* 2005;2:83–93.
10. CDC. Pneumonia hospitalizations among young children before and after introduction of pneumococcal conjugate vaccine—United States, 1997–2006. *MMWR* 2009;58:1–4.

## Licensure of a 13-Valent Pneumococcal Conjugate Vaccine (PCV13) and Recommendations for Use Among Children — Advisory Committee on Immunization Practices (ACIP), 2010

On February 24, 2010, a 13-valent pneumococcal conjugate vaccine (PCV13 [Prevnar 13, Wyeth Pharmaceuticals Inc., a subsidiary of Pfizer Inc.]) was licensed by the Food and Drug Administration (FDA) for prevention of invasive pneumococcal disease (IPD) caused by the 13 pneumococcal serotypes covered by the vaccine and for prevention of otitis media caused by serotypes in the 7-valent pneumococcal conjugate vaccine formulation (PCV7 [Prevnar, Wyeth]). PCV13 is approved for use among children aged 6 weeks–71 months and succeeds PCV7, which was licensed by FDA in 2000. The Pneumococcal Vaccines Work Group of the Advisory Committee on Immunization Practices (ACIP) reviewed available data on the immunogenicity, safety, and cost-effectiveness of PCV13, and on estimates of the vaccine-preventable pneumococcal disease burden. The working group then presented policy options for consideration of the full ACIP. This report summarizes recommendations approved by ACIP on February 24, 2010, for 1) routine vaccination of all children aged 2–59 months with PCV13, 2) vaccination with PCV13 of children aged 60–71 months with underlying medical conditions that increase their risk for pneumococcal disease or complications, and 3) PCV13 vaccination of children who previously received 1 or more doses of PCV7 (1). CDC guidance for vaccination providers regarding transition from PCV7 to the PCV13 immunization program also is included.

### Prevnar 13 Licensure

**Vaccine formulation.** PCV13 contains polysaccharides of the capsular antigens of *Streptococcus pneumoniae* serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F, individually conjugated to a nontoxic diphtheria CRM<sub>197</sub> (CRM, cross-reactive material) carrier protein. A 0.5-mL PCV13 dose contains approximately 2 µg of polysaccharide from each of 12 serotypes and approximately 4 µg of polysaccharide from serotype 6B; the total concentration of CRM<sub>197</sub> is approximately 34 µg. The vaccine contains 0.125 mg of aluminum as aluminum phosphate adjuvant and no thimerosal preservative.

PCV13 is administered intramuscularly and is available in single-dose, prefilled syringes that do not contain latex (2).

**Immunogenicity profile.** The immunogenicity of PCV13 was evaluated in a randomized, double-blind, active-controlled trial in which 663 U.S. infants received at least 1 dose of PCV13 or PCV7 (3). To compare PCV13 antibody responses with those for PCV7, criteria for noninferior immunogenicity after 3 and 4 doses of PCV13 (pneumococcal immunoglobulin G [IgG] antibody concentrations measured by enzyme immunoassay) were defined for the seven serotypes common to PCV7 and PCV13 (4, 6B, 9V, 14, 18C, 19F, and 23F) and for the six additional serotypes in PCV13 (serotypes 1, 3, 5, 6A, 7F, and 19A). Functional antibody responses were measured by opsonophagocytosis assay (OPA) in a subset of the study population. Evaluation of these immunologic parameters indicated that PCV13 induced levels of antibodies that were comparable to those induced by PCV7 and shown to be protective against IPD (3).

Among infants receiving the 3-dose primary series, responses to three PCV13 serotypes (the shared serotypes 6B and 9V, and new serotype 3) did not meet the prespecified, primary endpoint criterion (percentage of subjects achieving an IgG seroresponse of  $\geq 0.35$  µg/mL 1 month after the third dose); however, detectable OPA antibodies to each of these three serotypes indicated the presence of functional antibodies (3). The percentages of subjects with an OPA titer  $\geq 1:8$  were similar for the seven common serotypes among PCV13 recipients (range: 90%–100%) and PCV7 recipients (range: 93%–100%); the proportion of PCV13 recipients with an OPA titer  $\geq 1:8$  was  $>90\%$  for all of the 13 serotypes (3).

After the fourth dose, the IgG geometric mean concentrations (GMCs) were comparable for 12 of the 13 serotypes; the noninferiority criterion was not met for serotype 3. However, measurable OPA titers were present for all serotypes after the fourth dose; the percentage of PCV13 recipients with an OPA titer  $\geq 1:8$  ranged from 97% to 100% for the 13 serotypes and was 98% for serotype 3 (3).

A schedule of 3 doses of PCV7 followed by 1 dose of PCV13 resulted in somewhat lower IgG GMCs for the six additional serotypes compared with a 4-dose PCV13 series. However, the OPA responses after the fourth dose were comparable for the two groups, and the clinical relevance of these lower antibody responses is not known. The single dose of PCV13 among children aged  $\geq 12$  months who had received 3 doses of PCV7 elicited IgG immune responses to the six additional serotypes that were comparable to those after a 3-dose infant PCV13 series (3).

**Safety profile.** The safety of PCV13 was assessed in 13 clinical trials in which 4,729 healthy infants and toddlers were administered at least 1 dose of PCV13 and 2,760 children received at least 1 dose of PCV7, concomitantly with other routine pediatric vaccines. The most commonly reported (more than 20% of subjects) solicited adverse reactions that occurred within 7 days after each dose of PCV13 were injection-site reactions, fever, decreased appetite, irritability, and increased or decreased sleep (2). The incidence and severity of solicited local reactions at the injection site (pain/tenderness, erythema, and induration/swelling) and solicited systemic reactions (irritability, drowsiness/increased sleep, decreased appetite, fever, and restless sleep/decreased sleep) were similar in the PCV13 and PCV7 groups. These data suggest that the safety profiles of PCV13 and PCV7 are comparable (2); CDC will conduct postlicensure monitoring for adverse events, and the manufacturer will conduct a Phase IV study.

Supportive data for safety outcomes were provided by a catch-up study among 354 children aged 7–71 months who received at least 1 dose of PCV13. In addition, an open label study was conducted among 284 healthy U.S. children aged 15–59 months who had previously received 3 or 4 doses of PCV7 (2). Among these children, the frequency and severity of solicited local reactions and systemic adverse reactions after 1 dose of PCV13 were comparable to those among children receiving their fourth dose of PCV13 (2).

### Indications and Guidance for Use

ACIP recommends PCV13 for all children aged 2–59 months. ACIP also recommends PCV13 for children aged 60–71 months with underlying medical conditions that increase their risk for pneumococcal disease or complications (Table 1).

**No previous PCV7/PCV13 vaccination.** The ACIP recommendation for routine vaccination with PCV13 and the immunization schedules for infants and toddlers through age 59 months who have not received any previous PCV7 or PCV13 doses are the same as those previously published for PCV7 (4,5). PCV13 is recommended as a 4-dose series at ages 2, 4, 6, and 12–15 months. Infants receiving their first dose at age  $\leq 6$  months should receive 3 doses of PCV13 at intervals of approximately 8 weeks (the minimum interval is 4 weeks). The fourth dose is recommended at age 12–15 months, and at least 8 weeks after the third dose (Table 2).

Children aged 7–59 months who have not been vaccinated with PCV7 or PCV13 previously should receive 1 to 3 doses of PCV13, depending on their age at the time when vaccination begins and whether underlying medical conditions are present (Table 2). Children aged 24–71 months with chronic medical conditions that increase their risk for pneumococcal disease should receive 2 doses of PCV13. Interruption of the vaccination schedule does not require reinstatement of the entire series or the addition of extra doses.

**Incomplete PCV7/PCV13 vaccination.** Infants and children who have received 1 or more doses of PCV7 should complete the immunization series with PCV13 (Table 3). Children aged 12–23 months who have received 3 doses of PCV7 before age 12 months are recommended to receive 1 dose of PCV13, given at least 8 weeks after the last dose of PCV7. No additional PCV13 doses are recommended for children aged 12–23 months who received 2 or 3 doses of PCV7 before age 12 months and at least 1 dose of PCV13 at age  $\geq 12$  months.

Similar to the previous ACIP recommendation for use of PCV7 (6), 1 dose of PCV13 is recommended for all healthy children aged 24–59 months with any incomplete PCV schedule (PCV7 or PCV13). For children aged 24–71 months with underlying medical conditions who have received any incomplete schedule of  $< 3$  doses of PCV (PCV7 or PCV13) before age 24 months, 2 doses of PCV13 are recommended. For children with underlying medical conditions who have received 3 doses of PCV (PCV7 or PCV13) a single dose of PCV13 is recommended through age 71 months. The minimum interval between doses is 8 weeks.

TABLE 1. Underlying medical conditions that are indications for pneumococcal vaccination among children, by risk group — Advisory Committee on Immunization Practices (ACIP), United States, 2010

Risk group	Condition
Immunocompetent children	Chronic heart disease* Chronic lung disease† Diabetes mellitus Cerebrospinal fluid leaks Cochlear implant
Children with functional or anatomic asplenia	Sickle cell disease and other hemoglobinopathies Congenital or acquired asplenia, or splenic dysfunction
Children with immunocompromising conditions	HIV infection Chronic renal failure and nephrotic syndrome Diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; or solid organ transplantation Congenital immunodeficiency <sup>§</sup>

\* Particularly cyanotic congenital heart disease and cardiac failure.

† Including asthma if treated with prolonged high-dose oral corticosteroids.

<sup>§</sup> Includes B- (humoral) or T-lymphocyte deficiency; complement deficiencies, particularly C1, C2, C3, and C4 deficiency; and phagocytic disorders (excluding chronic granulomatous disease).

TABLE 2. Recommended routine vaccination schedule for 13-valent pneumococcal conjugate vaccine (PCV13) among infants and children who have not received previous doses of 7-valent vaccine (PCV7) or PCV13, by age at first dose — Advisory Committee on Immunization Practices (ACIP), United States, 2010

Age at first dose (mos)	Primary PCV13 series*	PCV13 booster dose†
2–6	3 doses	1 dose at age 12–15 mos
7–11	2 doses	1 dose at age 12–15 mos
12–23	2 doses	—
24–59 (Healthy children)	1 dose	—
24–71 (Children with certain chronic diseases or immunocompromising conditions <sup>§</sup> )	2 doses	—

\* Minimum interval between doses is 8 weeks except for children vaccinated at age <12 months for whom minimum interval between doses is 4 weeks. Minimum age for administration of first dose is 6 weeks.

† Given at least 8 weeks after the previous dose.

<sup>§</sup> For complete list of conditions, see Table 1.

TABLE 3. Recommended transition schedule from 7-valent pneumococcal conjugate vaccine (PCV7) to 13-valent vaccine (PCV13) vaccination among infants and children, according to number of previous PCV7 doses received — Advisory Committee on Immunization Practices (ACIP), United States, 2010

	Infant series		Booster dose	Supplemental PCV13 dose	
	2 mos	4 mos	6 mos	≥12 mos*	14–59 mos†
PCV7	PCV13	PCV13	PCV13	—	—
PCV7	PCV7	PCV13	PCV13	—	—
PCV7	PCV7	PCV7	PCV13	—	—
PCV7	PCV7	PCV7	PCV7	—	PCV13

\* No additional PCV13 doses are indicated for children age 12–23 months who have received 2 or 3 doses of PCV before age 12 months and at least 1 dose of PCV13 at age ≥12 months.

† For children with underlying medical conditions (see Table 1), a single supplemental PCV13 dose is recommended through age 71 months



**Complete PCV7 vaccination.** A single supplemental dose of PCV13 is recommended for all children aged 14–59 months who have received 4 doses of PCV7 or another age-appropriate, complete PCV7 schedule (Table 3). For children who have underlying medical conditions, a single supplemental PCV13 dose is recommended through age 71 months. This includes children who have previously received the 23-valent pneumococcal polysaccharide vaccine (PPSV23). PCV13 should be given at least 8 weeks after the last dose of PCV7 or PPSV23.

In addition, a single dose of PCV13 may be administered to children aged 6–18 years who are at increased risk for IPD because of sickle cell disease, human immunodeficiency virus (HIV) infection or other immunocompromising condition, cochlear implant, or cerebrospinal fluid leaks, regardless of whether they have previously received PCV7 or PPSV23. Routine use of PCV13 is not recommended for healthy children aged ≥5 years.

### Precautions and Contraindications

Before administering PCV13, vaccination providers should consult the package insert for precautions, warnings, and contraindications. Vaccination with PCV13 is contraindicated among persons known to have severe allergic reaction (e.g., anaphylaxis) to any component of PCV13 or PCV7 or to any diphtheria toxoid-containing vaccine (2).

### Transition from PCV7 to PCV13

When PCV13 is available in the vaccination provider's office, unvaccinated children and children incompletely vaccinated with PCV7 should complete the immunization series with PCV13. If the only pneumococcal conjugate vaccine available in a provider's office is PCV7, that vaccine should be provided to children and infants who are due for vaccination; these children should complete their series with PCV13 at subsequent visits. Children for whom the supplemental PCV13 dose is recommended should receive it at their next medical visit, at least 8 weeks after the last dose of PCV7.

According to the manufacturer, supplies of PCV13 should be adequate to allow providers to vaccinate children according to the routine immunization schedule and provide a supplemental dose as recommended. For private vaccine supplies, providers should contact Pfizer's customer service department (telephone, 800-666-7248) with questions about purchasing quantities of PCV13 or returning PCV7 for credit. For public vaccine supplies, including Vaccines for Children Program vaccine, providers should contact their state/local immunization program to determine when PCV13 will become available for ordering in their jurisdiction and what to do with unused supplies of PCV7.

The PCV13 Vaccine Information Statement is available at <http://www.cdc.gov/vaccines/pubs/vis/default.htm>. Details about the routine pneumococcal conjugate 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. ACIP provisional recommendations for use of 13-valent pneumococcal conjugate vaccine (PCV13) among infants and children. Available at <http://www.cdc.gov/vaccines/recs/provisional/downloads/pcv13-mar-2010-508.pdf>. Accessed March 9, 2010.
2. Food and Drug Administration. Vaccines: approved products. Prevnar 13 (pneumococcal 13-valent conjugate vaccine). Available at <http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm201667.htm>. Accessed March 5, 2010.
3. Food and Drug Administration. Prevnar 13: clinical review of new product license application. Rockville, MD: Food and Drug Administration; 2010.
4. CDC. Preventing pneumococcal disease among infants and young children: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2000;49(No. RR-9).
5. CDC. Recommended immunization schedule for persons aged 0 through 18 years—United States, 2010. MMWR 2010;58(51&52).
6. CDC. Updated recommendation from the Advisory Committee on Immunization Practices (ACIP) for use of 7-valent pneumococcal conjugate vaccine (PCV7) in children aged 24–59 months who are not completely vaccinated. MMWR 2008;57:343–4.

## Short-Term Effects of Health-Care Coverage Legislation — Massachusetts, 2008

On April 12, 2006, Massachusetts enacted legislation to provide nearly universal health-care coverage to state residents (1). Beginning in mid-2006, various components of the law were launched in approximate 6-month intervals. One key component required all Massachusetts residents to purchase health insurance by July 1, 2007, either through private insurers or Commonwealth Care, a new state-subsidized health insurance program. To analyze the short-term effects of this legislation on health insurance coverage, the Massachusetts Department of Public Health (MDPH) reviewed data from the state's Behavioral Risk Factor Surveillance System (BRFSS) survey. An 18-month pre-law period and an 18-month post-law period were identified for comparison; the 12-month transition period from July 1, 2006, to June 30, 2007, during which the law took effect, was not included in the analysis. BRFSS data from the pre-law and post-law periods were compared to evaluate effects on the overall adult population aged 18–64 years and on various subpopulations. This report summarizes the results of those comparisons, which determined that health insurance coverage statewide increased by 5.5%, from 91.3% in the pre-law period to 96.3% in the post-law period, and that coverage increased 14.2% among Hispanics, from 77.9% to 89.0%. Despite the limitations inherent in this analysis, the increases in coverage likely are attributable to the new law. MDPH is using these results to target outreach more precisely to increase health insurance enrollment and health-care access among state residents.

BRFSS is a state-based, random-digit-dialed telephone survey of the noninstitutionalized U.S. civilian population aged ≥18 years and is conducted by state health departments in collaboration with CDC (2).<sup>\*</sup> The overall sample size for the Massachusetts BRFSS increased from 8,906 respondents in 2005 to 20,559 respondents in 2008 because of increased participation by state public health programs. The response rate<sup>†</sup> for the Massachusetts BRFSS ranged

from 38% in 2005 to 48% in 2008, based on Council of American Survey and Research Organizations (CASRO) guidelines. The cooperation rate was 81% in 2008.

To gather information on health insurance, beginning in 1998 MDPH added three supplementary questions to the Massachusetts BRFSS survey. One new question asked all respondents who had health insurance to identify the type of coverage they used to pay for most of their medical care. Response options included various private, public, and other insurance plans;<sup>§</sup> Commonwealth Care<sup>¶</sup> was added as a public plan response option in 2008. Beginning in September 2007 and continuing through 2008, the survey also included a set of questions tracking awareness of health-care reform and asking whether the respondent obtained health-care coverage because of the recent changes in Massachusetts law (3).

To analyze the effect of the law, two 18-month periods were chosen: January 1, 2005–June 30, 2006 (the pre-law period) and July 1, 2007–December 31, 2008 (the post-law period). The 12-month transition period from July 1, 2006, to June 30, 2007, during which the law took effect, was not included in the analysis. Health indicators for various population subgroups were analyzed, comparing the pre-law and post-law periods. Since 1994, the Massachusetts BRFSS has oversampled cities with highly diversified populations, including large Hispanic communities. Data for adults aged 18–64 years were analyzed;

<sup>§</sup>Type of insurance was classified as 1) private insurance: coverage through an employer, someone else's employer, or a plan purchased by the person covered; 2) public insurance: Medicare, Medicaid, MassHealth, CommonHealth MassHealth, health maintenance organizations offered through Neighborhood Health Plan, Fallon Community Health Plan, BMC HealthNet or Network Health, Commonwealth Care, the military, CHAMPUS, TriCare, Veterans Administration (VA), CHAMP-VA, Indian Health Service, or the Alaska Native Health Service; or 3) other insurance: some other source of health insurance, such as a self-directed plan or student health insurance.

<sup>¶</sup>A key element of the health-care legislation in Massachusetts was creation of the Commonwealth Health Insurance Connector, the agency responsible for connecting residents to either Commonwealth Care, a subsidized program for certain adults who have not been offered employer-sponsored insurance, or Commonwealth Choice, an unsubsidized offering of six private health plans available through the Health Connector to individuals, families, and certain employers.

<sup>\*</sup>BRFSS survey information is available at [http://www.cdc.gov/BRFSS/technical\\_infodata/surveydata/2008.htm](http://www.cdc.gov/BRFSS/technical_infodata/surveydata/2008.htm).

<sup>†</sup>The response rate is the percentage of persons who completed interviews among all eligible persons, including those who were not successfully contacted. The cooperation rate is the percentage of persons who completed interviews among all eligible persons who were contacted.

data for adults aged 18–34 years also were analyzed separately to more closely examine this traditionally underinsured age group. The statistical significance ( $p < 0.05$ ) of differences between health indicators in the pre-law and post-law periods was estimated using the Wald chi-square test. Variability of point estimates of weighted\*\* proportions was indicated by 95% confidence intervals.

The percentage of respondents who reported having health insurance rose 5.5%, from 91.3% in the pre-law period to 96.3% in the post-law period (Table 1). Among major subpopulations, the largest increases were observed among Hispanics (14.2%), persons with less than a high school diploma (12.0%), and persons with annual household incomes  $< \$25,000$  (11.9%). Nonetheless, in the post-law period, these same three subpopulations continued to have the lowest percentages of health insurance coverage: 89.0% for Hispanics, 88.6% for persons with less than a high school diploma, and 89.0% for persons with annual household incomes  $< \$25,000$ .

By 2008, approximately 8% of publicly insured Massachusetts residents were obtaining their health insurance through the new public Commonwealth Care program. The percentage of insured residents with public health insurance (including those aged 18–64 years who were eligible for Medicare) increased 29.7%, from 14.8% in the pre-law period to 19.2% in the post-law period (Table 1). The percentage of insured residents with private insurance decreased 3.2%, from 80.8% to 78.2%, and the percentage of insured residents with other types of insurance (e.g., a self-directed plan or student health insurance) decreased 40.9%, from 4.4% to 2.6% (Table 1).

The overall percentage of respondents who reported having a personal health-care provider increased significantly, from 86.1% in the pre-law period to 87.7% in the post-law period (Table 2). The largest reported increases occurred among Hispanic respondents who answered the survey in Spanish (30.3% increase) and among Hispanics overall (17.0% increase).

The percentage of respondents who reported having a routine checkup within the past year also increased significantly, from 71.9% in the pre-law period to 74.1% in the post-law period (Table 3). The largest reported increases occurred among Hispanic respondents who answered the survey in Spanish

(19.9% increase) and among Hispanics overall (14.1% increase). The percentage of men reporting a routine checkup increased 5.1%, from 66.4% to 69.8%, but the percentage of women reporting a routine checkup did not change significantly. The percentage of respondents with chronic conditions who reported having a personal health-care provider or having had an annual checkup also did not change significantly after enactment of the health-care coverage law.

### Reported by

*L Tinsley, MPH, B Andrews, MPH, H Hawk, PhD, B Cohen, PhD, Bur of Health Information, Statistics, Research, and Evaluation, Massachusetts Dept of Public Health.*

### Editorial Note

The results of this analysis indicate that the estimated percentage of Massachusetts residents covered by health insurance increased significantly after passage of health-care coverage legislation. A wider comparison, between 2005 BRFSS state survey results and 2008 results, indicated that health insurance coverage increased from 89% to 97% among all state residents (including children and adults aged  $\geq 65$  years); the increase included an estimated 300,000 newly insured persons aged 18–64 years (3). After implementation of the health-care coverage law, the proportion of respondents who said they lacked health insurance was approximately cut in half, and 8% of publicly insured respondents were obtaining health insurance through the state's new Commonwealth Care program. The effects observed likely are attributable to the new law; although, because of limitations inherent in such studies, a causal link cannot be proven. Increases in health insurance coverage can result from multiple factors, such as a higher employment rate, reduction in health insurance premiums, or expansion of existing public health insurance programs. During 1996–1999, Massachusetts observed an increase in the percentage of persons with health insurance (3) after the state expanded Medicaid eligibility; as a result, an additional 124,000 Massachusetts residents obtained insurance coverage (4).

In this analysis, the observed increases in the percentage of insured among traditionally underserved subpopulations (e.g., Hispanics, persons with less than a high school diploma, and persons with annual household incomes  $< \$25,000$ ) serve to strengthen the hypothesis that the increases in insurance coverage are

\*\* Data were weighted to the total Massachusetts population. The BRFSS weighting methodology is available at [http://www.cdc.gov/brfss/technical\\_infodata/surveydata/2008/overview\\_08.rtf](http://www.cdc.gov/brfss/technical_infodata/surveydata/2008/overview_08.rtf).

TABLE 1. Number and percentage of adults aged 18–64 years who reported having health insurance,\* before and after enactment of health-care coverage law, by selected characteristics — Behavioral Risk Factor Surveillance System, Massachusetts, 2005–2008

Characteristic	Pre-law (January 1, 2005–June 30, 2006†)			Post-law (July 1, 2007–December 31, 2008†)			% change after enactment of law	p value††
	No. <sup>§</sup>	%¶	(95% CI)**	No.	%	(95% CI)		
Statewide	11,483	91.3	(90.5–92.1)	22,749	96.3	(95.9–96.8)	5.5	<0.001
Sex								
Male	4,483	89.4	(88.0–90.8)	8,483	95.0	(94.2–95.9)	6.3	<0.001
Female	7,000	93.2	(92.2–94.1)	14,266	97.6	(97.2–98.0)	4.7	<0.001
Sex (18–34 yrs age group only)								
Male	956	82.9	(79.6–86.3)	1,574	91.7	(89.7–93.8)	10.6	<0.001
Female	1,664	91.0	(89.1–93.0)	2,646	96.7	(95.8–97.6)	6.3	<0.001
Age group (yrs)								
18–34	2,620	87.1	(85.2–89.0)	4,220	94.3	(93.1–95.4)	8.3	<0.001
35–44	3,039	93.5	(92.3–94.7)	5,340	97.2	(96.4–97.9)	4.0	<0.001
45–54	3,147	93.6	(92.4–94.8)	6,716	97.4	(96.8–97.9)	4.1	<0.001
55–64	2,677	94.1	(92.8–95.3)	6,473	97.5	(96.7–98.3)	3.6	<0.001
Race/Ethnicity								
White, non-Hispanic	9,090	93.0	(92.2–93.9)	17,930	97.3	(96.8–97.7)	4.6	<0.001
Black, non-Hispanic	564	88.2	(84.0–92.3)	1,281	92.7	(89.9–95.5)	5.1	0.068
Hispanic	1,255	77.9	(73.7–82.1)	2,438	89.0	(86.4–91.6)	14.2	<0.001
Asian	245	90.5	(85.0–96.0)	509	98.4	(97.3–99.5)	8.7	0.001
Language of response among Hispanics								
English	758	84.6	(80.0–89.1)	1,323	93.3	(90.8–95.8)	10.3	0.001
Spanish	450	69.1	(61.2–77.0)	1,070	81.8	(76.1–87.5)	18.4	0.01
Education								
Less than high school diploma or GED <sup>§§</sup>	1,002	79.1	(74.3–84.0)	1,859	88.6	(85.3–92.0)	12.0	0.002
At least high school diploma or GED	10,456	92.2	(91.4–93.0)	20,815	96.8	(96.4–97.3)	5.0	<0.001
Annual household income								
<\$25,000	2,239	79.5	(76.7–82.3)	4,437	89.0	(87.1–90.9)	11.9	<0.001
\$25,000–\$74,999	4,255	91.0	(89.6–92.4)	7,864	96.2	(95.4–97.0)	5.7	<0.001
≥\$75,000	3,562	97.4	(96.6–98.3)	8,099	99.4	(99.2–99.7)	2.1	<0.001
Chronic health condition								
Fair or poor health¶¶	1,660	85.3	(82.3–88.2)	3,337	92.8	(90.7–94.8)	8.8	<0.001
Disabled >1 yr***	1,162	91.1	(88.5–93.7)	3,504	97.1	(96.1–98.0)	6.6	<0.001
Diabetic†††	764	92.4	(89.5–95.4)	1,759	97.9	(97.0–98.9)	6.0	<0.001
Current asthma <sup>§§§</sup>	1,304	93.0	(90.7–95.3)	2,527	96.1	(94.3–98.0)	3.3	0.047
Insurance type among persons insured								
Private¶¶¶	8,077	80.8	(79.6–81.9)	15,931	78.2	(77.2–79.1)	-3.2	<0.001
Public****	1,981	14.8	(13.8–15.9)	5,357	19.2	(18.4–20.1)	29.7	<0.001
Other††††	439	4.4	(3.8–5.0)	565	2.6	(2.3–3.0)	-40.9	<0.001

\* Determined by a "yes" response to the question, "Do you have any kind of health-care coverage, including health insurance, prepaid plans such as health maintenance organizations, or government plans such as Medicare?" in conjunction with response provided to the subsequent question, "What type of health-care coverage do you use to pay for most of your medical care?"

† The 12-month transition period from July 1, 2006, to June 30, 2007, during which the law took effect, was not included in the analysis.

§ Subgroups might not sum to survey total because of missing responses within each subgroup.

¶ Weighted percentages.

\*\* Confidence interval.

†† p values were calculated using the Wald chi-square test of the difference between each period.

§§ General Educational Development certificate.

¶¶ Responded "fair" or "poor" to the question, "Would you say that in general your health is excellent, very good, good, fair, or poor?"

\*\*\* Responded "yes" to the question, "A disability can be physical, mental, emotional, or communication-related. Would you describe yourself as having a disability of any kind?" plus indicated >1 year when asked, "For how long have your activities been limited because of your major impairment, health problem, or disability?"

††† Responded "yes" to the question, "Have you ever been told by a doctor that you have diabetes?"

§§§ Responded "yes" to both of these questions: "Have you ever been told by a doctor, nurse, or other health professional that you had asthma?" and "Do you still have asthma?"

¶¶¶ Defined as coverage through an employer, someone else's employer, or a plan purchased by the person covered.

\*\*\*\* Defined as coverage through Medicare, Medicaid, MassHealth, CommonHealth MassHealth, health maintenance organizations offered through Neighborhood Health Plan, Fallon Community Health Plan, BMC HealthNet or Network Health, Commonwealth Care, the military, CHAMPUS, TriCare, Veterans Administration (VA), CHAMP-VA, Indian Health Service, or the Alaska Native Health Service.

†††† Defined as some other source of health insurance such as a self-directed plan or student health insurance.

TABLE 2. Number and percentage of adults aged 18–64 years who reported having a personal doctor or health-care provider,\* before and after enactment of health-care coverage law, by selected characteristics — Behavioral Risk Factor Surveillance System, Massachusetts, 2005–2008

Characteristic	Pre-law (January 1, 2005–June 30, 2006†)			Post-law (July 1, 2007–December 31, 2008†)			% change after enactment of law	p value††
	No. <sup>§</sup>	%¶	(95% CI**)	No.	%	(95% CI)		
Statewide	11,478	86.1	(85.0–87.1)	22,738	87.7	(86.9–88.5)	1.9	0.014
Sex								
Male	4,482	82.3	(80.7–84.0)	8,486	84.1	(82.8–85.5)	2.2	0.104
Female	6,996	89.6	(88.4–90.8)	14,252	91.1	(90.2–92.0)	1.7	0.041
Sex (18–34 yrs age group only)								
Male	958	71.6	(67.7–75.5)	1,576	72.0	(68.7–75.4)	0.6	0.870
Female	1,663	82.1	(79.3–84.9)	2,643	84.7	(82.4–87.1)	3.2	0.154
Age group (yrs)								
18–34	2,621	77.0	(74.6–79.4)	4,219	78.5	(76.4–80.5)	1.9	0.360
35–44	3,037	88.6	(87.1–90.2)	5,332	89.7	(88.5–90.9)	1.2	0.261
45–54	3,146	91.9	(90.6–93.2)	6,717	92.8	(91.8–93.7)	1.0	0.298
55–64	2,674	94.0	(92.8–95.2)	6,470	94.6	(93.5–95.7)	0.6	0.483
Race/Ethnicity								
White, non-Hispanic	9,084	89.0	(88.0–90.0)	17,929	90.2	(89.3–91.0)	1.3	0.083
Black, non-Hispanic	565	84.9	(79.8–89.9)	1,279	80.1	(75.6–84.6)	-5.7	0.183
Hispanic	1,258	63.5	(58.8–68.3)	2,432	74.3	(71.0–77.7)	17.0	<0.001
Asian	244	76.9	(68.9–84.8)	507	79.8	(73.8–85.9)	3.8	0.556
Language of response among Hispanics								
English	758	74.8	(69.7–79.9)	1,320	81.7	(77.8–85.5)	9.2	0.033
Spanish	453	47.2	(39.6–54.9)	1,066	61.5	(55.5–67.5)	30.3	0.004
Education								
Less than high school diploma or GED <sup>§§</sup>	1,004	68.9	(63.5–74.2)	1,862	72.7	(68.2–77.2)	5.5	0.278
At least high school diploma or GED	10,457	87.4	(86.4–88.4)	20,802	88.7	(87.9–89.5)	1.5	0.049
Annual household income								
<\$25,000	2,236	74.7	(71.6–77.8)	4,436	76.2	(73.6–78.9)	2.0	0.456
\$25,000–\$74,999	4,247	86.4	(84.8–88.0)	7,854	87.6	(86.2–89.0)	1.4	0.253
≥\$75,000	3,561	92.5	(91.2–93.9)	8,096	92.6	(91.7–93.5)	0.1	0.948
Chronic health condition								
Fair or poor health¶¶	1,659	85.9	(82.9–88.9)	3,336	84.1	(81.3–86.9)	-2.1	0.395
Disabled >1 yr***	1,162	87.7	(84.3–91.2)	3,506	89.9	(87.9–91.9)	2.5	0.262
Diabetic†††	764	94.6	(91.9–97.3)	1,756	96.5	(95.1–97.8)	2.0	0.178
Current asthma <sup>§§§</sup>	1,300	91.7	(89.1–94.4)	2,524	88.2	(85.3–91.0)	-3.8	0.075

\* Determined by “yes” response to the question, “Do you have one person you think of as your personal doctor or health-care provider?”

† The 12-month transition period from July 1, 2006, to June 30, 2007, during which the law took effect, was not included in the analysis.

§ Subgroups might not sum to survey total because of missing responses within each subgroup.

¶ Weighted percentages.

\*\* Confidence interval.

†† p values were calculated using the Wald chi-square test of the difference between each period.

§§ General Educational Development certificate.

¶¶ Responded “fair” or “poor” to the question, “Would you say that in general your health is excellent, very good, good, fair, or poor?”

\*\*\* Responded “yes” to the question, “A disability can be physical, mental, emotional, or communication-related. Would you describe yourself as having a disability of any kind?” plus indicated >1 year when asked, “For how long have your activities been limited because of your major impairment, health problem, or disability?”

††† Responded “yes” to the question, “Have you ever been told by a doctor that you have diabetes?”

§§§ Responded “yes” to both of these questions: “Have you ever been told by a doctor, nurse, or other health professional that you had asthma?” and “Do you still have asthma?”

attributable to the health-care coverage law, because implementation of heavily subsidized health insurance programs likely would affect these subpopulations first. Data from similar surveys in Massachusetts support this same hypothesis (5–7). For example, reports from the Massachusetts Division of Health Care Finance and Policy, which were focused on insurance status specifically, found that from fall 2006 to fall 2008, the number of uninsured working-age adults was reduced

by nearly 70%. Most of the gains in insurance coverage were concentrated among lower-income adults (7). In contrast, according to U.S. Census data, from 2007 to 2008, the overall proportion of U.S. adults with health insurance declined (8).

The largest increases in insurance coverage were among Hispanic respondents overall and Hispanic respondents who answered the survey in Spanish. Traditionally, a larger proportion of Hispanics in

TABLE 3. Number and percentage of adults aged 18–64 years who reported visiting a doctor within the preceding 12 months for a routine checkup,\* before and after enactment of health-care coverage law, by selected characteristics — Behavioral Risk Factor Surveillance System, Massachusetts, 2005–2008

Characteristic	Pre-law (January 1, 2005–June 30, 2006 <sup>†</sup> )			Post-law (July 1, 2007–December 31, 2008 <sup>†</sup> )			% change after enactment of law	p value <sup>††</sup>
	No. <sup>§</sup>	% <sup>¶</sup>	(95% CI <sup>**</sup> )	No.	%	(95% CI)		
Statewide	11,401	71.9	(70.7–73.2)	22,617	74.1	(73.2–75.1)	3.1	0.006
Sex								
Male	4,445	66.4	(64.4–68.4)	8,431	69.8	(68.2–71.3)	5.1	0.009
Female	6,956	77.2	(75.7–78.7)	14,186	78.3	(77.2–79.4)	1.4	0.249
Sex (18–34 age yrs group only)								
Male	943	61.8	(57.6–66.0)	1,560	64.7	(61.2–68.3)	4.7	0.294
Female	1,656	75.4	(72.1–78.7)	2,618	75.5	(72.8–78.2)	0.1	0.974
Age group (yrs)								
18–34	2,599	68.8	(66.2–71.5)	4,178	70.2	(68.0–72.4)	2.0	0.438
35–44	3,026	68.1	(65.9–70.3)	5,311	70.7	(68.9–72.5)	3.8	0.069
45–54	3,122	73.4	(71.2–75.6)	6,686	76.2	(74.7–77.7)	3.8	0.038
55–64	2,654	82.5	(80.5–84.5)	6,442	83.7	(82.3–85.1)	1.5	0.326
Race/Ethnicity								
White, non-Hispanic	9,030	71.8	(70.5–73.2)	17,842	73.5	(72.4–74.5)	2.4	0.067
Black, non-Hispanic	562	82.2	(77.9–86.5)	1,276	78.1	(73.6–82.6)	-5.0	0.201
Hispanic	1,240	71.1	(66.4–75.8)	2,412	81.1	(78.1–84.1)	14.1	<0.001
Asian	243	61.8	(53.0–70.5)	504	67.8	(61.6–74.0)	9.7	0.269
Language of response among Hispanics								
English	752	75.0	(69.3–80.6)	1,308	80.6	(76.6–84.5)	7.5	0.103
Spanish	442	69.3	(61.3–77.2)	1,058	83.1	(78.6–87.6)	19.9	0.002
Education								
Less than high school diploma or GED <sup>§§</sup>	986	74.3	(69.3–79.4)	1,844	73.9	(69.4–78.5)	-0.5	0.901
At least high school diploma or GED	10,398	71.7	(70.4–73.0)	20,702	74.1	(73.2–75.1)	3.3	0.003
Annual household income								
<\$25,000	2,216	71.3	(68.2–74.5)	4,410	74.1	(71.6–76.5)	3.9	0.176
\$25,000–\$74,999	4,223	71.3	(69.2–73.4)	7,823	74.4	(72.8–76.0)	4.3	0.021
≥\$75,000	3,551	72.5	(70.5–74.5)	8,067	74.3	(72.9–75.7)	2.5	0.161
Chronic health condition								
Fair or poor health <sup>¶¶</sup>	1,641	77.5	(74.0–81.1)	3,309	79.5	(76.5–82.4)	2.6	0.410
Disabled >1 yr <sup>***</sup>	1,156	77.9	(74.2–81.7)	3,481	79.3	(76.9–81.7)	1.8	0.533
Diabetic <sup>†††</sup>	761	89.1	(85.5–92.7)	1,745	91.8	(89.9–93.8)	3.0	0.165
Current asthma <sup>§§§</sup>	1,293	79.8	(76.4–83.2)	2,507	76.6	(73.6–79.7)	-4.0	0.177

\* Determined by a response of "within the past year (any time less than 12 months ago)" to the question, "About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition."

† The 12-month transition period from July 1, 2006, to June 30, 2007, during which the law took effect, was not included in the analysis.

§ Subgroups might not sum to survey total because of missing responses within each subgroup.

¶ Weighted percentages.

\*\* Confidence interval.

†† p values were calculated using the Wald chi-square test of the difference between each period.

§§ General Educational Development certificate.

¶¶ Responded "fair" or "poor" to the question, "Would you say that in general your health is excellent, very good, good, fair, or poor?"

\*\*\* Responded "yes" to the question, "A disability can be physical, mental, emotional, or communication-related. Would you describe yourself as having a disability of any kind?" plus indicated >1 year when asked, "For how long have your activities been limited because of your major impairment, health problem, or disability?"

††† Responded "yes" to the question, "Have you ever been told by a doctor that you have diabetes?"

§§§ Responded "yes" to both of these questions: "Have you ever been told by a doctor, nurse, or other health professional that you had asthma?" and "Do you still have asthma?"

Massachusetts have lacked access to health care, compared with other racial/ethnic populations (9,10). The results showed an 18.4% increase for persons responding in Spanish and a 14.2% increase for Hispanics overall. However, despite these increases, Hispanics continued to have the lowest health insurance coverage and the lowest percentage of persons with a personal health-care provider than any other

subpopulation. The percentage of younger adults, whites, blacks, and persons with chronic diseases who reported having a personal health-care provider did not change significantly. One reason might be that more time is needed for the effects of improved health-care access to be realized in these groups. Another reason might be that health-care providers are not equally accessible for certain groups or in certain areas

**What is already known on this topic?**

Health-care coverage legislation in Massachusetts, enacted in 2006, was intended to extend affordable health insurance, resulting in increased health-care access and use.

**What is added by this report?**

Health-care coverage overall in Massachusetts increased from 91.3% to 96.3% after the law took effect, with the largest increase (14.2%) observed among Hispanics, although Hispanics continued to have the lowest percentage of health-care coverage (89.0%) among racial/ethnic groups.

**What are the implications for public health practice?**

Implementation of state-endorsed, low-cost, alternative health-care coverage appears to have contributed to an increase in the percentage of residents with health insurance, particularly in populations with the lowest health-care coverage; however, targeted efforts will be needed to reach these historically underserved populations.

of the state. Although the cost of a doctor visit might also be a factor, 2008 BRFSS data have shown that only 6% of all respondents reported that they were unable to visit a doctor during the past year because of cost, compared with 8% in 2006 (9).

In addition to an increase in the percentage of persons with health insurance, the findings in this analysis indicate changes in the proportion of plans that were private, public, or other (e.g., a self-directed plan or student health insurance) in Massachusetts. Those proportions changed from 80.8% private, 14.8% public, and 4.4% other before the law was enacted to 78.2%, 19.2%, and 2.6%, respectively. These changes were similar to U.S. Census data, which found that the proportion of adults with private health insurance declined from 2007 to 2008, while the proportion of publicly insured adults increased (8).

In addition to the limitations on establishing causality, the findings in this report are subject to at least three other limitations. First, BRFSS only samples households with landline telephones. Minorities, persons with lower socioeconomic status, and younger adults typically have lower landline telephone coverage and might be underrepresented in this report. However, poststratification weighting might correct some bias resulting from lack of landline telephones. Second, depending on when the survey was administered, some responses might pertain to health-care activities (e.g., having a personal-care provider in the

past year) that actually occurred during the 12-month transition period. Finally, BRFSS data are based on self-report and might be subject to error (e.g., under-reporting of chronic conditions).

The findings in this report and others (10) can help local health departments in areas with large underserved populations assess local public health needs, enhance cultural competency, engage hospitals in community primary-care efforts, and address the availability of health-care providers. MDPH is targeting outreach more precisely to increase health insurance enrollment and health-care access among state residents.

**References**

1. Massachusetts General Laws. Chapter 58 of the acts of 2006. An act providing access to affordable, quality, accountable health care. April 12, 2006. Available at <http://www.mass.gov/legis/laws/seslaw06/sl060058.htm>. Accessed March 5, 2010.
2. CDC. Public health surveillance for behavioral risk factors in a changing environment: recommendations from the Behavioral Risk Factor surveillance team. MMWR 2003;52(No. RR-9).
3. Massachusetts Department of Public Health. Massachusetts Behavioral Risk Factor Surveillance System surveys and reports, 1996–2008. Available at <http://www.mass.gov/?pageID=eohhs2homepage&L=1&L0=Home&sid=Eeohhs2>. Accessed March 5, 2010.
4. McDonough J, Hager C, Rosman B. Health care reform stages a comeback in Massachusetts. N Engl J Med 1997;336:148–51.
5. Long SK, Masi PB. Access and affordability: an update on health reform in Massachusetts, fall 2008. Health Aff (Millwood) 2009;28:w578–87.
6. Kaiser Commission on Medicaid and the Uninsured. Massachusetts health care reform: three years later. Washington, DC: Kaiser Commission on Medicaid and the Uninsured; 2009. Available at <http://www.kff.org/uninsured/upload/7777-02.pdf>. Accessed March 5, 2010.
7. Massachusetts Division of Health Care Finance and Policy; Key indicators, November 2009. Boston, MA; 2009. Available at [http://www.mass.gov/Eeohhs2/docs/dhcfp/r/pubs/09/key\\_indicators\\_nov\\_09.pdf](http://www.mass.gov/Eeohhs2/docs/dhcfp/r/pubs/09/key_indicators_nov_09.pdf). Accessed March 5, 2010.
8. US Census Bureau. Current population reports: income, poverty, and health insurance coverage in the United States: 2008. Washington, DC: US Census Bureau; 2009. Available at <http://www.census.gov/prod/2009pubs/p60-236.pdf>. Accessed March 8, 2010.
9. Massachusetts Department of Public Health. A profile of health among Massachusetts adults, 2008: results from the Behavioral Risk Factor Surveillance System. Boston, MA: Health Survey Program; 2008. Available at [http://www.mass.gov/Eeohhs2/docs/dph/behavioral\\_risk/report\\_2008.pdf](http://www.mass.gov/Eeohhs2/docs/dph/behavioral_risk/report_2008.pdf). Accessed March 5, 2010.
10. Massachusetts Department of Public Health. A profile of health among Massachusetts adults in selected cities, 2008: results from the Behavioral Risk Factor Surveillance System. Boston, MA: Health Survey Program; 2008. Available at [http://www.mass.gov/Eeohhs2/docs/dph/behavioral\\_risk/cities\\_08.pdf](http://www.mass.gov/Eeohhs2/docs/dph/behavioral_risk/cities_08.pdf). Accessed March 5, 2010.

## Progress Toward Poliomyelitis Eradication — Afghanistan and Pakistan, 2009

Afghanistan, Pakistan, India, and Nigeria are the four remaining countries where indigenous wild poliovirus (WPV) transmission has never been interrupted (1). This report updates previous reports (1,2) and describes polio eradication activities in Afghanistan and Pakistan during January–December 2009 and proposed activities in 2010 to address challenges. During 2009, both countries continued to conduct coordinated supplemental immunization activities (SIAs) and used multiple strategies to reach previously unreached children. These strategies included 1) use of short interval additional dose (SIAD) SIAs to administer a dose of oral poliovirus vaccine (OPV) within 1–2 weeks after a prior dose during negotiated periods of security; 2) systematic engagement of local leaders; 3) negotiations with conflict parties; and 4) increased engagement of non-governmental organizations delivering basic health services. However, security problems continued to limit access by vaccination teams to large numbers of children. In Afghanistan, poliovirus transmission during 2009 predominantly occurred in 12 high-risk districts in the conflict-affected South Region; 38 WPV cases were confirmed in 2009, compared with 31 in 2008. In Pakistan, 89 WPV cases were confirmed in 2009, compared with 118 in 2008, but transmission persisted both in security-compromised areas and in accessible areas, where managerial and operational problems continued to affect immunization coverage. Continued efforts to enhance safe access of vaccination teams in insecure areas will be required for further progress toward interruption of WPV transmission in Afghanistan and Pakistan. In addition, substantial improvements in subnational accountability and oversight are needed to improve immunization activities in Pakistan.

### Immunization Activities

Reported routine vaccination coverage of infants with 3 OPV doses (OPV3) in 2009 was 85% nationally in Afghanistan and 81% in Pakistan (3). However,

\* Vaccination histories of children aged 6–23 months with AFP who do not test WPV positive are used to estimate OPV coverage of the overall target population and to verify national reported routine vaccination coverage estimates.

acute flaccid paralysis (AFP) surveillance data\* suggest that actual routine OPV3 coverage was much lower nationally and varied widely by subnational level in both countries. Based on 2009 AFP surveillance data, routine OPV3 coverage among children aged 6–23 months with nonpolio AFP was 63% nationally in Afghanistan (13% in the South Region and 76% in the rest of the country) and 61% nationally in Pakistan (69% in Punjab Province, 50% in Northwest Frontier Province [NWFP] and the Federally Administered Tribal Areas [FATA], 52% in Sindh Province, and 23% in Balochistan Province).

During 2009, large-scale house-to-house SIAs<sup>†</sup> targeting children aged <5 years using different formulations of OPV, depending on the epidemiologic situation, continued in both countries (Table 1). OPV formulations included trivalent (tOPV), monovalent type 1 (mOPV1) and type 3 (mOPV3), or OPV bivalent types 1 and 3 (bOPV).<sup>§</sup> Afghanistan conducted six national immunization days (NIDs); four subnational immunization days (SNIDs) in the East, Southeast, and South regions along the border with Pakistan, three of which targeted nearly 50% of the national population of children aged <5 years; and four smaller-scale SIAD<sup>¶</sup> SIAs after a preceding larger SIA, targeting children in conflict-affected areas of the South Region. Pakistan conducted six NIDs; four SNIDs in the main WPV transmission areas of NWFP/FATA, southern Punjab, and Sindh (including Karachi city), targeting 40%–50% of the national population aged <5 years; and four SIAD SIAs in conflict-affected areas of NWFP/FATA. These included two SIAD SIAs in Swat Valley, targeting >370,000 children aged <5 years, conducted after 1 year of civil conflict that prevented any polio vaccination.

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

<sup>§</sup> The first large-scale use of bOPV in the world occurred during the December 2009 SIA in Afghanistan.

<sup>¶</sup> SIADs are used during negotiated periods of security to vaccinate children in otherwise inaccessible areas in which an mOPV dose is administered within 1–2 weeks of the previous dose.



TABLE 1. Type of supplementary immunization activity (SIA) conducted and oral poliovirus vaccine (OPV) product used, by month — Afghanistan and Pakistan, 2009\*

Country/Area	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	Type of SIA <sup>†</sup> and OPV <sup>§</sup> product used											
<b>Afghanistan</b>	NID	SNID	NID	SNID	NID	SNID	NID		SNID <sup>¶</sup>	NID	NID	SNID
Badakhshan	T	—	T	—	T	—	T	—	—	T	T	—
Northeast	T	—	T	—	T	—	T	—	—	T	T	—
North	T	—	T	—	T	—	T	—	—	T	T	—
Central	T	—	T	—	T	M1	T	—	—	T	T	—
West												
All others	T	—	T	—	T	—	T	—	M1	T	T	—
Farah Province	T	M1	T	M1	T	M1	T	—	M1	T	T	B
East	T	M3	T	M1	T	M1	T	—	M3	T	T	B
Southeast	T	M3	T	M1	T	M1	T	—	M1	T	T	B
South	T	M1	T	M1	T	M1	T	—	M3	T	T	B
<b>Pakistan</b>	NID		NID	SNID <sup>¶</sup>	NID	SNID <sup>¶</sup>	NID	SNID <sup>¶</sup>		NID	NID	SNID <sup>¶</sup>
FANA, AJK, and ICT <sup>**</sup>	T	—	T	—	T	—	T	—	—	T	T	—
NWFP and FATA <sup>††</sup>	T	—	T	T,M1	T	M1	T	M1,M3	—	T	T	M1
Punjab												
Northern	T,M1	—	T	M1	T	M1	T	M3	—	T	T	M1
Southern	T	—	T	M1	T	M1	T	M1	—	T	T	M1
Balochistan	T	—	T	M1	T	M1	T	M1	—	T	T	M1
Sindh												
North	T	—	T	M1	T	M1	T	M1,M3	—	T	T	M1
Central and Karachi	M3	—	T	M1	T	M1	T	M1,M3	—	T	T	—

\* Data as of February 2, 2010.

<sup>†</sup> SIA type: NID = National immunization day, SNID = Subnational immunization day.

<sup>§</sup> OPV product: T = trivalent OPV; B = bivalent OPV, types 1 and 3; M1 = monovalent OPV, type 1; M3 = monovalent OPV, type 3.

<sup>¶</sup> SNIDs conducted in selected districts of each province or area.

\*\* Azad, Jammu, Kashmir (AJK), the Federally Administered Northern Areas (FANA), and Islamabad Capital Territory (ICT).

†† Northwest Frontier Province (NWFP), including the Federally Administrated Tribal Areas (FATA).

In 2009, as in past years, certain vaccination campaigns were unable to reach children aged <5 years living in areas inaccessible<sup>\*\*</sup> because of security problems. During 2009, the estimated percentage of children aged <5 years who were living in inaccessible areas in the South Region of Afghanistan ranged from >20% during SIAs conducted in January and March to 5% during the July and September SIAs. In Pakistan, the percentage of children aged <5 years who were living in SIA-inaccessible areas of NWFP increased from 10% in January to 20% in May and July, and then decreased to <5% in October and November. However, in FATA itself, the estimated percentage of children aged <5 years living in inaccessible areas increased from 15% in January to 30% by November.

\*\* Areas considered too dangerous by the World Health Organization (WHO) and the local government to conduct an SIA.

## AFP Surveillance

In 2009, AFP surveillance performance indicators remained high in both countries, including in areas with ongoing WPV transmission.<sup>††</sup> The annual national nonpolio AFP rate (per 100,000 population aged <15 years) was 8.5 in Afghanistan (range among the eight regions: 6.7–12.0) and 6.1 in Pakistan (range among the six provinces/territories: 2.9–9.2). The percentage of nonpolio AFP cases for which adequate specimens were collected was 93% in Afghanistan (range: 81%–97%) and 90% in Pakistan (range: 83%–96%) (Table 2).

<sup>††</sup> The quality of AFP surveillance is monitored by three performance indicators: 1) detection rate of AFP cases not caused by WPV; 2) the proportion of AFP cases with adequate stool specimens; and 3) the proportion of stool specimens processed in a WHO-accredited laboratory. Current WHO operational targets for countries with endemic polio transmission are a nonpolio AFP detection rate of at least two cases per 100,000 population aged <15 years and adequate stool-specimen collection from >80% of AFP cases, in which two specimens are collected at least 24 hours apart, both within 14 days of paralysis onset, and shipped on ice or frozen packs to a WHO-accredited laboratory, arriving in good condition.

TABLE 2. Acute flaccid paralysis (AFP) surveillance indicators and number of reported wild poliovirus (WPV) cases — Afghanistan and Pakistan, 2009\*

Country/Area	No. of AFP cases	Nonpolio AFP rate <sup>†</sup>	% with adequate specimens <sup>§</sup>	Reported WPV cases						Total WPV cases
				WPV by quarter				Total cases by type		
				1st	2nd	3rd	4th	WPV1	WPV3	
<b>Afghanistan</b>	<b>1,470</b>	<b>8.5</b>	<b>93</b>	<b>6</b>	<b>7</b>	<b>11</b>	<b>14</b>	<b>15</b>	<b>23</b>	<b>38</b>
Badakhshan	55	11.3	87	—	—	—	—	—	—	—
Northeast	233	12	95	—	—	—	—	—	—	—
North	228	9.7	94	—	—	—	—	—	—	—
Central	273	8.6	97	—	1	—	—	1	—	1
West	190	6.9	97	—	—	1	—	1	—	1
East	130	8.6	96	1	—	—	1	1	1	2
Southeast	127	7.4	94	—	—	—	—	—	—	—
South	234	6.7	81	5	6	10	13	12	22	34
<b>Pakistan</b>	<b>5,096</b>	<b>6.1</b>	<b>90</b>	<b>9</b>	<b>13</b>	<b>44</b>	<b>23</b>	<b>61</b>	<b>28</b>	<b>89</b>
AJK, FANA, and ICT <sup>¶</sup>	88	2.9	96	—	—	—	—	—	—	—
NWFP**	1042	9.2	87	2	2	18	7	24	5	29
FATA <sup>††</sup>	164	7.6	86	2	2	13	3	9	11	20
Punjab	2,229	5.0	93	2	5	3	7	16	1	17
Balochistan	242	6.0	83	—	1	5	5	5	6	11
Sindh	1,331	7.0	90	3	3	5	1	7	5	12

\* Data as of February 2, 2010. All cases had onset of paralysis in 2009.

<sup>†</sup> Per 100,000 children aged <15 years.

<sup>§</sup> Two stool specimens collected at an interval of at least 24 hours within 14 days of paralysis onset and properly shipped to the laboratory.

<sup>¶</sup> Azad Jammu and Kashmir (AJK), Federally Administered Northern Areas (FANA), and Islamabad Capital Territory (ICT).

\*\* Northwest Frontier Province (NWFP).

<sup>††</sup> Federally Administered Tribal Areas (FATA).

The polio laboratory at the National Institutes of Health (NIH) in Islamabad provides laboratory support for AFP surveillance in both countries, including genomic sequencing of poliovirus isolates. During 2009, the NIH laboratory processed 3,779 stool specimens from Afghanistan and 11,501 stool specimens from Pakistan. In 2009, to supplement AFP surveillance, Pakistan initiated weekly sewage sample collection in Lahore, Punjab Province, and Karachi, Sindh Province, to test for polioviruses.

### WPV Incidence

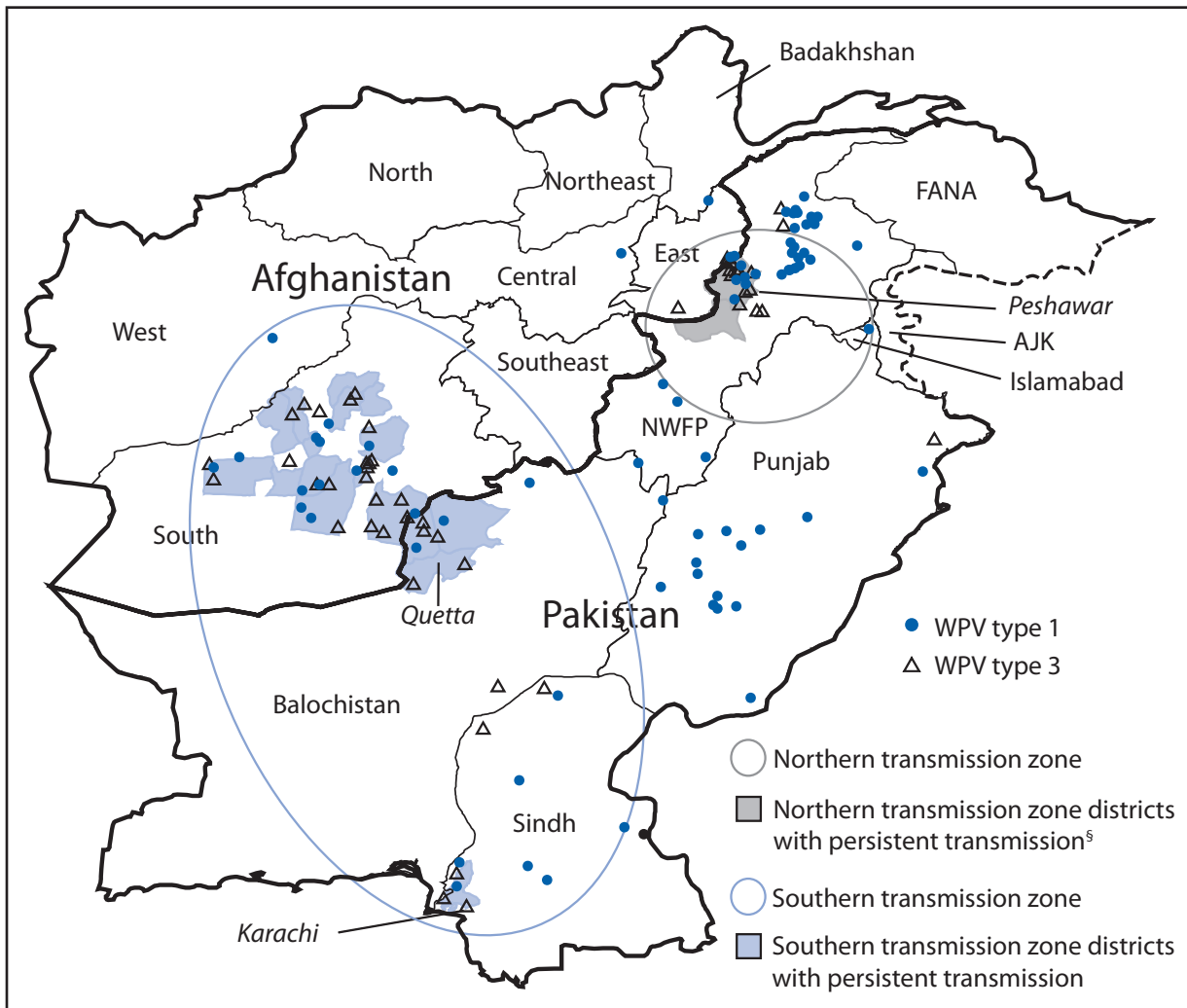
In Afghanistan, 38 WPV cases (15 WPV1 and 23 WPV3) were reported during 2009, compared with 31 WPV cases (25 WPV1 and six WPV3) in 2008 (Figure, Table 2). During 2009, a total of 26 (68%) WPV cases were among children aged <36 months; nine (24%) had received no OPV doses; 12 (32%) had received 1–3 OPV doses, and 17 (44%) had received ≥4 OPV doses. WPV cases were found in 16 (5%) of 325 districts in Afghanistan during 2009 and 2008, of which 12 and 13 were found in the South Region, respectively, including eight districts with confirmed WPV cases during both years.

In Pakistan, 89 WPV cases (60 WPV1, 28 WPV3, and one WPV1/WPV3 mixed infection) were reported in 2009, compared with 118 cases (81 WPV1 and 37 WPV3) during 2008 (Figure, Table 2). During 2009, a total of 81 (91%) WPV cases were among children aged <36 months; 32 (36%) had received no OPV doses; 18 (20%) had received 1–3 OPV doses, and 39 (44%) had received ≥4 OPV doses. Of the 32 zero-dose cases, 22 (69%) came from only two repeatedly inaccessible areas, Swat Valley District and Bajour Agency. WPV cases were found in 34 (25%) of 135 districts in Pakistan during 2009, compared with 49 (36%) districts in 2008.

WPV genomic sequencing data from 2009 indicated continued endemic WPV circulation in two main transmission zones of both countries. In the northern transmission zone, which includes most of NWFP and FATA in Pakistan and bordering areas in eastern Afghanistan (Figure), 52 WPV cases (35 WPV1 and 17 WPV3) were reported during 2009. In the southern transmission zone, which extends from the West and South regions of Afghanistan into Pakistan through Balochistan and southern Punjab

<sup>§§</sup> Persistently affected districts in the Quetta area include Kila Abdullah, Pishin, and Quetta.

FIGURE. Wild poliovirus (WPV) cases, by type and province or region\* — Afghanistan and Pakistan, 2009†



\*NWFP: Northwest Frontier Province (includes Federally Administered Tribal Areas); AJK: Azad, Jammu, and Kashmir; FANA: Federally Administered Northern Areas.

† Data as of February 2, 2010. All cases had onset of paralysis in 2009.

§ Reported WPV cases during most of the past 5 years.

into Sindh, including persistently affected districts in the Quetta area<sup>§§</sup> and several towns in Karachi, 58 cases (25 WPV1 and 33 WPV3) were reported during 2009. In addition, 17 WPV1 cases were reported throughout Punjab Province during 2009, most of which represented continuation of a 2008 outbreak in northern Punjab (4). In addition to determining the origin and transmission zones of circulating WPV, genomic sequencing of polioviruses obtained from AFP cases and sewage samples also found polioviruses not closely related to other viruses. Because genetic sequences of polioviruses generally are highly related in sensitive surveillance systems, the detection of these distantly related viruses indicates missed detection of WPV cases and suggests that performance indicators

are not revealing surveillance weaknesses in some subnational areas.

#### Reported by

World Health Organization (WHO) Eastern Mediterranean Regional Office, Cairo, Egypt; WHO Afghanistan, Kabul; WHO Pakistan, Islamabad; Polio Eradication Dept, WHO, Geneva, Switzerland. Global Immunization Div, Div of Viral Diseases, National Center for Immunization and Respiratory Diseases, CDC.

#### Editorial Note

During 2009, the total number of WPV cases reported in Afghanistan and Pakistan did not substantially change compared with 2008, and both WPV1 and WPV3 serotypes continued to circulate in the

**What is already known on this topic?**

Afghanistan and Pakistan are two of the four remaining countries where indigenous wild poliovirus (WPV) transmission has never been interrupted.

**What is added by this report?**

Similar numbers of WPV cases were reported in Afghanistan and Pakistan in 2009 as in 2008, and both WPV1 and WPV3 serotypes continued to circulate in both countries; WPV transmission remained limited largely to previously affected districts of both countries.

**What are the implications for public health practice?**

Continued efforts to enhance safe access of vaccination teams in insecure areas are needed for interruption of WPV transmission in Afghanistan and Pakistan; also, substantial improvements in subnational accountability and oversight are needed to improve the quality of immunization activities in Pakistan.

same two shared transmission zones of both countries as in 2008. However, WPV transmission remained largely limited to previously affected districts of both countries. Additionally, some improvement was made toward the end of 2009 in decreasing the proportion of children in inaccessible districts of both countries, primarily in Afghanistan.

In Afghanistan, WPV transmission during the past 5 years has remained largely restricted to 12 insecure districts in the South Region. Since 2008, multiple strategies have been implemented to immunize these children. As a result, the proportion of children in the South Region who are not vaccinated in a given SIA was reduced to 5% of the overall target population toward the end of 2009. Meanwhile, Afghanistan has been able to keep most of the country free of endemic WPV transmission despite extensive population movements due to economic, social/cultural, and security reasons.

In Pakistan, circulation of both WPV serotypes persists in both transmission zones, with WPV repeatedly occurring, primarily in nine districts during the past 5 years. In the northern zone, WPV transmission continues because of limited access to children during

SIAs in insecure areas of NWFP and FATA. Large-scale population movements from NWFP and FATA have caused renewed WPV transmission in polio-free areas. Access to districts in NWFP improved during the last quarter of 2009, but access into FATA deteriorated. In the southern zone, WPV circulation continued mainly due to weak routine vaccination programs and managerial and operational gaps during SIAs, compounded by large-scale population movements from insecure areas in southern Afghanistan. Substantial improvements in subnational accountability and oversight are needed to improve the quality of immunization activities in Pakistan.

During 2010, planning, resources, and immunization activities need to focus on the small number of persistently affected districts in Afghanistan and Pakistan. In insecure areas, negotiations with community leaders need to be enhanced, and efforts are needed to achieve agreement of all parties to conflict regarding Days of Tranquility during SIAs to ensure access to the target population of children aged <5 years and the safety of vaccination teams. Negotiations with conflict parties have been and will be supported by the International Federation of Red Cross and Red Crescent Societies. Coordination of both SIAs and AFP surveillance between both countries also needs to be strengthened further to interrupt transmission from cross-border movements. In addition, specific mechanisms need to be established to hold provincial, district, and local administrative leaders accountable for program performance.

**References**

1. CDC. Progress toward interruption of wild poliovirus transmission—worldwide, 2008. *MMWR* 2009;58:308–12.
2. CDC. Progress toward poliomyelitis eradication—Afghanistan and Pakistan, 2008. *MMWR* 2009;58:198–201.
3. World Health Organization. WHO vaccine-preventable diseases monitoring system: 2009 global summary. Geneva, Switzerland: World Health Organization. Available at <http://www.who.int/vaccines/globalsummary/immunization/countryprofileselect.cfm>. Accessed March 1, 2010.
4. Mushtaq MU, Majrooh MA, Ullah MZ, et al. Are we doing enough? Evaluation of the Polio Eradication Initiative in a district of Pakistan's Punjab province: a LQAS study. *BMC Public Health* 2010;10:60.

## Licensure of a Meningococcal Conjugate Vaccine (Menveo) and Guidance for Use — Advisory Committee on Immunization Practices (ACIP), 2010

On February 19, 2010, the Food and Drug Administration (FDA) licensed a quadrivalent meningococcal conjugate vaccine, MenACWY-CRM (Menveo, Novartis Vaccines and Diagnostics). MenACWY-CRM is licensed as a single dose for use among persons aged 11–55 years. The Advisory Committee on Immunization Practices (ACIP) reviewed data from prelicensure clinical trials on the safety and immunogenicity of MenACWY-CRM. This report summarizes the approved indications for MenACWY-CRM and provides guidance from ACIP for its use. The following guidance for use of MenACWY-CRM is consistent with licensed indications and ACIP recommendations for meningococcal conjugate vaccines.

MenACWY-CRM consists of two components: 1) 10 µg of lyophilized meningococcal serogroup A capsular polysaccharide conjugated to CRM<sub>197</sub> (MenA) and 2) 5 µg each of capsular polysaccharide of serogroup C, Y, and W135 conjugated to CRM<sub>197</sub> in 0.5 mL of phosphate buffered saline, which is used to reconstitute the lyophilized MenA component before injection (1). The reconstituted vaccine should be used immediately, but may be held at or below 77°F (25°C) for up to 8 hours. MenACWY-CRM is administered as an intramuscular injection, preferably into the deltoid region (1).

The capsular polysaccharide serogroups included in MenACWY-CRM are the same as those contained in Sanofi Pasteur's MCV4 (Menactra). In study participants aged 11–18 years, noninferiority of MenACWY-CRM to MCV4 was demonstrated for all four serogroups using the primary endpoint, hSBA seroresponse (serum bactericidal assay using human complement). The proportions of subjects with hSBA seroresponse were statistically higher for serogroups A, W, and Y in the MenACWY-CRM group, compared with the MCV4 group. The clinical relevance of higher postvaccination immune responses is not known (1). Safety and reactogenicity profiles were comparable to those observed with MCV4 (1).

### Guidance for Use of MenACWY-CRM

MenACWY-CRM is licensed by the FDA as a single dose in persons aged 11–55 years (1). ACIP recommends quadrivalent meningococcal conjugate vaccine for all persons aged 11–18 years and for persons aged 2–55 years who are at increased risk for meningococcal disease. Persons at increased risk for meningococcal disease include 1) college freshmen living in dormitories, 2) microbiologists who are exposed routinely to isolates of *Neisseria meningitidis*, 3) military recruits, 4) persons who travel to or reside in countries where meningococcal disease is hyperendemic or epidemic, 5) persons who have persistent complement component deficiencies, and 6) persons with anatomic or functional asplenia (2). MenACWY-CRM or MCV4 may be used in persons aged 11–55 years, and are preferred to quadrivalent meningococcal polysaccharide vaccine (MPSV4) (2). Persons aged 2–10 years who are recommended to receive a meningococcal vaccine should receive MCV4, and persons aged >55 years should receive MPSV4 (3).

Severe allergic reaction (e.g., anaphylaxis) after a previous dose of Menveo, any component of this vaccine, or any other CRM<sub>197</sub>, diphtheria toxoid, or meningococcal-containing vaccine is a contraindication to administration of Menveo. Details regarding the recommended meningococcal 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. Food and Drug Administration. Product approval information: package insert. Menveo (Meningococcal [Groups A, C, Y and W-135] oligosaccharide diphtheria CRM<sub>197</sub> conjugate vaccine). Available at <http://www.fda.gov/downloads/biologicsbloodvaccines/vaccines/approvedproducts/ucm201349.pdf>. Accessed March 10, 2010.
2. CDC. Prevention and control of meningococcal disease: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2005;54(No. RR-7).
3. CDC. Updated recommendation from the Advisory Committee on Immunization Practices (ACIP) for revaccination of persons at prolonged increased risk for meningococcal disease. MMWR 2009;58:1042–3.

## Notifiable Diseases and Mortality Tables

TABLE 1. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending March 6, 2010 (9th week)\*

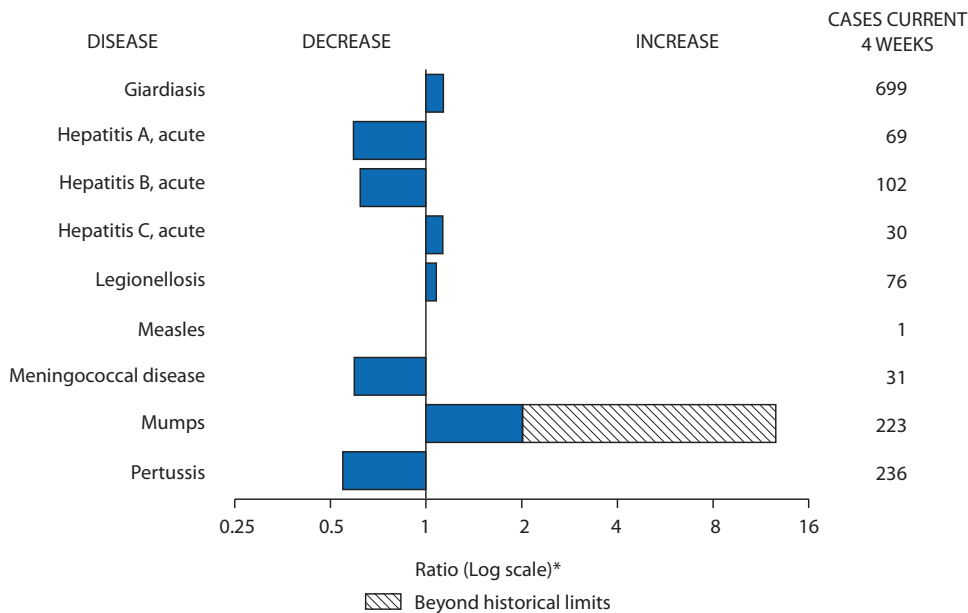
Disease	Current week	Cum 2010	5-year weekly average <sup>†</sup>	Total cases reported for previous years					States reporting cases during current week (No.)
				2009	2008	2007	2006	2005	
Anthrax	—	—	0	1	—	1	1	—	
Botulism, total	—	7	2	99	145	144	165	135	
foodborne	—	—	0	11	17	32	20	19	
infant	—	6	2	64	109	85	97	85	
other (wound and unspecified)	—	1	0	24	19	27	48	31	
Brucellosis	1	8	2	110	80	131	121	120	CA (1)
Chancroid	1	15	1	46	25	23	33	17	VA (1)
Cholera	—	—	—	8	5	7	9	8	
Cyclosporiasis <sup>§</sup>	1	9	1	128	139	93	137	543	FL (1)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases <sup>§,¶</sup> :									
California serogroup virus disease	—	—	0	54	62	55	67	80	
Eastern equine encephalitis virus disease	—	—	—	4	4	4	8	21	
Powassan virus disease	—	—	—	6	2	7	1	1	
St. Louis encephalitis virus disease	—	—	0	12	13	9	10	13	
Western equine encephalitis virus disease	—	—	—	—	—	—	—	—	
<i>Haemophilus influenzae</i> ,** invasive disease (age <5 yrs):									
serotype b	—	2	1	27	30	22	29	9	
nonsertotype b	—	23	5	215	244	199	175	135	
unknown serotype	3	48	4	231	163	180	179	217	FL (3)
Hansen disease <sup>§</sup>	—	6	1	73	80	101	66	87	
Hantavirus pulmonary syndrome <sup>§</sup>	—	1	0	13	18	32	40	26	
Hemolytic uremic syndrome, postdiarrheal <sup>§</sup>	4	19	2	231	330	292	288	221	GA (1), FL (2), CA (1)
HIV infection, pediatric (age <13 yrs) <sup>††</sup>	—	—	3	—	—	—	—	380	
Influenza-associated pediatric mortality <sup>§,§§</sup>	—	39	4	360	90	77	43	45	
Listeriosis <sup>¶¶</sup>	6	69	9	794	759	808	884	896	NY (1), MN (1), NC (1), FL (1), TN (1), WA (1)
Measles <sup>¶¶¶</sup>	—	2	1	65	140	43	55	66	
Meningococcal disease, invasive <sup>***</sup> :									
A, C, Y, and W-135	4	34	11	286	330	325	318	297	MN (1), OK (1), WA (2)
serogroup B	—	19	5	148	188	167	193	156	
other serogroup	—	1	1	24	38	35	32	27	
unknown serogroup	6	65	17	477	616	550	651	765	OH (2), FL (1), ID (1), CA (2)
Mumps	81	484	20	1,443	454	800	6,584	314	NY (78), OH (1), TN (1), TX (1)
Novel influenza A virus infections <sup>†††</sup>	—	—	0	43,771	2	4	NN	NN	
Plague	—	—	0	8	3	7	17	8	
Poliomyelitis, paralytic	—	—	—	—	—	—	—	1	
Polio virus Infection, nonparalytic <sup>§</sup>	—	—	—	—	—	—	NN	NN	
Psittacosis <sup>§</sup>	—	1	0	9	8	12	21	16	
Q fever, total <sup>§,§§§</sup>	2	8	2	100	120	171	169	136	
acute	1	5	1	83	106	—	—	—	CA (1)
chronic	1	3	0	17	14	—	—	—	FL (1)
Rabies, human	—	—	—	4	2	1	3	2	
Rubella <sup>¶¶¶¶</sup>	—	1	0	3	16	12	11	11	
Rubella, congenital syndrome	—	—	0	1	—	—	1	1	
SARS-CoV <sup>§,****</sup>	—	—	—	—	—	—	—	—	
Smallpox <sup>§</sup>	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome <sup>§</sup>	1	15	4	139	157	132	125	129	WV (1)
Syphilis, congenital (age <1 yr)	—	11	7	318	431	430	349	329	
Tetanus	—	—	0	16	19	28	41	27	
Toxic-shock syndrome (staphylococcal) <sup>§</sup>	—	13	2	74	71	92	101	90	
Trichinellosis	—	—	0	11	39	5	15	16	
Tularemia	—	1	0	88	123	137	95	154	
Typhoid fever	4	51	6	345	449	434	353	324	FL (1), AZ (1), CA (2)
Vancomycin-intermediate <i>Staphylococcus aureus</i> <sup>§</sup>	2	7	1	72	63	37	6	2	NY (2)
Vancomycin-resistant <i>Staphylococcus aureus</i> <sup>§</sup>	—	—	—	—	—	2	1	3	
Vibriosis (noncholera <i>Vibrio</i> species infections) <sup>§</sup>	1	19	2	706	588	549	NN	NN	CA (1)
Viral Hemorrhagic Fever <sup>††††</sup>	—	—	—	NN	NN	NN	NN	NN	
Yellow fever	—	—	—	—	—	—	—	—	

See Table 1 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 March 6, 2010 (9th week)\*

—: No reported cases. N: Not reportable. NN: Not Nationally Notifiable Cum: Cumulative year-to-date counts.  
 \* Incidence data for reporting years 2009 and 2010 are provisional, whereas data for 2005 through 2008 are finalized.  
 † Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. Additional information is available at <http://www.cdc.gov/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.  
 \*\* Data for *H. influenzae* (all ages, all serotypes) are available in Table II.  
 †† Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Updates of pediatric HIV data have been temporarily suspended until upgrading of the national HIV/AIDS surveillance data management system is completed. Data for HIV/AIDS, when available, are displayed in Table IV, which appears quarterly.  
 ††† Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Since April 26, 2009, a total of 278 influenza-associated pediatric deaths associated with 2009 influenza A (H1N1) virus infection have been reported. Since August 30, 2009, a total of 265 influenza-associated pediatric deaths occurring during the 2009–10 influenza season have been reported. A total of 133 influenza-associated pediatric deaths occurring during the 2008–09 influenza season have been reported.  
 ¶¶ No measles cases were reported for the current week.  
 ¶¶¶ Data for meningococcal disease (all serogroups) are available in Table II.  
 †††† CDC discontinued reporting of individual confirmed and probable cases of 2009 pandemic influenza A (H1N1) virus infections on July 24, 2009. CDC will report the total number of 2009 pandemic influenza A (H1N1) hospitalizations and deaths weekly on the CDC H1N1 influenza website (<http://www.cdc.gov/h1n1flu>). In addition, three cases of novel influenza A virus infections, unrelated to the 2009 pandemic influenza A (H1N1) virus, were reported to CDC during 2009.  
 ††††† In 2009, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.  
 ¶¶¶¶ No rubella cases were reported for the current week.  
 ¶¶¶¶¶ Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.  
 †††††† There were no cases of Viral Hemorrhagic Fever during week one. See Table II for Dengue Hemorrhagic Fever.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals March 6, 2010, with historical data



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

**Notifiable Disease Data Team and 122 Cities Mortality Data Team**  
 Patsy A. Hall-Baker  
 Deborah A. Adams      Rosaline Dhara  
 Willie J. Anderson      Pearl C. Sharp  
 Jose Aponte              Michael S. Wodajo  
 Lenee Blanton

MMWR Morbidity and Mortality Weekly Report

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	<i>Chlamydia trachomatis</i> infection					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max		
United States	9,521	23,111	27,367	150,222	218,039	52	116	261	683	724
New England	624	759	1,194	5,618	6,945	—	6	24	36	81
Connecticut	—	220	531	859	1,905	—	0	12	12	40
Maine†	—	47	75	381	475	—	1	4	10	3
Massachusetts	537	374	767	3,455	3,480	—	2	15	—	24
New Hampshire	1	39	60	143	385	—	1	5	4	8
Rhode Island†	53	67	244	578	508	—	0	8	1	1
Vermont†	33	23	63	202	192	—	1	9	9	5
Mid. Atlantic	1,473	3,002	4,296	24,969	26,697	2	14	37	63	79
New Jersey	316	398	630	2,739	4,427	—	0	5	—	5
New York (Upstate)	639	607	2,155	4,764	4,490	1	3	16	12	23
New York City	—	1,184	2,289	10,245	10,283	—	1	5	4	15
Pennsylvania	518	816	1,010	7,221	7,497	1	9	19	47	36
E.N. Central	795	3,454	4,167	16,119	36,001	10	27	55	148	180
Illinois	—	1,015	1,219	137	11,017	—	3	8	12	21
Indiana	—	391	694	685	3,940	—	4	9	5	35
Michigan	682	881	1,330	8,771	8,520	2	6	11	46	36
Ohio	113	671	986	3,732	8,840	8	7	16	43	47
Wisconsin	—	386	480	2,794	3,684	—	9	24	42	41
W.N. Central	455	1,310	1,703	8,183	12,473	14	19	61	95	71
Iowa	8	169	252	659	1,770	1	4	13	21	16
Kansas	—	182	561	1,234	1,785	—	2	6	10	7
Minnesota	—	269	338	789	2,642	11	5	34	34	12
Missouri	387	507	638	4,440	4,510	—	3	12	11	17
Nebraska†	60	106	236	851	936	2	2	9	13	11
North Dakota	—	31	92	210	298	—	0	5	—	—
South Dakota	—	44	80	—	532	—	1	10	6	8
S. Atlantic	1,784	4,610	6,207	25,440	41,847	10	17	49	152	153
Delaware	97	86	180	722	833	—	0	2	1	—
District of Columbia	—	120	178	627	1,332	—	0	1	—	1
Florida	598	1,414	1,671	11,205	13,097	4	7	24	57	50
Georgia	2	672	1,134	52	6,863	2	5	31	74	66
Maryland†	501	447	1,031	2,895	3,448	2	1	5	5	5
North Carolina	—	650	1,265	—	7,333	—	0	8	—	20
South Carolina†	—	523	1,421	4,214	3,913	—	1	7	5	4
Virginia†	519	620	926	5,134	4,302	1	1	7	7	6
West Virginia	67	67	136	591	726	1	0	2	3	1
E.S. Central	1,482	1,697	2,231	12,190	15,925	4	4	10	30	21
Alabama†	—	453	629	2,266	4,332	—	1	5	4	6
Kentucky	325	223	642	2,007	2,203	2	1	4	11	3
Mississippi	618	430	840	3,019	4,025	—	0	3	4	4
Tennessee†	539	579	734	4,898	5,365	2	1	5	11	8
W.S. Central	520	3,050	5,787	23,865	28,555	3	8	37	32	33
Arkansas†	314	269	416	2,389	2,739	—	1	5	8	3
Louisiana	—	520	1,055	2,922	5,493	—	0	6	—	4
Oklahoma	206	202	2,714	3,077	1,277	1	2	9	5	5
Texas†	—	2,040	3,079	15,477	19,046	2	5	22	19	21
Mountain	552	1,371	2,096	9,693	12,871	4	10	26	63	46
Arizona	137	487	755	2,612	3,989	—	0	3	2	5
Colorado	255	353	689	3,294	2,786	1	2	10	17	8
Idaho†	—	61	184	318	664	3	2	7	17	5
Montana†	—	54	86	378	602	—	1	4	8	2
Nevada†	151	171	478	1,442	2,144	—	0	2	1	—
New Mexico†	—	172	257	664	1,157	—	2	8	9	19
Utah	9	112	142	715	1,170	—	0	4	6	2
Wyoming†	—	36	69	270	359	—	0	2	3	5
Pacific	1,836	3,463	4,815	24,145	36,725	5	13	26	64	60
Alaska	—	98	128	723	987	—	0	1	1	1
California	1,556	2,638	3,907	18,745	28,772	5	6	17	37	34
Hawaii	—	120	147	767	1,045	—	0	1	—	—
Oregon	—	217	468	1,367	1,790	—	3	10	17	22
Washington	280	392	525	2,543	4,131	—	1	13	9	3
American Samoa	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	120	130	331	1,030	1,289	N	0	0	N	N
U.S. Virgin Islands	—	9	17	19	38	—	0	0	—	—

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

U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting years 2009 and 2010 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.

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



MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Dengue Virus Infection									
	Dengue Fever					Dengue Hemorrhagic Fever†				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
	Med	Max				Med	Max			
United States	—	0	3	7	NN	—	0	0	—	NN
New England	—	0	1	1	NN	—	0	0	—	NN
Connecticut	—	0	0	—	NN	—	0	0	—	NN
Maine <sup>§</sup>	—	0	1	1	NN	—	0	0	—	NN
Massachusetts	—	0	0	—	NN	—	0	0	—	NN
New Hampshire	—	0	0	—	NN	—	0	0	—	NN
Rhode Island <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Vermont <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Mid. Atlantic	—	0	1	2	NN	—	0	0	—	NN
New Jersey	—	0	0	—	NN	—	0	0	—	NN
New York (Upstate)	—	0	0	—	NN	—	0	0	—	NN
New York City	—	0	0	—	NN	—	0	0	—	NN
Pennsylvania	—	0	1	2	NN	—	0	0	—	NN
E.N. Central	—	0	1	1	NN	—	0	0	—	NN
Illinois	—	0	0	—	NN	—	0	0	—	NN
Indiana	—	0	0	—	NN	—	0	0	—	NN
Michigan	—	0	0	—	NN	—	0	0	—	NN
Ohio	—	0	1	1	NN	—	0	0	—	NN
Wisconsin	—	0	0	—	NN	—	0	0	—	NN
W.N. Central	—	0	0	—	NN	—	0	0	—	NN
Iowa	—	0	0	—	NN	—	0	0	—	NN
Kansas	—	0	0	—	NN	—	0	0	—	NN
Minnesota	—	0	0	—	NN	—	0	0	—	NN
Missouri	—	0	0	—	NN	—	0	0	—	NN
Nebraska <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
North Dakota	—	0	0	—	NN	—	0	0	—	NN
South Dakota	—	0	0	—	NN	—	0	0	—	NN
S. Atlantic	—	0	1	1	NN	—	0	0	—	NN
Delaware	—	0	0	—	NN	—	0	0	—	NN
District of Columbia	—	0	0	—	NN	—	0	0	—	NN
Florida	—	0	0	—	NN	—	0	0	—	NN
Georgia	—	0	1	1	NN	—	0	0	—	NN
Maryland <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
North Carolina	—	0	0	—	NN	—	0	0	—	NN
South Carolina <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Virginia <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
West Virginia	—	0	0	—	NN	—	0	0	—	NN
E.S. Central	—	0	0	—	NN	—	0	0	—	NN
Alabama <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Kentucky	—	0	0	—	NN	—	0	0	—	NN
Mississippi	—	0	0	—	NN	—	0	0	—	NN
Tennessee <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
W.S. Central	—	0	0	—	NN	—	0	0	—	NN
Arkansas <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Louisiana	—	0	0	—	NN	—	0	0	—	NN
Oklahoma	—	0	0	—	NN	—	0	0	—	NN
Texas <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Mountain	—	0	0	—	NN	—	0	0	—	NN
Arizona	—	0	0	—	NN	—	0	0	—	NN
Colorado	—	0	0	—	NN	—	0	0	—	NN
Idaho <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Montana <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Nevada <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
New Mexico <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Utah	—	0	0	—	NN	—	0	0	—	NN
Wyoming <sup>§</sup>	—	0	0	—	NN	—	0	0	—	NN
Pacific	—	0	2	2	NN	—	0	0	—	NN
Alaska	—	0	0	—	NN	—	0	0	—	NN
California	—	0	0	—	NN	—	0	0	—	NN
Hawaii	—	0	0	—	NN	—	0	0	—	NN
Oregon	—	0	0	—	NN	—	0	0	—	NN
Washington	—	0	2	2	NN	—	0	0	—	NN
American Samoa	—	0	0	—	NN	—	0	0	—	NN
C.N.M.I.	—	—	—	—	NN	—	—	—	—	NN
Guam	—	0	0	—	NN	—	0	0	—	NN
Puerto Rico	—	0	0	—	NN	—	0	0	—	NN
U.S. Virgin Islands	—	0	0	—	NN	—	0	0	—	NN

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

U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting years 2009 and 2010 are provisional.

† DHF includes cases that meet criteria for dengue shock syndrome (DSS), a more severe form of DHF.

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

MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Ehrlichiosis/Anaplasmosis†														
	<i>Ehrlichia chaffeensis</i>					<i>Anaplasma phagocytophilum</i>					Undetermined				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
	Med	Max				Med	Max				Med	Max			
United States	4	11	58	17	20	—	13	64	8	9	—	2	13	1	1
New England	—	0	4	1	1	—	2	21	4	3	—	0	2	—	—
Connecticut	—	0	0	—	—	—	0	11	—	—	—	0	1	—	—
Maine§	—	0	1	1	—	—	0	3	2	—	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
New Hampshire	—	0	1	—	—	—	0	3	—	1	—	0	1	—	—
Rhode Island§	—	0	4	—	1	—	0	20	2	2	—	0	1	—	—
Vermont§	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	1	2	17	2	1	—	3	22	1	—	—	0	2	—	—
New Jersey	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
New York (Upstate)	1	1	17	1	—	—	3	21	1	—	—	0	1	—	—
New York City	—	0	3	—	1	—	0	1	—	—	—	0	2	—	—
Pennsylvania	—	0	1	1	—	—	0	0	—	—	—	0	0	—	—
E.N. Central	—	1	8	—	—	—	3	22	1	2	—	1	9	—	—
Illinois	—	0	4	—	—	—	0	1	—	—	—	0	1	—	—
Indiana	—	0	0	—	—	—	0	0	—	—	—	0	8	—	—
Michigan	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Ohio	—	0	2	—	—	—	0	1	—	—	—	0	1	—	—
Wisconsin	—	0	5	—	—	—	3	22	1	2	—	0	3	—	—
W.N. Central	—	2	23	1	1	—	0	41	—	—	—	0	5	1	—
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	2	—	—	—	0	0	—	—	—	0	0	—	—
Minnesota	—	0	3	—	1	—	0	41	—	—	—	0	5	—	—
Missouri	—	1	22	1	—	—	0	1	—	—	—	0	3	1	—
Nebraska§	—	0	1	—	—	—	0	1	—	—	—	0	0	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
S. Atlantic	3	3	19	12	15	—	0	2	2	3	—	0	2	—	—
Delaware	—	0	2	1	1	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Florida	—	0	1	1	2	—	0	1	—	—	—	0	0	—	—
Georgia	—	0	2	3	3	—	0	1	1	1	—	0	0	—	—
Maryland§	—	1	4	4	4	—	0	1	—	1	—	0	1	—	—
North Carolina	3	0	4	3	5	—	0	1	1	1	—	0	0	—	—
South Carolina§	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
Virginia§	—	1	13	—	—	—	0	1	—	—	—	0	2	—	—
West Virginia	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
E.S. Central	—	1	11	—	2	—	0	1	—	1	—	0	5	—	1
Alabama§	—	0	3	—	—	—	0	1	—	—	—	0	0	—	—
Kentucky	—	0	2	—	—	—	0	0	—	—	—	0	1	—	—
Mississippi	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Tennessee§	—	1	10	—	2	—	0	1	—	1	—	0	5	—	1
W.S. Central	—	0	9	1	—	—	0	1	—	—	—	0	0	—	—
Arkansas§	—	0	5	—	—	—	0	0	—	—	—	0	0	—	—
Louisiana	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oklahoma	—	0	8	—	—	—	0	1	—	—	—	0	0	—	—
Texas§	—	0	1	1	—	—	0	1	—	—	—	0	0	—	—
Mountain	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Arizona	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Colorado	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Idaho§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Montana§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Nevada§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
New Mexico§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Utah	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Wyoming§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Pacific	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
California	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
Hawaii	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oregon	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Washington	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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

U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting years 2009 and 2010 are provisional.

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

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

## MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Giardiasis					Gonorrhea					<i>Haemophilus influenzae</i> , invasive† All ages, all serotypes				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	154	327	575	2,146	2,622	2,031	5,451	6,889	34,454	53,634	25	54	140	420	601
New England	4	29	64	121	217	53	94	174	714	881	—	3	19	7	30
Connecticut	1	6	15	51	44	—	46	106	245	394	—	0	13	—	5
Maine <sup>§</sup>	1	4	13	26	32	—	3	11	42	17	—	0	2	1	3
Massachusetts	—	13	36	—	89	43	38	81	348	397	—	2	8	—	18
New Hampshire	—	3	12	17	18	5	2	6	26	18	—	0	2	4	3
Rhode Island <sup>§</sup>	—	1	6	2	11	4	6	19	46	49	—	0	2	2	—
Vermont <sup>§</sup>	2	4	14	25	23	1	1	5	7	6	—	0	1	—	1
Mid. Atlantic	18	61	100	358	488	281	599	840	5,167	5,468	7	12	26	112	100
New Jersey	—	0	12	—	82	55	87	128	707	827	—	1	7	6	15
New York (Upstate)	13	25	80	166	162	74	101	353	729	922	4	3	18	35	25
New York City	—	15	26	89	143	—	215	417	1,984	1,968	—	2	11	16	15
Pennsylvania	5	16	35	103	101	152	195	275	1,747	1,751	3	4	10	55	45
E.N. Central	16	45	74	319	396	194	1,046	1,346	4,427	11,414	—	10	29	58	144
Illinois	—	11	21	44	87	—	325	382	47	3,436	—	3	10	10	29
Indiana	N	0	0	N	N	—	121	209	227	1,370	—	1	5	11	16
Michigan	1	13	25	84	105	175	256	503	2,543	2,929	—	0	4	1	4
Ohio	15	16	28	142	127	19	227	357	1,037	2,694	—	2	6	23	21
Wisconsin	—	9	19	49	77	—	92	146	573	985	—	3	21	13	74
W.N. Central	7	25	155	161	202	95	271	361	1,667	2,739	2	2	21	19	31
Iowa	1	5	15	41	47	—	31	46	86	286	—	0	0	—	—
Kansas	—	3	14	31	20	—	41	85	217	460	—	0	2	3	5
Minnesota	—	0	135	—	1	—	41	64	115	421	1	0	17	2	7
Missouri	—	9	27	47	87	81	122	172	1,065	1,229	—	1	6	10	12
Nebraska <sup>§</sup>	6	3	9	36	28	14	23	54	170	259	1	0	3	2	6
North Dakota	—	0	8	—	2	—	2	14	14	14	—	0	2	2	1
South Dakota	—	0	5	6	17	—	3	14	—	70	—	0	0	—	—
S. Atlantic	46	72	107	532	644	479	1,342	1,790	7,134	12,570	6	12	31	96	149
Delaware	1	0	3	8	4	17	18	37	164	178	—	0	1	1	1
District of Columbia	—	0	2	—	12	—	47	88	251	543	—	0	1	—	—
Florida	33	37	59	285	325	177	408	476	3,126	3,735	5	4	10	31	51
Georgia	—	10	67	101	172	—	215	415	23	2,401	1	3	9	39	28
Maryland <sup>§</sup>	6	5	12	42	48	118	123	242	805	962	—	1	6	7	17
North Carolina	N	0	0	N	N	—	219	377	—	2,487	—	0	17	—	16
South Carolina <sup>§</sup>	—	2	8	15	14	—	160	412	1,247	1,181	—	1	7	17	8
Virginia <sup>§</sup>	6	8	33	76	62	150	159	272	1,444	972	—	0	3	—	18
West Virginia	—	1	5	5	7	17	8	18	74	111	—	0	4	1	10
E.S. Central	—	7	22	35	69	420	471	649	3,429	4,774	1	3	12	26	38
Alabama <sup>§</sup>	—	4	13	15	37	—	133	187	692	1,324	—	0	4	2	8
Kentucky	N	0	0	N	N	89	63	156	602	634	—	0	5	2	4
Mississippi	N	0	0	N	N	184	134	249	872	1,292	—	0	2	3	3
Tennessee <sup>§</sup>	—	4	18	20	32	147	153	206	1,263	1,524	1	2	10	19	23
W.S. Central	2	7	19	35	49	134	898	1,553	6,368	8,323	3	2	9	19	24
Arkansas <sup>§</sup>	—	3	9	17	10	76	86	139	686	792	—	0	3	2	5
Louisiana	—	0	7	—	31	—	165	343	910	1,846	—	0	1	—	5
Oklahoma	2	3	10	18	8	58	63	613	816	462	3	1	7	16	13
Texas <sup>§</sup>	N	0	0	N	N	—	560	917	3,956	5,223	—	0	2	1	1
Mountain	21	26	61	230	209	64	164	239	1,114	1,644	6	5	13	68	59
Arizona	4	3	11	25	23	11	57	93	327	476	1	1	9	24	27
Colorado	14	9	26	114	65	22	40	99	359	511	4	1	6	20	14
Idaho <sup>§</sup>	3	3	10	35	21	—	1	8	6	20	—	0	1	2	1
Montana <sup>§</sup>	—	2	11	12	17	—	1	5	17	12	—	0	1	—	1
Nevada <sup>§</sup>	—	1	10	5	5	31	26	94	275	392	—	0	2	4	4
New Mexico <sup>§</sup>	—	1	8	6	19	—	21	36	100	161	1	1	5	11	5
Utah	—	5	13	23	47	—	5	13	28	63	—	1	2	2	7
Wyoming <sup>§</sup>	—	1	5	10	12	—	1	7	2	9	—	0	2	5	—
Pacific	40	51	148	355	348	311	533	638	4,434	5,821	—	3	9	15	26
Alaska	—	2	7	9	10	—	19	32	176	154	—	0	3	5	3
California	32	33	60	245	258	283	438	531	3,736	4,858	—	0	4	—	8
Hawaii	—	0	2	—	3	—	12	24	104	104	—	0	5	—	6
Oregon	—	8	18	60	50	—	19	44	106	219	—	1	4	8	8
Washington	8	7	95	41	27	28	40	64	312	486	—	0	4	2	1
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	1	10	1	24	5	4	24	42	30	—	0	1	1	—
U.S. Virgin Islands	—	0	0	—	—	—	2	7	5	16	N	0	0	N	N

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

U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting years 2009 and 2010 are provisional.

 † Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.

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

## MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Hepatitis (viral, acute), by type														
	A				B				C						
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
	Med	Max				Med	Max				Med	Max			
United States	21	35	57	201	336	25	57	96	338	654	9	17	39	94	136
New England	—	2	5	8	18	—	1	3	4	8	—	1	5	2	9
Connecticut	—	0	2	7	5	—	0	3	3	3	—	1	4	2	6
Maine†	—	0	1	1	1	—	0	2	1	1	—	0	2	—	—
Massachusetts	—	1	4	—	10	—	0	2	—	3	—	0	1	—	2
New Hampshire	—	0	1	—	1	—	0	1	—	1	—	0	0	—	—
Rhode Island†	—	0	1	—	1	—	0	0	—	—	—	0	0	—	—
Vermont†	—	0	1	—	—	—	0	0	—	—	—	0	0	—	1
Mid. Atlantic	3	4	10	27	49	1	5	16	24	69	2	2	7	11	15
New Jersey	—	0	5	2	15	—	1	6	—	15	—	0	1	—	1
New York (Upstate)	2	1	3	7	7	—	1	6	6	14	1	1	4	8	5
New York City	—	2	5	10	13	—	1	5	9	11	—	0	0	—	—
Pennsylvania	1	1	6	8	14	1	1	6	9	29	1	0	4	3	9
E.N. Central	—	5	19	20	58	2	6	14	41	107	1	4	12	18	32
Illinois	—	2	13	1	21	—	1	6	—	20	—	0	1	—	3
Indiana	—	0	4	—	4	—	1	5	7	16	—	0	4	—	2
Michigan	—	1	4	6	14	—	2	6	17	27	1	3	10	17	16
Ohio	—	0	4	8	13	2	1	4	17	34	—	0	4	1	10
Wisconsin	—	0	2	5	6	—	0	4	—	10	—	0	2	—	1
W.N. Central	—	2	7	7	15	1	3	10	24	34	—	1	7	5	3
Iowa	—	0	3	3	—	—	0	3	3	7	—	0	4	—	1
Kansas	—	0	2	3	1	—	0	2	1	1	—	0	1	—	—
Minnesota	—	0	4	—	4	—	0	9	—	4	—	0	6	—	—
Missouri	—	0	3	1	6	—	2	5	14	16	—	0	2	3	1
Nebraska†	—	0	3	—	4	1	0	2	6	5	—	0	1	1	1
North Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	—	—	0	1	—	1	—	0	1	1	—
S. Atlantic	4	8	14	46	75	6	15	32	115	208	3	4	12	20	27
Delaware	—	0	1	2	—	U	0	0	U	U	U	0	0	U	U
District of Columbia	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Florida	4	3	9	25	41	4	5	13	53	56	2	1	4	10	2
Georgia	—	1	3	6	11	—	3	7	28	35	—	0	3	1	6
Maryland†	—	1	3	2	8	2	1	6	12	27	1	1	3	5	6
North Carolina	—	0	7	—	6	—	0	19	2	74	—	0	10	—	4
South Carolina†	—	1	4	7	5	—	1	4	6	1	—	0	1	—	—
Virginia†	—	1	3	4	4	—	1	12	8	12	—	0	2	3	4
West Virginia	—	0	2	—	—	—	0	19	6	3	—	0	2	1	5
E.S. Central	—	1	3	7	9	2	7	13	50	71	1	2	5	18	19
Alabama†	—	0	2	2	1	—	1	5	12	22	—	0	2	1	1
Kentucky	—	0	2	3	1	1	2	6	21	12	1	1	5	16	10
Mississippi	—	0	1	—	4	—	0	2	—	4	—	0	0	—	—
Tennessee†	—	0	2	2	3	1	3	6	17	33	—	0	3	1	8
W.S. Central	4	3	15	19	30	4	9	19	24	77	2	1	6	6	8
Arkansas†	—	0	2	—	3	—	1	4	—	7	—	0	1	—	1
Louisiana	—	0	1	—	2	—	0	4	—	11	—	0	1	—	1
Oklahoma	—	0	3	1	1	3	2	8	6	9	1	0	4	2	—
Texas†	4	3	15	18	24	1	6	15	18	50	1	0	4	4	6
Mountain	4	3	8	32	23	—	2	5	8	32	—	1	4	5	12
Arizona	4	1	5	23	11	—	0	3	2	13	—	0	0	—	—
Colorado	—	1	5	5	6	—	0	2	1	6	—	0	3	—	8
Idaho†	—	0	1	2	—	—	0	2	1	1	—	0	2	3	—
Montana†	—	0	1	—	2	—	0	0	—	—	—	0	0	—	—
Nevada†	—	0	2	1	—	—	0	3	4	5	—	0	1	—	—
New Mexico†	—	0	1	1	1	—	0	1	—	4	—	0	1	—	4
Utah	—	0	2	—	3	—	0	1	—	3	—	0	2	2	—
Wyoming†	—	0	1	—	—	—	0	2	—	—	—	0	0	—	—
Pacific	6	5	16	35	59	9	6	25	48	48	—	1	6	9	11
Alaska	—	0	1	—	1	—	0	1	1	—	—	0	2	—	—
California	6	4	15	31	50	9	4	17	39	40	—	1	4	4	7
Hawaii	—	0	2	—	1	—	0	1	—	1	—	0	0	—	—
Oregon	—	0	2	2	4	—	1	4	5	5	—	0	3	4	2
Washington	—	1	3	2	3	—	0	8	3	2	—	0	6	1	2
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	2	2	7	—	0	5	1	1	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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

U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting years 2009 and 2010 are provisional.

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

MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Legionellosis					Lyme disease					Malaria				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	19	56	163	269	303	54	369	2,013	902	1,358	6	22	54	172	165
New England	—	2	18	6	11	4	72	493	34	235	—	1	4	—	9
Connecticut	—	1	5	3	4	—	0	0	—	—	—	0	3	—	—
Maine†	—	0	3	—	—	4	11	76	26	17	—	0	1	—	—
Massachusetts	—	1	9	—	6	—	29	328	—	129	—	0	3	—	8
New Hampshire	—	0	2	1	—	—	19	93	3	69	—	0	1	—	—
Rhode Island†	—	0	4	1	—	—	1	28	—	1	—	0	1	—	—
Vermont†	—	0	1	1	1	—	5	42	5	19	—	0	1	—	1
Mid. Atlantic	3	16	69	52	78	24	190	1,111	494	620	1	6	13	40	29
New Jersey	—	2	13	—	10	—	37	378	19	242	—	0	1	—	—
New York (Upstate)	3	5	29	23	24	12	52	339	120	123	1	1	4	13	7
New York City	—	3	20	8	6	—	2	25	—	13	—	4	11	21	17
Pennsylvania	—	6	25	21	38	12	103	644	355	242	—	1	4	6	5
E.N. Central	3	10	38	47	67	—	23	223	50	74	1	3	11	15	24
Illinois	—	1	10	1	7	—	1	11	—	1	—	1	5	5	10
Indiana	—	1	4	2	9	—	1	7	4	3	—	0	4	1	5
Michigan	—	2	13	8	11	—	1	9	2	1	—	0	3	3	2
Ohio	3	5	17	34	33	—	1	5	3	2	1	0	6	6	7
Wisconsin	—	1	5	2	7	—	20	205	41	67	—	0	1	—	—
W.N. Central	1	2	12	8	4	—	5	196	1	14	—	1	8	12	8
Iowa	—	0	2	—	2	—	0	14	—	5	—	0	1	1	3
Kansas	—	0	1	1	2	—	0	2	—	4	—	0	1	3	1
Minnesota	1	0	11	3	—	—	0	196	—	4	—	0	8	3	1
Missouri	—	1	5	2	—	—	0	1	—	—	—	0	1	2	3
Nebraska†	—	0	2	2	—	—	0	3	1	—	—	0	2	3	—
North Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	—	—	0	0	—	1	—	0	1	—	—
S. Atlantic	5	11	22	63	67	22	65	246	280	386	2	6	16	49	63
Delaware	—	0	5	3	—	6	13	65	75	75	—	0	1	1	1
District of Columbia	—	0	2	—	1	—	0	5	—	2	—	0	2	1	4
Florida	2	4	10	27	26	2	2	11	13	6	1	2	7	25	15
Georgia	2	1	4	8	14	—	1	5	1	12	—	1	5	2	10
Maryland†	1	3	12	13	10	7	27	131	131	235	1	1	13	10	20
North Carolina	—	0	5	—	12	4	0	14	4	7	—	0	3	—	8
South Carolina†	—	0	2	1	1	—	0	3	2	3	—	0	1	—	1
Virginia†	—	1	6	10	3	3	11	65	46	37	—	1	5	10	4
West Virginia	—	0	2	1	—	—	0	33	8	9	—	0	2	—	—
E.S. Central	—	2	12	12	16	—	1	4	6	3	—	0	3	3	6
Alabama†	—	0	2	1	2	—	0	1	—	—	—	0	3	1	1
Kentucky	—	1	3	5	6	—	0	1	1	—	—	0	3	2	—
Mississippi	—	0	2	—	—	—	0	0	—	—	—	0	1	—	—
Tennessee†	—	1	9	6	8	—	1	4	5	3	—	0	2	—	5
W.S. Central	—	2	7	9	8	—	4	24	1	3	—	1	19	30	5
Arkansas†	—	0	1	—	—	—	0	0	—	—	—	0	1	1	—
Louisiana	—	0	2	—	1	—	0	0	—	—	—	0	1	—	1
Oklahoma	—	0	2	—	—	—	0	0	—	—	—	0	1	1	—
Texas†	—	2	6	9	7	—	4	24	1	3	—	1	19	28	4
Mountain	1	2	8	17	20	—	1	4	3	2	—	0	6	5	3
Arizona	1	1	5	10	6	—	0	1	—	—	—	0	2	1	—
Colorado	—	0	4	2	2	—	0	1	1	—	—	0	3	—	1
Idaho†	—	0	2	—	1	—	0	3	1	1	—	0	1	—	—
Montana†	—	0	1	1	3	—	0	1	—	—	—	0	3	—	—
Nevada†	—	0	1	2	3	—	0	1	—	—	—	0	1	1	—
New Mexico†	—	0	2	1	—	—	0	1	—	—	—	0	0	—	—
Utah	—	0	4	1	5	—	0	1	1	1	—	0	1	3	2
Wyoming†	—	0	2	—	—	—	0	1	—	—	—	0	0	—	—
Pacific	6	3	19	55	32	4	3	10	33	21	2	2	17	18	18
Alaska	—	0	1	—	1	—	0	1	1	2	—	0	1	—	—
California	5	3	19	54	25	4	2	9	24	16	1	2	12	14	13
Hawaii	—	0	0	—	1	N	0	0	N	N	—	0	1	—	—
Oregon	—	0	2	—	3	—	1	4	8	3	—	0	2	—	2
Washington	1	0	4	1	2	—	0	3	—	—	1	0	4	4	3
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	1	—	—	N	0	0	N	N	—	0	1	1	1
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	—	0	0	—	—

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

\* Incidence data for reporting years 2009 and 2010 are provisional.

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

MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Meningococcal disease, invasive <sup>†</sup>					Pertussis					Rabies, animal				
	All groups														
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
	Med	Max				Med	Max				Med	Max			
United States	10	16	32	119	185	55	266	1,341	1,018	2,082	34	62	139	291	583
New England	—	0	3	—	11	—	10	24	8	114	2	6	24	34	41
Connecticut	—	0	2	—	1	—	1	4	—	5	1	2	22	15	16
Maine <sup>§</sup>	—	0	1	—	1	—	0	10	1	21	1	1	4	9	6
Massachusetts	—	0	2	—	7	—	6	16	—	70	—	0	0	—	—
New Hampshire	—	0	1	—	1	—	1	7	2	10	—	0	3	2	4
Rhode Island <sup>§</sup>	—	0	1	—	1	—	0	8	3	3	—	0	5	—	5
Vermont <sup>§</sup>	—	0	1	—	—	—	0	1	2	5	—	1	5	8	10
Mid. Atlantic	—	2	6	11	16	8	20	43	80	184	9	10	23	68	87
New Jersey	—	0	2	—	1	—	2	8	—	48	—	0	0	—	—
New York (Upstate)	—	0	3	2	—	7	5	29	36	22	9	8	22	58	39
New York City	—	0	2	4	4	—	0	11	—	12	—	0	7	10	—
Pennsylvania	—	1	3	5	11	1	9	29	44	102	—	0	16	—	48
E.N. Central	2	2	9	21	45	25	53	100	351	532	—	2	19	5	7
Illinois	—	0	4	3	10	—	11	29	24	134	—	1	9	1	1
Indiana	—	0	3	5	8	—	6	15	16	73	—	0	7	—	1
Michigan	—	0	5	2	5	5	15	41	112	111	—	1	6	2	5
Ohio	2	1	3	8	13	20	19	49	194	191	—	0	5	2	—
Wisconsin	—	0	1	3	9	—	2	12	5	23	N	0	0	N	N
W.N. Central	1	1	6	8	15	—	31	503	101	371	2	7	18	25	35
Iowa	—	0	2	1	1	—	3	10	19	38	—	0	3	—	3
Kansas	—	0	2	1	3	—	5	12	20	33	—	1	6	9	14
Minnesota	1	0	2	1	4	—	0	498	—	—	—	0	11	8	5
Missouri	—	0	3	4	7	—	14	47	48	249	—	1	5	1	1
Nebraska <sup>§</sup>	—	0	1	1	—	—	2	9	11	44	2	1	6	7	7
North Dakota	—	0	1	—	—	—	0	12	—	1	—	0	7	—	2
South Dakota	—	0	1	—	—	—	0	6	3	6	—	0	4	—	3
S. Atlantic	1	3	10	29	27	9	29	66	132	281	14	22	103	133	342
Delaware	—	0	1	1	—	—	0	2	—	4	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	1	—	3	—	0	0	—	—
Florida	1	1	4	14	13	4	7	29	36	60	3	0	5	24	156
Georgia	—	0	2	3	4	—	4	22	28	36	—	0	72	—	61
Maryland <sup>§</sup>	—	0	1	1	1	3	3	8	26	16	10	7	15	48	47
North Carolina	—	0	10	—	5	—	0	21	—	112	N	0	4	N	N
South Carolina <sup>§</sup>	—	0	1	2	2	1	4	18	28	23	—	0	0	—	—
Virginia <sup>§</sup>	—	0	2	7	2	1	3	15	13	24	—	10	26	50	73
West Virginia	—	0	2	1	—	—	0	5	1	3	1	3	6	11	5
E.S. Central	—	0	4	5	2	2	14	30	100	130	—	1	6	—	28
Alabama <sup>§</sup>	—	0	2	1	—	2	5	19	28	22	—	0	0	—	—
Kentucky	—	0	1	2	—	—	3	15	35	66	—	0	2	—	12
Mississippi	—	0	1	1	—	—	1	6	3	15	—	0	1	—	—
Tennessee <sup>§</sup>	—	0	2	1	2	—	4	9	34	27	—	0	4	—	16
W.S. Central	1	1	8	9	19	1	66	624	90	170	5	0	13	5	4
Arkansas <sup>§</sup>	—	0	2	2	3	—	6	23	2	17	3	0	10	3	2
Louisiana	—	0	1	—	8	—	0	8	—	18	—	0	0	—	—
Oklahoma	1	0	2	4	1	1	0	32	1	6	2	0	13	2	2
Texas <sup>§</sup>	—	1	7	3	7	—	55	614	87	129	—	0	1	—	—
Mountain	1	1	4	7	15	1	16	39	102	196	—	1	6	4	17
Arizona	—	0	2	3	3	—	5	15	24	21	N	0	0	N	N
Colorado	—	0	3	1	5	—	4	10	17	48	—	0	0	—	—
Idaho <sup>§</sup>	1	0	1	1	3	1	1	19	37	17	—	0	0	—	—
Montana <sup>§</sup>	—	0	2	—	1	—	1	6	4	5	—	0	4	—	5
Nevada <sup>§</sup>	—	0	1	1	1	—	0	3	—	2	—	0	1	—	—
New Mexico <sup>§</sup>	—	0	1	1	1	—	1	5	14	24	—	0	2	1	6
Utah	—	0	1	—	1	—	2	11	5	77	—	0	2	—	—
Wyoming <sup>§</sup>	—	0	2	—	—	—	0	5	1	2	—	0	4	3	6
Pacific	4	3	13	29	35	9	23	42	54	104	2	4	13	17	22
Alaska	—	0	2	—	2	—	1	4	5	16	—	0	2	6	8
California	2	2	10	19	17	1	11	23	4	29	2	4	11	10	14
Hawaii	—	0	1	—	1	—	0	3	—	6	—	0	0	—	—
Oregon	—	1	6	7	10	—	4	13	30	42	—	0	3	1	—
Washington	2	0	6	3	5	8	5	33	15	11	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	1	—	—	3	1	3	12	9
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N

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

MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Salmonellosis					Shiga toxin-producing <i>E. coli</i> (STEC) <sup>†</sup>					Shigellosis				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	307	893	1,374	3,572	5,639	15	82	154	225	497	85	273	496	1,530	2,589
New England	—	30	90	81	620	—	3	30	5	80	—	4	27	13	71
Connecticut	—	0	46	46	429	—	0	3	3	67	—	0	9	9	43
Maine <sup>§</sup>	—	2	7	7	15	—	0	3	—	—	—	0	2	1	2
Massachusetts	—	20	47	—	127	—	2	7	—	7	—	3	27	—	22
New Hampshire	—	3	44	14	24	—	1	3	2	6	—	0	4	2	1
Rhode Island <sup>§</sup>	—	2	11	12	16	—	0	26	—	—	—	0	7	1	3
Vermont <sup>§</sup>	—	1	5	2	9	—	0	3	—	—	—	0	1	—	—
Mid. Atlantic	38	90	206	415	593	—	6	21	23	40	17	47	87	262	508
New Jersey	—	13	46	23	98	—	0	4	—	9	—	6	27	13	168
New York (Upstate)	24	23	77	118	137	—	3	11	10	14	6	4	19	29	20
New York City	—	22	46	119	153	—	1	5	4	7	—	7	15	40	93
Pennsylvania	14	29	65	155	205	—	2	8	9	10	11	25	63	180	227
E.N. Central	13	92	153	339	793	—	13	36	28	101	2	39	78	115	625
Illinois	—	24	52	74	207	—	3	6	5	44	—	9	34	26	125
Indiana	—	7	20	8	54	—	1	8	—	8	—	1	5	1	16
Michigan	1	17	34	84	148	—	3	8	12	11	—	4	11	24	58
Ohio	12	24	52	139	223	—	2	11	5	13	2	13	46	52	339
Wisconsin	—	11	30	34	161	—	4	21	6	25	—	5	26	12	87
W.N. Central	17	47	86	236	398	2	12	39	39	44	1	29	86	412	90
Iowa	5	6	16	28	58	—	2	14	3	10	—	0	5	7	27
Kansas	—	6	22	33	50	—	1	5	4	2	—	3	13	20	31
Minnesota	10	11	30	66	81	2	2	19	13	13	1	1	7	8	11
Missouri	—	12	30	76	61	—	2	10	15	12	—	20	72	375	13
Nebraska <sup>§</sup>	2	5	41	24	83	—	1	6	4	7	—	0	3	2	7
North Dakota	—	0	21	2	5	—	0	3	—	—	—	0	2	—	—
South Dakota	—	1	15	7	60	—	0	12	—	—	—	0	1	—	1
S. Atlantic	142	278	453	1,328	1,401	8	12	22	52	84	24	41	79	252	403
Delaware	1	2	9	7	5	—	0	2	—	2	—	3	10	20	4
District of Columbia	—	0	2	4	10	—	0	0	—	1	—	0	2	1	3
Florida	62	133	278	643	568	4	3	7	19	30	14	9	18	95	88
Georgia	8	45	98	231	235	—	1	4	8	7	—	12	29	85	99
Maryland <sup>§</sup>	13	15	32	89	112	—	2	5	8	11	6	5	17	15	75
North Carolina	49	14	89	169	237	1	0	11	1	22	1	3	27	7	57
South Carolina <sup>§</sup>	2	16	67	69	102	—	0	3	1	3	—	2	6	14	36
Virginia <sup>§</sup>	6	20	65	100	110	3	3	7	15	7	3	3	14	15	36
West Virginia	1	4	23	16	22	—	0	5	—	1	—	0	2	—	5
E.S. Central	5	52	113	184	337	1	4	10	11	23	2	12	46	55	147
Alabama <sup>§</sup>	—	14	39	46	109	—	1	4	5	4	—	2	9	5	42
Kentucky	1	7	18	43	66	—	1	4	—	8	2	3	25	31	18
Mississippi	—	14	45	28	74	—	0	1	2	2	—	1	4	2	5
Tennessee <sup>§</sup>	4	14	33	67	88	1	1	8	4	9	—	5	16	17	82
W.S. Central	9	100	369	149	388	—	5	23	9	21	17	47	150	205	378
Arkansas <sup>§</sup>	4	10	25	24	64	—	1	4	4	5	1	5	14	9	36
Louisiana	—	4	43	—	65	—	0	0	—	—	—	0	7	—	45
Oklahoma	5	11	30	36	41	—	0	6	1	4	3	6	19	35	27
Texas <sup>§</sup>	—	57	350	89	218	—	4	23	4	12	13	31	124	161	270
Mountain	21	51	118	308	388	3	7	28	26	62	7	18	43	85	191
Arizona	7	20	57	109	150	1	1	5	5	1	6	14	37	48	129
Colorado	12	10	33	90	79	—	2	11	3	44	1	2	6	19	22
Idaho <sup>§</sup>	1	3	10	22	25	1	1	7	7	4	—	0	1	2	—
Montana <sup>§</sup>	—	2	7	19	18	1	0	7	2	—	—	0	4	2	—
Nevada <sup>§</sup>	—	3	11	13	25	—	0	3	1	1	—	1	7	1	17
New Mexico <sup>§</sup>	—	5	28	28	30	—	1	3	5	8	—	1	8	10	21
Utah	—	6	14	17	54	—	1	11	3	3	—	0	4	3	2
Wyoming <sup>§</sup>	1	1	9	10	7	—	0	2	—	1	—	0	1	—	—
Pacific	62	123	344	532	721	1	9	73	32	42	15	22	61	131	176
Alaska	—	1	7	11	9	—	0	0	—	—	—	0	2	—	1
California	41	93	200	428	566	1	4	23	23	35	13	18	40	119	148
Hawaii	—	5	61	—	45	—	0	2	—	1	—	0	4	—	6
Oregon	—	8	19	44	63	—	1	11	4	1	—	1	4	6	9
Washington	21	11	132	49	38	—	2	48	5	5	2	2	19	6	12
American Samoa	—	0	1	1	—	—	0	0	—	—	—	0	2	—	3
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	5	19	32	98	—	0	0	—	—	—	0	2	—	1
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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

U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting years 2009 and 2010 are provisional.

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

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

MMWR Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending March 6, 2010, and March 7, 2009 (9th week)\*

Reporting area	Spotted Fever Rickettsiosis (including RMSF) <sup>†</sup>									
	Confirmed					Probable				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
	Med	Max				Med	Max			
United States	4	2	9	10	5	6	17	73	34	122
New England	—	0	1	—	—	—	0	2	—	1
Connecticut	—	0	0	—	—	—	0	0	—	—
Maine <sup>§</sup>	—	0	0	—	—	—	0	2	—	1
Massachusetts	—	0	1	—	—	—	0	1	—	—
New Hampshire	—	0	0	—	—	—	0	1	—	—
Rhode Island <sup>§</sup>	—	0	0	—	—	—	0	0	—	—
Vermont <sup>§</sup>	—	0	1	—	—	—	0	0	—	—
Mid. Atlantic	1	0	3	1	—	—	1	6	—	4
New Jersey	—	0	0	—	—	—	0	0	—	—
New York (Upstate)	—	0	1	—	—	—	0	3	—	—
New York City	—	0	1	—	—	—	0	4	—	3
Pennsylvania	1	0	2	1	—	—	0	2	—	1
E.N. Central	—	0	2	—	1	—	1	7	—	3
Illinois	—	0	0	—	—	—	0	6	—	1
Indiana	—	0	2	—	—	—	0	2	—	—
Michigan	—	0	1	—	1	—	0	1	—	—
Ohio	—	0	0	—	—	—	0	4	—	2
Wisconsin	—	0	0	—	—	—	0	1	—	—
W.N. Central	—	0	3	—	—	—	3	27	2	1
Iowa	—	0	1	—	—	—	0	1	—	—
Kansas	—	0	1	—	—	—	0	0	—	—
Minnesota	—	0	1	—	—	—	0	1	—	—
Missouri	—	0	1	—	—	—	3	26	2	1
Nebraska <sup>§</sup>	—	0	2	—	—	—	0	1	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	0	—	—
S. Atlantic	—	1	9	4	3	—	5	25	18	101
Delaware	—	0	0	—	—	—	0	3	—	1
District of Columbia	—	0	0	—	—	—	0	0	—	—
Florida	—	0	1	—	—	—	0	2	—	1
Georgia	—	0	7	4	3	—	0	0	—	—
Maryland <sup>§</sup>	—	0	1	—	—	—	0	3	—	7
North Carolina	—	0	1	—	—	—	2	24	15	81
South Carolina <sup>§</sup>	—	0	1	—	—	—	0	4	2	4
Virginia <sup>§</sup>	—	0	1	—	—	—	0	5	1	6
West Virginia	—	0	0	—	—	—	0	1	—	1
E.S. Central	1	0	2	1	1	—	4	15	—	8
Alabama <sup>§</sup>	—	0	1	—	—	—	1	7	—	4
Kentucky	1	0	1	1	—	—	0	0	—	—
Mississippi	—	0	0	—	1	—	0	1	—	—
Tennessee <sup>§</sup>	—	0	2	—	—	—	2	14	—	4
W.S. Central	—	0	3	1	—	—	1	25	2	2
Arkansas <sup>§</sup>	—	0	0	—	—	—	0	14	—	1
Louisiana	—	0	0	—	—	—	0	1	—	—
Oklahoma	—	0	3	—	—	—	0	24	—	—
Texas <sup>§</sup>	—	0	1	1	—	—	0	8	2	1
Mountain	2	0	2	3	—	6	0	4	12	2
Arizona	2	0	1	3	—	6	0	4	12	—
Colorado	—	0	1	—	—	—	0	0	—	—
Idaho <sup>§</sup>	—	0	0	—	—	—	0	1	—	—
Montana <sup>§</sup>	—	0	1	—	—	—	0	2	—	—
Nevada <sup>§</sup>	—	0	0	—	—	—	0	0	—	—
New Mexico <sup>§</sup>	—	0	0	—	—	—	0	0	—	1
Utah	—	0	0	—	—	—	0	0	—	1
Wyoming <sup>§</sup>	—	0	1	—	—	—	0	1	—	—
Pacific	—	0	1	—	—	—	0	0	—	—
Alaska	—	0	0	—	—	—	0	0	—	—
California	—	0	1	—	—	—	0	0	—	—
Hawaii	—	0	0	—	—	—	0	0	—	—
Oregon	—	0	0	—	—	—	0	0	—	—
Washington	—	0	0	—	—	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

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

U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting years 2009 and 2010 are provisional.

<sup>†</sup> Illnesses with similar clinical presentation that result from Spotted fever group rickettsia infections are reported as Spotted fever rickettsioses. Rocky Mountain spotted fever (RMSF) caused by *Rickettsia rickettsii*, is the most common and well-known spotted fever.

<sup>§</sup> Contains data reported through the National Electronic Disease Surveillance System (NEDSS).









The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format. To receive an electronic copy each week, visit *MMWR*'s free subscription page at <http://www.cdc.gov/mmwr/mmwrsubscribe.html>. Paper copy subscriptions are available through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone 202-512-1800.

Data presented by the Notifiable Disease Data Team and 122 Cities Mortality Data Team in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. Address all inquiries about the *MMWR* Series, including material to be considered for publication, to Editor, *MMWR* Series, Mailstop E-90, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30333 or to [mmwrq@cdc.gov](mailto:mmwrq@cdc.gov).

All material in the *MMWR* Series is in the public domain and may be used and reprinted without permission; citation as to source, however, is appreciated.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

References to non-CDC sites on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of these sites. URL addresses listed in *MMWR* were current as of the date of publication.