

Weekly

September 11, 2009 / Vol. 58 / No. 35

# Oseltamivir-Resistant 2009 Pandemic Influenza A (H1N1) Virus Infection in Two Summer Campers Receiving Prophylaxis – North Carolina, 2009

Initial testing of the 2009 pandemic influenza A (H1N1) virus found it susceptible to neuraminidase inhibitors (oseltamivir and zanamivir) and resistant to adamantanes (amantadine and rimantadine) (1). Neuraminidase inhibitors have been used widely for treatment and chemoprophylaxis of 2009 pandemic influenza A (H1N1); however, sporadic cases of oseltamivir-resistant 2009 pandemic influenza A (H1N1) virus infection have been reported worldwide (2), including nine U.S. cases identified as of September 4.\* On July 14, CDC was contacted by a physician at a summer camp in North Carolina regarding two cases of influenza-like illness (ILI) in adolescent girls receiving oseltamivir chemoprophylaxis during an ILI outbreak that had begun June 18. The two girls stayed in the same cabin, and both received oseltamivir during a mass chemoprophylaxis program in which approximately 600 campers and staff members received oseltamivir or zanamivir. On July 20 and July 22, the North Carolina State Laboratory of Public Health confirmed pandemic H1N1 virus infection in respiratory specimens from both girls. On August 14 and August 19, CDC detected the H275Y mutation (N1 numbering) in neuraminidase from both specimens by pyrosequencing (3,4). The H275Y mutation is associated with resistance to oseltamivir; zanamivir susceptibility is retained. A second mutation (I223V) in neuraminidase also was detected in both specimens. This is the first report of oseltamivir resistance in pandemic H1N1 cases with an epidemiologic link. Health-care providers should be aware that antiviral resistance can develop during chemoprophylaxis or treatment with subtherapeutic dosages and should follow published recommendations for antiviral medications (5).

The summer camp offered two 4-week sessions. The first session was conducted from June 14 to July 10, followed by a weekend break, July 11-12, before the start of the second session on July 13. Approximately 650 campers and 350 staff members participated in the first session, and 350 campers and 300 staff members participated in the second session. An outbreak of ILI began on June 18, soon after the start of the first session; the last case was diagnosed on July 22. All ill persons were grouped in isolation until 7 days after symptom onset and until well. All but one of the 61 ill campers and four ill staff members received treatment with either oseltamivir or zanamivir. Also, beginning on June 18, medical staff members conducted a mass program of antiviral chemoprophylaxis in which prophylactic oseltamivir or zanamivir was administered to all persons who had an ill sibling at the camp and to all persons who lived in a cabin with an ill person. Chemoprophylaxis was administered daily by camp staff members to ensure compliance. Over the two sessions, a total of 418 campers and 189 staff members received 10 days of chemoprophylaxis with either oseltamivir (75 mg or appropriate weight-based dosing, once daily) or zanamivir (two 5 mg inhalations, once daily). The camp medical staff continued the program until July 24.

## INSIDE

- 972 Receipt of Influenza Vaccine During Pregnancy Among Women With Live Births — Georgia and Rhode Island, 2004–2007
- 975 National Laboratory Inventories for Wild Poliovirus Containment – Western Pacific Region, 2008
- 978 Notice to Readers

<sup>\*</sup>Additional information available at http://www.cdc.gov/flu/weekly/fluactivity.htm.

The *MMWR* series of publications is published by the Coordinating Center for Health Information and Service, 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 2009;58:[inclusive page numbers].

## **Centers for Disease Control and Prevention**

Thomas R. Frieden, MD, MPH Director Tanja Popovic, MD, PhD Chief Science Officer James W. Stephens, PhD Associate Director for Science Steven L. Solomon, MD Director, Coordinating Center for Health Information and Service Jay M. Bernhardt, PhD, MPH Director, National Center for Health Marketing Katherine L. Daniel, PhD Deputy Director, National Center for Health Marketing

#### **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 Writers-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

## **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

## **Case Reports**

Patient A. One of the campers, a previously healthy adolescent girl, received oseltamivir prophylaxis at an appropriate prophylactic dose of 75 mg daily during June 26–July 5, despite having no reported exposure to an ill person. After completing the initial course of oseltamivir on July 5, she was exposed to an ill cabin mate (patient C) and administered a second 10-day course of chemoprophylaxis at the same dosage beginning on July 7. On July 8, she experienced cough and headache without fever, and on July 9 she experienced chills, worsening headache, and loose stools. Despite these symptoms, her oseltamivir dose was not increased to a therapeutic treatment dose. On July 10, the last day of the first camp session, she traveled away from camp with three family members while ill, returning on July 12, afebrile and with a cough, to attend the second session. On July 12, a rapid influenza detection test was positive for influenza A. The family declined treatment with zanamivir because of concern over side effects, and the patient's oseltamivir dose was doubled to 75 mg, twice daily, an appropriate therapeutic treatment dose. Patient A was isolated with other ill campers and staff members until July 16, and she recovered uneventfully. The camp physician observed that the camper became ill while taking prophylaxis and became concerned that antiviral resistance might have occurred. Therefore, a nasopharyngeal swab specimen was obtained on July 14 and sent to the state laboratory for testing. On July 22, the laboratory confirmed the presence of 2009 pandemic influenza A (H1N1) virus by real-time reverse transcription-polymerase chain reaction (rRT-PCR). On August 19, CDC testing of the same clinical specimen detected the H275Y (3,4) and I223V mutations (6). Because viral isolation was unsuccessful, a neuraminidase inhibition assay was not performed. No illness was reported among her family members.

Patient B. A second previously healthy adolescent girl, who resided in the same cabin as patient A, began oseltamivir chemoprophylaxis at a dose of 75 mg daily on July 7 after exposure to patient C. On July 10, patient B left camp for a home visit during the break between camp sessions. The next day, while at home, she experienced onset of fever (101.9°F [38.8°C]), sore throat, and cough. She continued to engage in normal activities while ill, including visiting a shopping mall and movie theater. She returned to camp for the second session on July 12 with fever, headache, cough, malaise, and myalgias. On July 12, a rapid influenza detection test was positive for influenza A. Oseltamivir was discontinued, and zanamivir treatment (two 5 mg inhalations, twice daily) was begun. A nasopharyngeal swab specimen was obtained July 14 and sent to the state laboratory for testing. On July 20, the presence of 2009 pandemic influenza A (H1N1) virus was confirmed by rRT-PCR. On August 14, CDC testing of viral RNA detected H275Y and I223V mutations (*3,4,6*). Viral isolation was unsuccessful, and a neuraminidase inhibition assay was not performed. Patient B was isolated at the camp during July 12–18. Her fever resolved by July 14, and by July 17 she was asymptomatic. No illnesses were identified among close contacts potentially exposed during her weekend home visit.

## **Further Transmission Investigation**

After identification of the oseltamivir-resistant pandemic H1N1 virus, the state health department and local health departments interviewed the families of the two campers and reviewed camp medical records to determine whether the campers might have transmitted virus to others. Retrospective review of camp records revealed that, during June 26–July 22, six other campers were diagnosed with illness while on oseltamivir chemoprophylaxis (75 mg once daily for 10 days). A single specimen from one of these six campers (not patient C) was obtained July 14 and sent to the state laboratory for testing by rRT-PCR, but no influenza virus was isolated. No evidence of pandemic H1N1 virus infection outside the camp linked to either patient A or patient B was found. CDC tested by pyrosequencing 59 specimens of pandemic H1N1 virus, collected during June 29-August 14 as part of routine surveillance conducted by sentinel sites throughout North Carolina. None of the 59 specimens had the H275Y or I223V mutations.

**Reported by:** M Garrison, Buncombe County Health Center; L Weldon, Henderson County Dept of Public Health; P Brantley, L Wolf, PhD, M Davies, MD, J-M Maillard, MD, Z Moore, MD, North Carolina Dept of Health and Human Svcs. T Sheu, V Deyde, PhD, L Gubareva, PhD, AM Fry, MD, Influenza Div, National Center for Immunization and Respiratory Diseases; A Fleischauer, PhD, Career Epidemiology Field Officer Program, Coordinating Office for Terrorism Preparedness and Emergency Response; NJ Dailey, MD, EIS Officer, CDC.

Editorial Note: This report describes confirmed oseltamivirresistant 2009 pandemic influenza A (H1N1) virus infection in two previously healthy adolescents who were cabin mates and recipients of oseltamivir in a mass chemoprophylaxis program during an outbreak of ILI at a summer camp. This is the first report of oseltamivir resistance in symptomatic close contacts with confirmed infection. Two possible mechanisms of transmission seem most likely. One possibility is that oseltamivirresistant virus was transmitted from patient A to patient B. The onset of illness for patient B occurred 4 days after the onset of illness for patient A, consistent with reported intervals for secondary transmission among household members with seasonal influenza (7). Alternatively, both patient A and patient B might have acquired oseltamivir-resistant virus infection from exposure to another ill person (e.g., an unknown camper or staff member, or patient C), or each might have developed oseltamivir resistance independently. Whether the H275Y and I223V mutations occurred independently, or whether virus with one or both of these mutations circulated more widely in the camp could not be determined.

Although six other persons had illness while receiving oseltamivir chemoprophylaxis, aside from the specimens collected from patients A and B, only one specimen was obtained from any other ill person, and the pandemic H1N1 virus was not detected in that specimen. Neither mutation was found in 59 surveillance specimens from sentinel sites in the state, suggesting that the mutations were not widespread in North Carolina. The H275Y mutation has been characterized previously among seasonal influenza A (H1N1) viruses and is associated with resistance to oseltamivir (*3*). The I223V mutation has not been reported previously in 2009 pandemic influenza A (H1N1); because the neuraminidase inhibition assay could not be performed, the mutation's functional significance is unknown.

These cases highlight a potentially adverse outcome from oseltamivir chemoprophylaxis. In two randomized clinical trials (with 962 and 812 participants, respectively), the efficacy of oseltamivir chemoprophylaxis for preventing clinical seasonal influenza among persons within households ranged from 68% (for laboratory-confirmed infection that included serologic outcomes of infection) to 89% (for laboratory-confirmed clinical influenza) (8,9). No evidence of oseltamivir-resistant virus was reported in these studies. However, the World Health Organization has reported multiple instances of oseltamivirresistant 2009 pandemic influenza A (H1N1) viruses being isolated from persons who developed pandemic H1N1 infection while receiving oseltamivir chemoprophylaxis (2). Resistance to oseltamivir also might develop during subtherapeutic dosing. In this report, patient A was symptomatic while on a chemoprophylaxis dose of oseltamivir for 4 days. One possibility is that she developed resistance while on a subtherapeutic dosage of 75 mg once a day for chemoprophylaxis, rather than the appropriate treatment dose of 75 mg twice a day.

CDC recommendations regarding use of antivirals during the H1N1 pandemic were updated on September 8. Use of antiviral medications for postexposure chemoprophylaxis should be reserved for persons at higher risk for influenzarelated complications who have had contact with someone likely to have been infected with influenza. An emphasis on early treatment once a patient has developed symptoms, rather than chemoprophylaxis, should reduce opportunities for development of oseltamivir resistance (5). Chemoprophylaxis should not be used for prevention of illness among healthy persons after exposures in community settings. Persons who are taking antiviral medications for prevention should be instructed to contact a health-care provider if illness develops. Persons under antiviral treatment should be instructed to contact a health-care provider if symptoms worsen. Other preventative measures (e.g., hand hygiene and cough etiquette) can reduce the risk for influenza virus transmission (5).

Chemoprophylaxis failure is known to occur even without antiviral resistance (8,9). Accordingly, not all failures need to be accompanied by testing for resistance; testing should be considered for individual cases in consultation with the state health department. However, if symptoms develop during chemoprophylaxis, providers should consider the possibility of antiviral resistance and consider alternate treatment options. Because the 2009 pandemic influenza A (H1N1) virus is resistant to adamantanes (1), limited treatment options will be available if widespread oseltamivir resistance develops. Zanamivir is not licensed for treatment of children aged <7 years and is contraindicated among persons with underlying airway disease.

## References

- 1. CDC. Drug susceptibility of swine-origin influenza A (H1N1) viruses, April 2009. MMWR 2009;58:433–5.
- World Health Organization. Pandemic (H1N1) 2009: update 60. Geneva, Switzerland: World Health Organization; 2009. Available at http://www. who.int/csr/don/2009\_08\_04/en/index.html.
- Deyde VM, Gubareva LV. Influenza genome analysis using pyrosequencing method: current applications for a moving target. Expert Rev Mol Diagn 2009;9:493–509.
- World Health Organization. Influenza A (H1N1) NA-H274 detailed pyrosequencing protocol for antiviral susceptibility testing. Geneva, Switzerland: World Health Organization; 2009. Available at http://www.who.int/csr/resources/publications/swineflu/NA\_ DetailedPyrosequencing\_20090513.pdf.
- CDC. Updated interim recommendations for the use of antiviral medications in the treatment and prevention of influenza for the 2009–2010 season. Atlanta, GA: CDC; September 8, 2009. Available at http://www. cdc.gov/h1n1flu/recommendations.htm.
- Garten RJ, Davis CT, Russell CA, et al. Antigenic and genetic characteristics of swine-origin 2009 A(H1N1) influenza viruses circulating in humans. Science 2009;325:197–201.
- 7. Cowling BJ, Fang VJ, Riley S, Malik Peiris JS, Leung GM. Estimation of the serial interval of influenza. Epidemiology 2009;20:344–7.
- Welliver R, Monto AS, Carewicz O, et al. Effectiveness of oseltamivir in preventing influenza in household contacts: a randomized controlled trial. JAMA 2001;285:748–54.
- 9. Hayden FG, Belshe R, Villanueva C, et al. Management of influenza in households: a prospective, randomized comparison of oseltamivir treatment with or without postexposure prophylaxis. J Infect Dis 2004;189:440–9.

## Receipt of Influenza Vaccine During Pregnancy Among Women With Live Births – Georgia and Rhode Island, 2004–2007

Pregnant women are at increased risk for complications from influenza (1-3). Since 2004, the Advisory Committee on Immunization Practices (ACIP) and American College of Obstetricians and Gynecologists (ACOG) Committee on Obstetric Practice have recommended that all pregnant women be vaccinated with the trivalent inactivated vaccine during any trimester of pregnancy (4,5). To assess the percentage of women who were vaccinated during pregnancy among women with recent live births, CDC analyzed data from the Pregnancy Risk Assessment and Monitoring System (PRAMS) from Georgia and Rhode Island, the two states that collected this information on the PRAMS survey. This report summarizes the results, which showed that in Georgia, the prevalence of influenza vaccination during the woman's most recent pregnancy increased from 10.4% in 2004 to 15.5% in 2006. In Rhode Island, vaccination prevalence increased from 21.9% in 2004 to 33.4% in 2007. During 2006 in Georgia, the most common reasons for not receiving vaccination were, "I don't normally get the flu vaccination" (69.4%), and "my physician did not mention anything about a flu vaccine during my pregnancy" (44.5%). Increased efforts are needed to assess vaccine coverage during pregnancy and to educate providers and pregnant women about ACIP and ACOG recommendations on providing intramuscular, inactivated influenza vaccine during any trimester of pregnancy.

PRAMS is a population-based surveillance system that collects data on a wide range of maternal behaviors and experiences before, during, and after pregnancy. PRAMS surveys currently are administered by 37 states, New York City, and one tribal-state partnership in South Dakota. Each month, participating states or entities use birth certificate data to select a stratified random sample of 100-300 women with recent live births. A questionnaire is mailed to the women 2-6 months after delivery. The participating entities use a standard questionnaire, to which they can add questions. From 2004 to 2007, Georgia and Rhode Island included questions about influenza vaccination on their surveys. Responses from Georgia for 3 years (2004–2006; N = 5,231) and Rhode Island for 4 years (2004–2007; N = 5,499) were analyzed. Variables included receipt of influenza vaccination in women during pregnancy, demographics, and health-care service use indicators. Response rates for the years of data examined for Georgia were 70.0% for 2004, 70.2% for 2005, and 70.8% for 2006; rates for

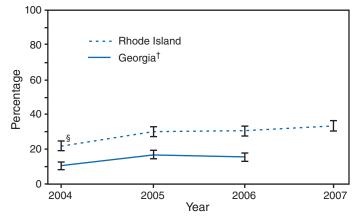
Rhode Island were 75.5% for 2004, 75.1% for 2005, 72.5% for 2006, and 72.1% for 2007.

Women whose influenza vaccination status was missing (229 for Georgia and 163 for Rhode Island) were excluded. PRAMS data were weighted to take into account complex survey design, nonresponse, and noncoverage for each state. Data were analyzed to estimate influenza vaccination prevalence and 95% confidence intervals. Chi-square tests were used to determine statistical significance and statistical software were used to account for the complex sampling strategy.

Surveys conducted by both states inquired about influenza vaccination coverage by asking the question, "Did you get a flu vaccination during your most recent pregnancy?" The Georgia survey included a follow-up question for women who reported not being vaccinated to assess their reasons. The question included was, "What were your reasons for not getting a flu vaccination during your most recent pregnancy?" A list of reasons with a choice of yes/no response included items on receipt of provider advice, perceptions of vaccine safety, and timing of pregnancy. The Rhode Island survey included a question on provider advice, "At any time during your pregnancy, did a doctor, nurse, or other health-care worker offer you a flu vaccination or tell you to get one?"

In both states, most of the increase in influenza vaccination coverage was observed from 2004 to 2005 (Figure); in Georgia, coverage increased 62.5%, from 10.4% to 16.9%, and in Rhode Island, coverage increased 37.4%, from 21.9% to 30.1%. Vaccination prevalence remained mostly stable during 2005–2006, but with a further 10.0% increase observed in Rhode Island from 2006 to 2007. Prevalence of influenza

FIGURE. Influenza vaccination coverage during most recent pregnancy among women with recent live births\* — Pregnancy Risk Assessment and Monitoring System, Georgia and Rhode Island, 2004–2007



\* Based on response to the question, "Did you get a flu vaccination during your most recent pregnancy?"

<sup>†</sup>2007 data for Georgia were not available. Percentages are weighted. § 95% confidence interval. vaccination during pregnancy in the two states varied by state and demographically (Table 1).

In Rhode Island, the prevalence of women who reported receiving advice about influenza vaccine or an offer of vaccination increased from 33.0% during 2004 to 47.7% during 2007 (p<0.001). In 2007, among respondents who reported receiving vaccination advice from a health-care provider, the prevalence of those who also were vaccinated was 65.7%. In 2007, Rhode Island data showed that among women who did not report receiving advice from their health-care provider about influenza vaccine, only 4.6% reported receiving influenza vaccination.

In Georgia, previous vaccination history, provider advice, perceptions of safety, and timing of pregnancy were among the reasons unvaccinated women cited for not getting the influenza vaccine (Table 2). The top reasons cited were "I don't normally

TABLE 1. Influenza vaccination coverage during most recent pregnancy among women with recent live births, by selected characteristics — Pregnancy Risk Assessment Monitoring System, Georgia and Rhode Island, 2006 and 2007.

		orgia 2006 = 1,958*)		e Island 2007 i = 1,328*)
Characteristic	%†	(95% Cl§)	%	(95% CI)
Total	15.5	(13.2–17.8)	33.4	(30.4–36.4)
Maternal race/ethnicity				
Black, non-Hispanic	12.6	(10.0–15.2)	29.8	(19.9–39.7)
White, non-Hispanic	16.9	(13.3–20.6)	30.4	(26.7–34.1)
Hispanic	18.9	(10.8–27.0)	42.5	(36.1–49.0)
Other	12.0	(0.1–23.9) <sup>¶</sup>	35.5	(23.0–48.0)
Maternal age (yrs)				
<20	20.3	(12.9–27.7)	29.2	(19.6–38.8)
20–24	11.5	(7.8–15.4)	38.1	(31.2-45.0)
25–29	12.4	(8.3–16.5)	31.0	(25.4–36.6)
30–34	21.6	(15.9–27.3)	34.0	(28.0-40.0)
≥35	15.9	(9.2–22.6)	33.0	(26.0–40.0)
Marital status				
Married	15.9	(12.8–19.1)	35.3	(31.3–39.3)
Not married	15.0	(11.5–18.6)	30.7	(26.2–35.2)
Maternal education				
<high school<="" td=""><td>11.5</td><td>(5.4–17.6)</td><td>36.1</td><td>(28.4-43.8)</td></high>	11.5	(5.4–17.6)	36.1	(28.4-43.8)
High school	11.7	(8.1–15.4)	27.8	(22.5–33.1)
>High school	17.2	(13.7–20.8)	36.1	(31.9–40.4)
Parity				
1	18.2	(14.3-22.1)	29.3	(25.0–33.6)
2	15.2	(11.1–19.3)	36.1	(30.7–41.6)
<u>≥</u> 3	11.8	(7.8–15.8)	34.6	(28.1–41.1)
Medicaid paid for prena	tal care			
Yes	12.3	(9.4–15.2)	39.9	(31.8–48.0)
No	18.5	(14.9–22.1)	32.5	(29.3–35.8)
Prenatal care initiation				
1st trimester	15.8	(13.1–18.5)	33.6	(30.3–36.9)
After 1st trimester	15.0	(9.8–20.2)	27.3	(19.6–35.0)
After 1st trimester	15.0	(9.8–20.2)	27.3	(19.6–35.0)

\* Sample sizes are unweighted.

<sup>†</sup> Percentages are weighted.

§ Confidence interval.

I <60 respondents; estimates might not be stable.</p>

Reason <sup>†</sup>	%§	(95% CI¶)
I don't normally get a flu vaccination	69.4	(66.2–72.7)
My physician did not mention anything about a flu vaccine during my pregnancy	44.5	(40.9–48.0)
was worried that the flu vaccination might harm my baby	28.1	(24.9–31.3)
was worried about side effects of the flu vaccination for me	27.1	(23.9–30.3)
was in my first trimester during the flu season (November–February)	25.2	(22.0-28.4)
wasn't pregnant during the flu season (November-February)	24.2	(21.1–27.3)
Other reason	6.2	(4.3-8.0)

TABLE 2. Reasons given by women with recent live births for not receiving influenza vaccination among those who were not vaccinated ( $n = 1,648^*$ ) — Pregnancy Risk Assessment Monitoring System, Georgia, 2006

\* Unweighted sample sizes.

<sup>†</sup> Respondents could select more than one reason.

§ Percentages are weighted.

<sup>¶</sup> Confidence interval.

get the flu vaccination" (69.4%) and "my physician did not mention anything about a flu vaccine during my pregnancy" (44.5%); 28.1% were worried about the safety of the influenza vaccine for their infant and 27.1% were worried about the safety for themselves.

**Reported by:** IB Ahluwalia, PhD, L Harrison, MPH, D Jamieson, MD, Div of Reproductive Health, National Center on Chronic Disease Prevention and Health Promotion; SA Rasmussen, MD, Div of Birth Defects and Developmental Disabilities, National Center on Birth Defects and Developmental Disabilities, CDC.

Editorial Note: Despite evidence that maternal vaccination with influenza vaccine protects infants from influenza-like illness during the first 6 months of life (6), recent national data show that pregnant women have the lowest rates of coverage among all adult populations recommended to receive influenza vaccination (7). During 2004–2007, influenza vaccination prevalence increased significantly in both states among women with recent live births. The increases in coverage partially could be related to changes in ACIP and ACOG recommendations in 2004, when the recommendation for pregnant women changed from vaccine administration to women who would be in their second or third trimester during influenza season to administration of vaccine any time during pregnancy (4,5). Also, increased media reporting about vaccination of high-risk populations during the 2004–2005 influenza vaccine shortage might have increased awareness among pregnant women and their providers, perhaps resulting in an increase in influenza vaccination prevalence (8).

Interventions focusing on providers and pregnant women might address barriers to influenza vaccination experienced by both (3,9). In July 2006, Rhode Island passed a law\* requiring the Rhode Island health department to purchase vaccine and distribute it to physicians who enroll in the Immunize for Life adult immunization program.<sup>†</sup> By enacting specific legislation, Rhode Island increased vaccine availability for health-care providers and perhaps alerted providers and pregnant women about the importance of immunizing pregnant women with influenza vaccine. The Rhode Island experience with vaccine distribution might be a useful example for other states on the effectiveness of working with health-care providers to supply influenza vaccine for pregnant women.

Approximately 25% of women in Georgia cited being in their first trimester as a reason for not getting the influenza vaccine, identifying a need to educate pregnant women about the importance of getting the influenza vaccine, even during the earliest phases of pregnancy. These women and their physicians might not have been aware of current ACIP and ACOG recommendations that women who are pregnant during influenza season should be vaccinated, irrespective of trimester. Providers should be educated about these recommendations, about influenza risks for pregnant women, and about interventions to prevent severe illness in this population (3-5,9).

The findings in this report are subject to at least three limitations. First, PRAMS data on influenza vaccination were only available from two states, and these findings might not be generalizable to all women with live births in the United States. Second, PRAMS data are self-reported by women 2–4 months postpartum and therefore they might be subject to recall bias. Finally, information on provider recommendations was assessed by maternal report; data from health-care providers regarding their practice related to influenza vaccine might have shown different results.

Because the seasonal influenza vaccine is unlikely to provide protection against pandemic influenza A (H1N1) infection (*10*), ACIP recommends that pregnant women receive both vaccine formulations during the 2009–10 influenza season. The

<sup>\*</sup>Routine childhood and adult immunization vaccines. Title 23, Chapter 23-1, Sect. 23-1-44 (2006). Available at http://www.rilin.state.ri.us/statutes/title23/23-1/23-1-44.htm.

<sup>&</sup>lt;sup>†</sup> Additional information available at http://www.health.ri.gov/immunization/ immunizeforlife.php.

trivalent inactivated seasonal influenza vaccine is now available and the influenza A (H1N1) 2009 monovalent vaccine is expected to become available in mid-October (10).

### **Acknowledgments**

This report is based, in part, on contributions by H Kim, PhD, and R Cain, Rhode Island Dept of Health Center for Health Data and Analysis; C Hoban, PhD, and D Goodman, PhD, Georgia Dept of Community Health, Office of Epidemiology, Evaluation, and Health Information; A Harrison, Science Applications International Corporation Contractor; and S Gupta, MPH, Div of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

#### References

- 1. Jamieson DJ, Theiler RN, Rasmussen SA. Emerging infections and pregnancy. Emerg Infect Dis 2006;12:1638–43.
- Rasmussen SA, Jamieson DJ, Bresee JS. Pandemic influenza and pregnant women. Emerg Infect Dis 2008;14:95–100.
- Naleway AL, Šmith WJ, Mullooly JP. Delivering influenza vaccine to pregnant women. Epidemiol Rev 2006;28:47–53.
- CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2008. MMWR 2008;57(No. RR-7).
- American College of Obstetricians and Gynecologists' Committee on Obstetric Practice. ACOG committee opinion number 305, November 2004. Influenza vaccination and treatment during pregnancy. Obstet Gynecol 2004;104:1125–6.
- Zaman K, Roy E, Arifeen SE, Rahman M, et al. Effectiveness of maternal influenza immunization in mothers and infants. N Engl J Med 2008;359:1555–64.
- Lu P, Bridges CB, Euler GL, Singleton JA. Influenza vaccination of recommended adult populations, U.S., 1989–2005. Vaccine 2008;26:1786–93.
- Brewer NT, Hallman WK. Subjective and objective risk as predictors of influenza vaccination during the vaccine shortage of 2004–2005. Clin Infect Dis 2006;43:1379–86.
- CDC. Influenza vaccination in pregnancy: practices among obstetriciangynecologists—United States, 2003–04 influenza season. MMWR 2005;54:1050–2.
- CDC. Use of influenza A (H1N1) 2009 monovalent vaccine: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009. MMWR 2009;58(No. RR-10).

## National Laboratory Inventories for Wild Poliovirus Containment – Western Pacific Region, 2008

In the future, when wild poliovirus (WPV) transmission is interrupted worldwide, facilities holding WPV materials will represent the only remaining repository of the virus. Maintaining the number of such facilities at a minimum and at an appropriate biosafety standard (laboratory containment) reduces the risk for a facility-associated reintroduction of WPV. In May 1999, the World Health Assembly (WHA) urged all member states to begin the process leading to laboratory containment of WPV (1). The World Health Organization (WHO) global action plan for laboratory containment of WPV issued in 1999 indicated a staged approach that begins with a national survey of all biomedical facilities (Phase I); the purpose of the survey is to alert institutions and facilities to the need for containment, encourage reduction of WPV materials, and develop a national inventory of facilities holding such materials. The survey and inventory provide a facility database for use in all subsequent steps toward global poliovirus containment. In May 2008, WHA urged all WHO member states to complete Phase I activities outlined in the WHO Global Action Plan for Laboratory Containment of Wild Polioviruses (2,3). In the WHO Western Pacific Region (WPR), Phase I surveys of 77,260 laboratories in the 37 countries and areas of WPR were conducted during 1999–2008. A total of 45 laboratories were identified as holding WPV materials in 2008. This report describes completion of Phase I containment activities by WPR countries, and updates a previous report on Phase I completion in the European Region and global progress (4).

Specific guidelines for Phase I activities in the WPR were issued in 1999 that advised member states and areas\* to conduct national surveys of biomedical facilities,<sup>†</sup> communicate the need for WPV containment, develop a database of facilities, and compile a national inventory of laboratories identified to possess WPV infectious or potentially infectious materials (WPV materials).<sup>§</sup> Facilities were to be advised to dispose of unneeded WPV materials and to handle retained WPV materials under appropriate biosafety conditions. In 1999, the Regional Commission for the Certification of Poliomyelitis Eradication in the Western Pacific (WPR RCC) established progress toward completion of Phase I containment as a requirement for certification of the region as polio-free (5).

<sup>\*</sup>American Samoa, Australia, Brunei Darussalam, Cambodia, China, Commonwealth of the Cook Islands, Fiji, French Polynesia, Guam, Hong Kong (China), Japan, Kiribati, Lao People's Democratic Republic, Macao (China), Malaysia, Marshall Islands, Micronesia, Mongolia, Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Philippines, Pitcairn Islands, Republic of Korea, Samoa, Singapore, Solomon Islands, Republic of Tokelau, Tonga, Tuvalu, Vanuatu, Vietnam, and Federated States of Wallis and Futuna.

<sup>&</sup>lt;sup>†</sup> Facilities holding WPV infectious or potentially infectious materials (WPV materials) include diagnostic laboratories with frozen stool specimens, institutions with current or past research on polioviruses, teaching and industrial facilities that use poliovirus as a test virus, and vaccine manufacturers.

<sup>&</sup>lt;sup>§</sup> Infectious materials include clinical materials from persons with confirmed WPV infections; environmental sewage, or water samples in which WPV is present; and replication products containing WPV. Potentially infectious materials include feces, respiratory secretions, environmental sewage, and untreated water samples of unknown origin or collected for any purpose at a time and in a geographic area where presence of WPVs was suspected, and the replication products of such materials. Replication products include cell culture isolates, reference stocks, and laboratory derivatives in poliovirus-permissive cells or animals. For the purposes of containment, vaccine-derived poliovirus materials are treated as equivalent to WPV materials (*3*).

Preliminary information on Phase I activities was reported by each member state to the WHO regional office annually. When WPR was certified as polio free in October 2000, all member states/areas had initiated Phase I, but only four member states/ areas had completed it (Figure).

Strategies for identifying and surveying biomedical facilities differed among WPR countries according to population size, administrative and health infrastructure, economic development, and political structure. In small member states (e.g., Brunei Darussalam and Macao [China]), laboratory surveys were easier to complete by the small number of facilities, the majority of which were under government jurisdiction. In member states with less developed laboratory infrastructures (e.g., Cambodia and the 21 Pacific island countries and areas), health staff at district levels identified the facilities in the country and assessed freezer capacity and power supply to exclude facilities not capable of preserving polioviruses. Containment officials at the national level then focused survey efforts on the facilities assumed to be at higher risk for retaining WPV materials (i.e., those with research or teaching functions). In member states with more developed laboratory infrastructures (e.g., Australia and Republic of Korea), the database of facilities was compiled from preexisting lists of licensed laboratories supplemented with member lists of professional institution associations (e.g., biosafety associations and microbiological societies), and lists for laboratory accreditation or quality control. In the majority of countries, the surveys were completed by calling or visiting nonresponding laboratories. Completeness of the surveys was assessed by a systematic quality-assurance procedure provided by WHO.

By 2006, Phase I was complete in all countries except China and Japan, which have vast biomedical laboratory infrastructures. During 2000-2003, Phase I surveys in China were conducted in facilities operating under the jurisdiction of five Chinese ministries/agencies.<sup>9</sup> During 2005–2008, a comprehensive approach was initiated which included 1) surveying nearly 50,000 biomedical laboratories under the jurisdiction of the Ministry of Health identified by compiling information at the county, prefecture, and provincial levels; 2) performing a pilot survey in selected provinces of biomedical facilities among 46 ministries and agencies other than the Ministry of Health; and 3) expanding surveys to all provinces and ministries based on the lessons learned from the pilot. Survey completion was facilitated by regulations on safe handling of pathogenic agents issued after confirmed laboratory-acquired SARS infections during the 2003 epidemic (6, 7).

In Japan, a nationwide survey was implemented during 2000-2002 by the Ministry of Health, Labor, and Welfare (MHLW) covering 7,865 facilities with an overall return rate of 53.8%. An expanded survey conducted during 2004–2005 achieved a response rate of >99% from the 12,142 facilities under the jurisdiction of the MHLW and 1,367 facilities under the Ministry of Education, Culture, Sport, Science, and Technology, the two ministries overseeing facilities considered most likely to have WPV materials. A further total of 560 facilities were surveyed under the jurisdiction of the remaining ministries. The number of biomedical laboratories surveyed within each facility was not reported. An additional targeted survey of 80 high-risk facilities identified through a search of published poliovirus research was conducted in 2008 to further validate the earlier surveys. Among the 88 laboratories in these facilities, 82 (93%) had been surveyed previously; one laboratory of the six that were not surveyed previously reported holding WPV materials.\*\*

In the WPR, a total of 77,260 biomedical facilities responded to the Phase I surveys for all countries, including 55,688 facilities in China and 14,069 facilities in Japan (Table). Of all biomedical facilities responding to the surveys, 89% (68,831) were clinical diagnostic laboratories, primarily under the jurisdiction of ministries of health; only 32 (0.05%) of these were found to hold WPV materials, 27 of which are laboratories within the Global Polio Laboratory Network (one in Australia, 25 in China, and one in Japan). Of the regional total, 3,838 facilities were listed as being at high risk for retaining WPV materials, 94% of which were located in Australia, China, Japan, and Republic of Korea (Table); 11 (0.3%) of these reported having WPV materials.<sup>††</sup> Any facility that had reported retention of WPV materials in a given survey was resurveyed annually. The number of facilities/laboratories retaining WPV materials decreased during the course of Phase I implementation, resulting in a decline from 147 facilities in 1999 to 107 in 2006 to 45 in 2008 (two in Australia, 27 in China, 15 in Japan, and one in the Republic of Korea) (Figure).

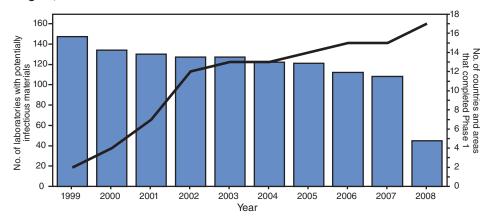
All member states documented laboratory containment activities through standardized reports reviewed by the WHO regional office, a panel of experts external to the process, and the RCC. For the two member states with the most complex laboratory infrastructure (China and Japan), the external review of the process included site visits to critical academic and research institutions. In December 2008, the WPR RCC accepted the final reports from China and Japan and

<sup>&</sup>lt;sup>9</sup> Ministry of Health, Ministry of Education, State Environmental Protection Administration, State Drug Administration, and Chinese Academy of Science.

<sup>\*\*</sup> Another facility was added to the national inventory after the survey, when newly requested reference strains were transferred from Japan's National Institute of Infectious Diseases.

<sup>&</sup>lt;sup>††</sup> The other two facilities holding WPV materials were regulatory and production facilities.

FIGURE. Number of biomedical facilities reporting wild poliovirus (WPV) materials\* and number of World Health Organization (WHO) member states and areas<sup>†</sup> having completed Phase I of the WPV containment process, by year — WHO Western Pacific Region, 1999–2008



\* WPV infectious and potentially infectious materials. Additional information available at http://www.polioeradication.org/content/publications/who-vb-03-729.pdf.

<sup>†</sup> Of the 37 member states/areas, the 21 Pacific island countries and areas are presented as a block and include American Samoa, Commonwealth of the Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia, Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Pitcairn Islands, Samoa, Solomon Islands, Republic of Tokelau, Tonga, Tuvalu, Vanuatu, and Federated States of Wallis and Futuna. The 16 other member states and areas are Australia, Brunei Darussalam, Cambodia, China, Hong Kong (China), Japan, Lao People's Democratic Republic, Macao (China), Malaysia, Mongolia, New Zealand, Papua New Guinea, Philippines, Republic of Korea, Singapore, and Vietnam.

declared Phase I WPV laboratory containment complete for the region.

**Reported by:** National containment coordinators, Western Pacific Region member states; B Bayutas, S Roesel, World Health Organization Western Pacific Regional Office, Manila, Philippines. C Wolff, Polio Eradication Dept, World Health Organization, Geneva, Switzerland. Task Force for Global Health, Decatur, Georgia. Global Immunization Div, Div of Viral Diseases, National Center for Immunization and Respiratory Diseases, CDC.

Editorial Note: WPR has joined the WHO European Region in completing Phase I WPV laboratory containment activities (4). The WHO Region of the Americas (AMR), the remaining polio-free region, did not initiate containment activities at the time of certification in 1994 because the policies were not yet developed. The AMR RCC has accepted the final Phase 1 reports from 24 (69%) of 35 member states, including the United States. The other 11 AMR countries have reported completion of Phase 1 and are anticipated to submit final reports by the end of 2009. In the three polio-endemic WHO regions (8),<sup>§§</sup> 43 (62%) of 69 polio-free countries and areas have completed Phase I activities.

Multiple challenges were faced in the 10 years required to complete Phase I in the WPR. Prioritization for WPV containment activities weakened in the ministries of health of many countries after regional certification. China and Japan had to access laboratories under the jurisdiction of a wide range of government agencies in addition to the ministries of health. During 2001–2006, identification of vaccine-derived polioviruses (9), which are considered equivalent as WPV for containment purposes, required several WPR countries to resurvey some facilities.

Despite the challenges, successful completion of Phase I activities is achievable even in countries with highly complex laboratory infrastructures. The only polio-free countries with comparable laboratory infrastructures remaining to complete Phase I activities are Egypt and South Africa. India, which remains polioendemic in 2009, also has a complex laboratory infrastructure and will require similar efforts. Tangential benefits of Phase I were noted in the WPR and other regions.

Authorities of many member states found that the national survey and inventory process led to a better understanding of the laboratory infrastructure of the country, a strengthened process for laboratory registration, and an increased awareness of the importance of maintaining biosafety standards.

A major accomplishment in the WPR was a progressive voluntary reduction in number of facilities retaining WPV from 147 provisionally reported in 1999 to 45 in 2008, certified by the ministries of health. Authorities in the four relevant WPR countries have indicated the intention to reduce further the number of facilities holding WPV materials.

Subsequent phases of WPV containment are outlined in the newly developed WHO Global Action Plan to Minimize Poliovirus Facility-Associated Risk in the Post-Eradication/Post-OPV Era (10). A revised draft edition will be available for public review and comment before the end of 2009.<sup>95</sup> This action plan includes containment of oral poliovirus vaccine (OPV) Sabin strains as well, and establishes the goal of reducing the number of facilities holding WPV worldwide to <20 in the post-eradication/post-OPV era, including vaccine manufacturers. Nonviable poliovirus reagents can replace live polioviruses in national surveillance and diagnostic facilities. Phase II of the action plan begins after evident interruption of WPV

<sup>%</sup> African Region, Eastern Mediterranean Region, and South-East Asia Region.

<sup>&</sup>lt;sup>\$\$</sup> Additional information available at http://www.polioeradication.org.

Country/Area	Diagnostic	Teaching/ Research	Industrial	Other/Unknown	Total	Retaining WPV materials
Australia	2,026	197	0	85	2,308	2†
Brunei Darussalam	12	2	0	0	14	
Cambodia	0	10	0	233	243	
China	52,502	1,704	379	1,103	55,688	27†
Hong Kong (China)	190	19	47	0	256	
Japan	10,865	1,280	1,285	639	14,069	<b>1</b> 5†
Lao People's Democratic Republic	23	2	0	1	26	
Macao (China)	9	3	1	1	14	
Malaysia	431	43	0	81	555	
Mongolia	53	6	0	12	71	
New Zealand	60	44	3	2	109	
Pacific island countries and areas§	17	4	0	6	27	
Papua New Guinea	19	2	0	5	26	
Philippines	2,114	40	0	609	2,763	
Republic of Korea	299	427	37	4	767	1
Singapore	83	43	19	38	183	
Vietnam	128	12	1	0	141	
Total	68,831	3,838	1,772	2,819	77,260	45 <sup>†</sup>

TABLE. Number of biomedical facilities surveyed for the presence of wild poliovirus (WPV) materials,\* by country/area and type of facility, 1999–2008, and number retaining WPV materials in 2008 — World Health Organization Western Pacific Region

\* WPV infectious and potentially infectious materials. Additional information available at http://www.polioeradication.org/content/publications/who-vb-03-729.pdf. † Includes 27 laboratories in the Global Polio Laboratory Network: Australia (one), China (25), and Japan (one).

<sup>§</sup> The 21 Pacific island countries and areas are presented as a block and include American Samoa, Commonwealth of the Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia, Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Pitcairn Islands, Samoa, Solomon Islands, Republic of Tokelau, Tonga, Tuvalu, Vanuatu, and Federated States of Wallis and Futuna.

transmission in one of the four remaining endemic countries, during which member states are requested to establish longterm national policies and regulations for destruction and/or containment of WPV materials. Completion of Phase I in all countries of two WHO regions and the majority of countries in the other four regions, as of the end of 2008, provides a solid base for subsequent polio containment phases.

#### References

- World Health Assembly. 52nd session resolution WHA52.8. Eradication of poliomyelitis. Geneva, Switzerland: World Health Organization; 1999. Available at http://apps.who.int/gb/archive/pdf\_files/wha52/ew8.pdf.
- World Health Assembly. 61st session resolution WHA61.1. Poliomyelitis: mechanism for management of potential risks to eradication. Geneva, Switzerland: World Health Organization; 2008. Available at http://apps. who.int/gb/ebwha/pdf\_files/wha61-rec1/a61\_rec1-part2-en.pdf.
- World Health Organization. WHO global action plan for laboratory containment of wild polioviruses. 2nd edition. Geneva, Switzerland: World Health Organization; 2004. Available at http://www.polioeradication.org/content/publications/who-vb-03-729.pdf.
- CDC. National laboratory inventory for global poliovirus containment— European Region, June 2006. MMWR 2006;55:916–8.
- 5. World Health Organization Regional Committee for the Western Pacific. 50th session resolution WPR/RC50.R2. Eradication of poliomyelitis in the region. Manila, Philippines: World Health Organization Regional Committee for the Western Pacific; 1999. Available at http://www.wpro. who.int/rcm/en/archives/rc50/rc\_resolutions/wpr\_rc50\_r02.htm.
- Wang M, Du L, Zhou DH, et al. [Study on the epidemiology and measures for control on severe acute respiratory syndrome in Guangzhou city][Chinese]. Zhonghua Liu Xing Bing Xue Za Zhi 2003;24:353–7.
- Wilder-Smith A, Low JG. Risk of respiratory infections in health care workers: lessons on infection control emerge from the SARS outbreak. Southeast Asian J Trop Med Public Health. 2005;36:481–8.

- CDC. Progress toward interruption of wild poliovirus transmission worldwide, 2008. MMWR 2009;58:308–12.
- 9. CDC. Update on vaccine-derived polioviruses. MMWR 2006;55:1093-7.
- World Health Organization. WHO global action plan to minimize poliovirus facility-associated risk in the post-eradication/post-OPV era [draft]. Geneva, Switzerland: World Health Organization; 2009. Available at http://www.polioeradication.org/content/publications/ gapiiiworkingdraft\_07.pdf.

## Notice to Readers

## National Child Passenger Safety Week – September 12–18, 2009

In 2007, a total of 606 children aged <8 years died and approximately 75,000 were treated in emergency departments for occupant injuries sustained in motor-vehicle crashes in the United States (*1,2*). National Child Passenger Safety Week, September 12–18, 2009, highlights the importance of the correct installation and use of child restraints.

The use of booster seats has been found to reduce the risk for injury by 59% in children aged 4–7 years, compared with use of adult seat belts alone (3). The National Highway Traffic Safety Administration (NHTSA) and CDC recommend placing infants and children in age-, weight-, and heightappropriate child restraints until they are aged  $\geq 8$  years or are 57 inches tall, at which time they can use adult seat belts (4,5). Although no recent data are available on consistent compliance with this recommendation during a specified period, an older study, CDC's Second Injury Control and Risk Survey (ICARIS-2), a national, cross-sectional, random-digit-dial telephone survey conducted July 2001–February 2003, found that 46% of parents of children aged 4–7 years reported their children had used adult seat belts all of the time during the preceding 30 days (6).

Although the use of child restraints is mandatory in all 50 states and the District of Columbia, the age at which children can transition to adult safety belts varies by state. Twenty-three states allow children to use adult seat belts by age  $\leq 7$  years, with four states allowing adult seat belt use for children at age 5 years and one state allowing adult seat belt use for children aged 4 years (7).

Information about National Child Passenger Safety Week activities and child passenger safety is available from NHTSA at http://www.nhtsa.gov/cps and from CDC at http://www. cdc.gov/motorvehiclesafety/child\_passenger\_safety/childseatspot.html.

#### References

- 1. National Highway Traffic Safety Administration. Fatality Analysis Reporting System (FARS) encyclopedia. Available at http://www-fars. nhtsa.dot.gov/main/index.aspx.
- 2. CDC. WISQARS nonfatal injury reports. Available at http://webappa. cdc.gov/sasweb/ncipc/nfirates.html.
- Durbin DR, Elliott MR, Winston FK. Belt-positioning booster seats and reduction in risk of injury among children in vehicle crashes. JAMA 2003;28:2835–40.
- 4. National Highway Traffic Safety Administration. Child passenger safety. A parent's primer. Available at http://www.nhtsa.dot.gov/staticfiles/ DOT/NHTSA/Traffic%20Injury%20Control/Articles/Associated %20Files/4StepsFlyer.pdf.
- CDC. Child passenger safety fact sheet. Available at http://www.cdc.gov/ motorvehiclesafety/child\_passenger\_safety/cps-factsheet.html.
- 6. CDC. Second injury control and risk survey (ICARIS-2). Available at http://www.cdc.gov/ncipc/osp/icaris2.htm.
- 7. Insurance Institute for Highway Safety, Highway Loss Data Institute. Child restraint/belt laws. Available at http://www.iihs.org/laws/state\_laws/ restrain.html.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending September 5, 2009 (35th week)\*

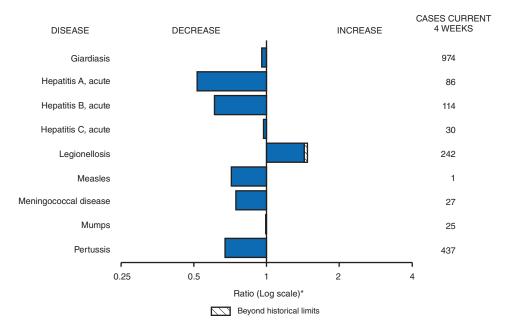
	Current	Cum	5-year weekly			ases re evious	eported years		States reporting cases
Disease	week	2009	average <sup>†</sup>	2008	2007	2006	2005	2004	during current week (No.)
Anthrax	_	_	0	_	1	1	_	_	
Botulism:									
foodborne	—	12	1	17	32	20	19	16	
infant	_	31	2	109	85	97	85	87	0.4.(4)
other (wound and unspecified) Brucellosis	1	17 63	1 2	19 80	27	48	31	30	
Chancroid	3	19	2	80 25	131 23	121 33	120 17	114 30	PA (1), FL (1), CA (1)
Cholera	_	4	0	25	23	9	8	6	
Cyclosporiasis§	2	99	3 3	139	93	137	543	160	FL (2)
Diphtheria	_	_	_	_	_	_	_	_	
Domestic arboviral diseases <sup>§,¶</sup>									
California serogroup	—	9	5	62	55	67	80	112	
eastern equine	—	1	1	4	4	8	21	6	
Powassan	_	1	0	2	7	1	1	1	
St. Louis	_	7	1	13	9	10	13	12	
western equine Ehrlichiosis/Anaplasmosis <sup>§</sup> ,**:	—			_		_		_	
Ehrlichia chaffeensis	3	473	20	1,137	828	578	506	338	NY (1), SC (1), CA (1)
Ehrlichia ewingii	_	3	0	9			_		
Anaplasma phagocytophilum	6	341	17	1,026	834	646	786	537	NY (5), NE (1)
undetermined	—	75	5	180	337	231	112	59	
Haemophilus influenzae, <sup>††</sup>									
invasive disease (age <5 yrs):									
serotype b	_	16	0	30	22	29	9	19	
nonserotype b unknown serotype	1 1	141 146	2 3	244 163	199 180	175 179	135 217	135 177	MN (1) MD (1)
Hansen disease <sup>§</sup>	_	45	1	80	101	66	87	105	
Hantavirus pulmonary syndrome <sup>§</sup>	_		1	18	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal§	_	124	8	330	292	288	221	200	
Hepatitis C viral, acute	7	1,323	15	878	845	766	652	720	MI (1), MD (1), WV (1), KY (1), OK (1), WA (1),
HIV infection, pediatric (age <13 years)§§	_	_	2	_	_	_	380	436	CA (1)
nfluenza-associated pediatric mortality <sup>§</sup> , <sup>¶¶</sup>	1	113	0	90	77	43	45		MS (1)
Listeriosis Measles***	6	434	21	759	808	884	896	753	NY (3), MI (1), OK (1), CA (1)
Measles Meningococcal disease, invasive <sup>†††</sup> :	_	55	1	140	43	55	66	37	
A, C, Y, and W-135	2	183	4	330	325	318	297	_	MN (1), OK (1)
serogroup B	_	96	2	188	167	193	156	_	
other serogroup	_	18	0	38	35	32	27	_	
unknown serogroup	4	317	8	616	550	651	765	_	PA (1), MD (1), CA (2)
Mumps	7	252	13	454		6,584	314	258	NY (2), NYC (3), IL (1), NV (1)
Novel influenza A virus infections	—	şşş	0	2	4	N	N	N	
	_	6	0	3	7	17	8	3	
Poliomyelitis, paralytic Polio virus infection, nonparalytic <sup>§</sup>	_	_	_	_	_	N	1 N	N	
Polici virus infection, nonparalytic <sup>3</sup>	_	7	0	8	12	21	N 16	12	
Q fever total <sup>§,1111</sup> :	1	55	3	124	171	169	136	70	
acute	1	46	1	110				_	NE (1)
chronic	_	9	_	14	_	_	_	_	
Rabies, human	_	1	0	2	1	3	2	7	
Rubella****	—	4	0	16	12	11	11	10	
Rubella, congenital syndrome	_	1	_	—	_	1	1	—	
SARS-CoV <sup>§,††††</sup>	_	—	_	—	_	_	_	—	
Smallpox <sup>§</sup>	2	99	1	157	100	125	129	100	
Streptococcal toxic-shock syndrome <sup>§</sup> Syphilis, congenital (age <1 yr)	_	99 117	8	157 434	132 430	349	329	132 353	CT (2)
retanus	_	6	o 1	434	430	41	27	353	
Foxic-shock syndrome (staphylococcal)§	2	54	2	71	92	101	90	95	NY (1), CA (1)
Frichinellosis	_	12	0	39	5	15	16	5	() <i>n</i> = · · (·)
Fularemia	1	42	4	123	137	95	154	134	AR (1)
Typhoid fever	3	228	11	449	434	353	324	322	CA (3)
/ancomycin-intermediate Staphylococcus aureus§	3	50	1	63	37	6	2		NY (1), FL (2)
/ancomycin-resistant Staphylococcus aureus§	14	314	— 11	492	2	1	3	1	OH (1), MD (1), FL (5), AZ (3), WA (2), CA (2)
Vibriosis (noncholera Vibrio species infections)§					549	N	N	N	

See Table I footnotes on next page.

# TABLE I. (Continued) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending September 5, 2009 (35th week)\*

- -: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts.
- \* Incidence data for reporting year 2008 and 2009 are provisional, whereas data for 2004, 2005, 2006, and 2007 are finalized.
- <sup>†</sup> Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. The total sum of incident cases is then divided by 25 weeks. Additional information is available at http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf.
  <sup>§</sup> 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 information is provided to the provided to the provided information.
- influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/epo/dphsi/phs/infdis.htm. <sup>1</sup> Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.
- \*\* The names of the reporting categories changed in 2008 as a result of revisions to the case definitions. Cases reported prior to 2008 were reported in the categories: Ehrlichiosis, human monocytic (analogous to *E. chaffeensis*); Ehrlichiosis, human granulocytic (analogous to *Anaplasma phagocytophilum*), and Ehrlichiosis, unspecified, or other agent (which included cases unable to be clearly placed in other categories, as well as possible cases of *E. ewingii*).
- <sup>++</sup> Data for *H. influenzae* (all ages, all serotypes) are available in Table II.
- <sup>§§</sup> 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.
- 11 Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. One hundred and twelve influenza-associated pediatric deaths occurring during the 2008–09 influenza season have been reported.
- \*\*\* No measles cases were reported for the current week.
- <sup>+++</sup> Data for meningococcal disease (all serogroups) are available in Table II.
- §§§ CDC discontinued reporting of individual confirmed and probable cases of novel influenza A (H1N1) viruses infections on July 24, 2009. CDC will report the total number of novel influenza A (H1N1) hospitalizations and deaths weekly on the CDC H1N1 influenza website (http://www.cdc.gov/h1n1flu).
- In 2008, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.
- \*\*\*\* No rubella cases were reported for the current week.
- titt Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector Borne, and Enteric Diseases.

# FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals September 5, 2009, 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 Deborah A. Adams Rosaline Dhara Willie J. Anderson Michael S. Wodajo Jose Aponte Pearl C. Sharp Lenee Blanton Version Start

(35th week)*															
			Chlamyd	ia†				iodomy	cosis				otosporid	iosis	
		Prev 52 w					Previ						vious veek		
Reporting area	Current week	Med	Max	Cum 2009	Cum 2008	Current week	52 we Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008
United States	11,558	22,433	25,700	753,367	791,568	186	156	472	7,398	4,349	108	124	401	4,084	4,809
New England	688	759	1,655	27,100	24,759	_	0	1	1	1	_	5	30	198	285
Connecticut Maine <sup>§</sup>	221 34	224 48	1,306 75	7,809 1,634	7,095 1,689	N N	0 0	0	N N	N N	—	0 0	23 5	23 22	41 30
Massachusetts	34	334	945	13,313	11,911	N	0	0	N	N	_	2	13	73	116
New Hampshire Rhode Island <sup>§</sup>	1	39 63	63 244	1,162 2,392	1,378 1,898	_	0 0	1 0	1	1	_	1 0	4 3	39 4	47 7
Vermont§	46	21	53	790	788	N	0 0	0	N	N	_	1	7	37	44
Mid. Atlantic	2,613	2,913	6,734	103,410	98,562		0	0	<u> </u>		15	13	28	484	481
New Jersey New York (Upstate)	293 728	415 579	838 4,563	13,952 20,745	15,045 18,114	N N	0 0	0 0	N N	N N	10	0 4	3 13	8 138	29 157
New York City	1,153	1,136	3,130	40,202	37,865	N	0	0	N	N		1 7	8	45	72
Pennsylvania E.N. Central	439 1,593	824 3,494	1,072 4,382	28,511 113,700	27,538 129,441	N	0 0	0 4	N 22	N 34	5 11	28	19 120	293 908	223 1,246
Illinois	446	1,088	1,367	35,040	39,159	Ν	0	0	N	N	—	2	11	77	129
Indiana Michigan	365 720	418 851	713 1.332	15,219 30.854	14,459 30,580	N	0 0	0 3	N 11	N 25	2	3 5	17 13	128 167	125 166
Ohio	62	798	1,300	21,173	30,826		0	2	11	9	9	9	59	278	333
Wisconsin W.N. Central	418	349 1,320	494 1,658	11,414 43.513	14,417 44,712	N	0 0	0 1	N 7	N 1	8	8 17	40 47	258 638	493 646
lowa	129	192	256	6,527	5,852	N	Ō	Ó	Ň	Ň		4	12	149	205
Kansas Minnesota	1	154 258	549 342	5,289 7,983	6,159 9.665	N	0 0	0	N	N	_	1 4	5 33	50 182	55 132
Missouri	288	509	645	17,546	16,365		0	1	7	1	3	3	12	118	120
Nebraska <sup>ş</sup> North Dakota	_	101 25	219 60	3,423 772	3,565 1,202	N N	0 0	0	N N	N N	5	2 0	5 10	64 7	76 2
South Dakota	_	57	81	1,973	1,904	Ν	0	0	N	Ν	—	2	6	68	56
S. Atlantic Delaware	1,831 91	4,136 84	5,453 180	131,289 3,192	161,296 2,484	_	0 0	1	5 1	3 1	24 1	21 0	49 1	680 6	579 10
District of Columbia	126	127	226	4,586	4,661		0	ò	_	_	—	0	2	2	9
Florida Georgia	580 4	1,413 753	1,597 1.909	49,125 20.138	47,905 28.222	N N	0	0 0	N N	N N	17 6	8 6	35 23	247 256	254 159
Maryland§	299	430	772	14,292	15,533	—	Ő	1	4	2	_	1	5	29	25
North Carolina South Carolina§	_	0 550	1,193 1,424	16,142	22,309 17,186	N N	0 0	0 0	N N	N N	_	1 1	16 6	58 32	17 34
Virginia <sup>§</sup> West Virginia	683 48	616 68	926 101	21,371 2,443	20,826 2,170	N N	0	0	N N	N N	_	1 0	5 2	40 10	53 18
E.S. Central	1,641	1,751	2,209	61,888	56,390		0	0			5	3	10	127	106
Alabama§	<b>1</b> 4	475	624	15,693	16,993	N	Ō	0	N	N	_	1	4	36	48
Kentucky Mississippi	437 565	256 442	458 841	9,057 16,464	7,824 13,388	N N	0 0	0 0	N N	N N		1 0	4 3	39 8	23 11
Tennessee§	625	575	809	20,674	18,185	N	0	0	Ν	N	3	1	5	44	24
W.S. Central Arkansas <sup>§</sup>	820 239	2,883 273	5,300 418	100,336 9,723	100,239 9,653	N	0	1 0	1 N	3 N	27 2	11 1	271 10	305 30	793 45
Louisiana	290	420	1,134	14,457	14,640	—	Ö	1	1	3	2	1	6	29	40
Oklahoma Texas§	291	178 1,967	2,735 2,520	9,559 66,597	8,966 66,980	N N	0 0	0 0	N N	N N	5 18	2 7	16 258	80 166	55 653
Mountain	537	1,449	2,145	47,625	49,676	163	105	369	5,730	2,936	1	9	25	310	397
Arizona Colorado	67	467 376	735 728	15,695 10,949	16,502 11,749	163 N	104 0	365 0	5,662 N	2,858 N	_	1 2	4 10	25 94	59 74
Idaho <sup>§</sup>	_	68	313	2,373	2,690	N	0	0	N	N	1	1	7	53	42
Montana <sup>ş</sup> Nevada <sup>ş</sup>	276	54 167	88 455	1,903 6,780	2,059 6,551	N	0	0 3	N 40	N 43	_	0	4 4	27 14	38 11
New Mexico <sup>§</sup> Utah	163	177 103	540 251	5,910 2,679	5,169 3,975	_	0 0	2 2	8 20	23 10	_	2 0	10 6	69 13	134 24
Wyoming§	31	34	97	1,336	981	_	0	1	20	2	_	0	2	15	15
Pacific	1,417	3,645	4,689	124,506	126,493	23	41	172	1,632	1,371	17	11	24	434	276
Alaska California	1,279	96 2,803	199 3,599	3,071 96,945	3,153 98,369	N 23	0 41	0 172	N 1,632	N 1,371	9	0 6	1 20	4 256	3 161
Hawaii Orogon <sup>§</sup>	115	119 201	247 631	3,942	3,895 6,671	N N	0 0	0	N	N	2	0 3	1 8	1 121	1 50
Oregon <sup>§</sup> Washington	23	414	571	6,308 14,240	14,405	N	0	0	N	N	6	1	6	52	50 61
American Samoa	—	0	0	_	73	Ν	0	0	Ν	Ν	Ν	0	0	Ν	Ν
C.N.M.I. Guam	_	2	8	_	107	_	0	0	_	_	_	0	0	_	_
Puerto Rico	—	130	332	5,016	4,896	Ν	0	0	Ν	Ν	Ν	0	0	Ν	Ν
U.S. Virgin Islands	_	9	17	290	473	_	0	0			_	0	0	_	

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

			Giardias	is				Gonorrhe	ea		Ha		s <i>influenz</i> s, all sero		ve
			vious					vious					/ious		
Reporting area	Current week	Med	veeks Max	Cum 2009	Cum 2008	Current week	Med	weeks Max	. Cum 2009	Cum 2008	Current week	Med	veeks Max	Cum 2009	Cum 2008
United States	219	321	641	10,833	11,487	2,989	5,358	7,164	178,307	223,791	25	57	124	2,013	1,978
New England	5	27	55	828	1,036	88	95	301	3,246	3,464	2	3	16	133	114
Connecticut Maine <sup>§</sup>	5	5 3	14 12	162 127	224 109	43 3	46 2	275 9	1,486 90	1,607 63	2	0	12 2	42 14	27 9
Massachusetts	_	10	27	318	436	42	39	112	1,345	1,469	_	2	5	64	55
New Hampshire Rhode Island <sup>§</sup>	_	3 1	10 8	104 35	105 61	_	2 6	6 19	70 225	73 226	_	0	2 7	7 3	9 6
Vermont§	_	3	15	82	101	_	1	4	30	26	_	0	1	3	8
Mid. Atlantic	43	62	116	2,007	2,105	586	588	1,138	20,720	21,975	6	12	25	428	369
New Jersey New York (Upstate)	27	7 24	17 81	173 815	347 696	63 207	87 106	123 664	2,904 3.854	3,616 4.058	2	2 3	7 20	82 103	63 107
New York City		16	30	494	558	204	210	577	7,451	6,926	—	2	11	82	63
Pennsylvania E.N. Central	16 22	16 45	46 90	525 1,451	504 1,727	112 530	190 1,079	267 1,627	6,511 35,233	7,375 46,176	4	4 9	10 28	161 366	136 319
Illinois		45 9	90 25	270	476	175	335	494	10,750	13,633	_	3	20	102	100
Indiana Michigan	N 1	0 12	11 22	N 390	N 372	132 195	146 284	252 493	5,049 9,957	5,851 11,253	_	1 0	22 3	49 16	56 17
Ohio	21	16	31	534	552	28	264 251	493	9,957 6,566	11,146	_	2	6	73	99
Wisconsin	_	8	19	257	327	_	91	140	2,911	4,293	—	2	20	126	47
W.N. Central lowa	13	25 6	143 18	1,008 199	1,267 203	114 17	286 34	393 53	9,358 1,114	11,311 1,019	5	3 0	15 0	112	145 2
Kansas		2	7	70	107	2	35	83	1,328	1,498	—	0	2	11	17
Minnesota Missouri	12	0 7	106 25	250 316	386 334	95	43 129	65 183	1,314 4,429	2,132 5,409	5	0	10 4	40 37	43 53
Nebraska§	1	3	9	114	138	—	23	53	887	963	—	0	4	19	21
North Dakota South Dakota	_	0 1	16 7	9 50	10 89	_	2 7	7 20	43 243	76 214	_	0	4 0	5	9
S. Atlantic	39	70	109	2,460	1,861	533	1,177	2,042	37,640	56,789	11	13	31	514	506
Delaware District of Columbia	_	0 0	3 5	18 16	28 44	28 53	16 50	37 89	631 1,827	762 1,723	_	0 0	1 2	3	6 5
Florida	33	37	59	1,287	775	186	416	486	14,276	16,082	2	4	10	174	131
Georgia Maryland§	2	13 5	67 9	650 163	464 180	3 88	251 121	876 212	6,840 3,823	10,464 4,128	3 3	3 1	9 6	113 64	104 74
North Carolina	N	0	0	Ν	N		0	470	· —	9,812	_	1	17	57	54
South Carolina§ Virginia§	4	2 8	8 31	57 238	81 239	161	171 147	413 308	5,070 4,821	6,297 7,001	2	1	5 6	36 42	46 68
West Virginia	_	1	3	31	50	14	10	23	352	520	1	0	3	25	18
E.S. Central	3	8	20	232	308	456	514	714	17,795	20,485	—	3	9	118	103
Alabama <sup>§</sup> Kentucky	1 N	3 0	12 0	109 N	178 N	6 108	143 84	216 135	4,432 2,631	6,705 3,098	_	0	4 5	26 18	16 6
Mississippi	N	0 4	0	N	N	179	142	252	5,138	4,879	_	0	1	4 70	11
Tennessee <sup>§</sup> W.S. Central	2 13	4 9	13 22	123 298	130 267	163 290	160 865	273 1,383	5,594 29,227	5,803 34,539	_	2 2	6 22	70 79	70 90
Arkansas§	3	2	8	91	88	87	83	134	2,997	3,155	_	0	2	13	11
Louisiana Oklahoma	4 6	3 4	8 18	96 111	99 80	96 107	146 70	420 613	4,662 3,328	6,343 3,299	_	0	1 20	12 53	8 64
Texas§	Ň	0	0	N	N		551	725	18,240	21,742	—	ò	1	1	7
Mountain	19	26	62	883	998	119	176	313	5,652	7,756	1	5 1	11	171	222
Arizona Colorado	4	3 9	10 27	134 311	84 340	16	56 57	88 152	1,784 1,616	2,336 2,302	1	1	7 6	60 53	88 42
Idaho <sup>§</sup>	4	3 2	10 10	112 71	125	_	2 1	13 6	67	121	—	0 0	1	4 1	12 2
Montana <sup>§</sup> Nevada <sup>§</sup>	10	2	8	71	61 72	75	30	91	48 1,213	78 1,549	_	0	2	14	14
New Mexico§	1	1	7	58	76	27	24	52	746	939	_	0	3	16	32
Utah Wyoming <sup>§</sup>	_	4 1	15 4	91 31	210 30	1	5 1	15 7	126 52	347 84	_	1 0	2 1	20 3	29 3
Pacific	62	50	130	1,666	1,918	273	550	765	19,436	21,296	_	2	8	92	110
Alaska California	47	2 34	10 57	64 1,131	59 1,285	236	15 468	24 658	512 16,309	356 17,489	_	0	3 3	13 22	15 38
Hawaii	_	0	2	9	31	_	12	21	416	418	_	0	3	22	14
Oregon <sup>§</sup> Washington	3 12	7 7	17 74	224 238	302 241	33 4	20 46	48 80	682 1,517	822 2,211	_	1 0	3 2	32 3	41 2
American Samoa		0	0		_	_	0	0		_, 3	_	0	0	_	_
C.N.M.I. Guam			0	—	—	—	1	15	_	45	_	0	0	_	—
Puerto Rico	1	2	15	63	132	_	4	24	165	45 194	_	0	1	2	1
U.S. Virgin Islands	_	0	0	_	_	—	2	7	80	91	Ν	0	0	N	N

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

## **MMWR**

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 5, 2009, and August 30, 2008 (35th week)\*

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

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

\* Incidence data for reporting year 2008 and 2009 are provisional.

<sup>†</sup> Data for acute hepatitis C, viral are available in Table I.

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

		L	yme disea	se				Malaria			IVIE		cal diseas		
			vious veeks				Prev 52 w	ious					/ious /eeks		
Reporting area	Current week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Мах	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008
United States	410	486	1,637	17,950	23,066	12	23	46	740	778	6	17	48	614	863
New England	10	91	327	2,505	8,678	_	0	5	27	39	_	0	4	20	23
Connecticut Maine <sup>§</sup>	10	0 8	105 73	467	2,984 312	_	0	4	5 1	10 1	_	0	1	2 3	1 4
Massachusetts	_	24	125	1,041	3,729	—	0	4	16	19	—	0	3	11	15
New Hampshire Rhode Island <sup>§</sup>	_	13 0	73 78	750 54	1,255 119	_	0	1	2 1	3 2	_	0	1	1	2 1
Vermont§	_	5	35	193	279	_	Ő	1	2	4	_	ŏ	1	1	_
Mid. Atlantic	346	246	1,401	11,230	9,198	1	5	17	167	209	1	2	5	69	96
New Jersey New York (Upstate)	229	35 87	263 1,368	2,621 2,891	2,767 2,982	1	0 1	3 10	36	52 21	_	0	2 2	8 17	13 25
New York City		2	33	58	551	_	3	11	95	109	_	0	2	11	19
Pennsylvania	117	53	601	5,660	2,898		1	4	36	27	1	1	4	33	39
E.N. Central Illinois	7	19 1	174 10	1,459 80	1,828 96	1	3 1	8 4	101 44	111 59	_	3 1	8 6	99 25	149 52
Indiana		1	4	33	30	—	0	1	7	5	—	0	3	24	22
Michigan Ohio	5 2	1 1	11 5	74 32	54 28	1	0 1	3 6	17 29	13 22	_	0	5 3	18 26	25 32
Wisconsin	_	15	160	1,240	1,620	_	0	2	4	12	—	Õ	1	6	18
W.N. Central	1	5	336	163	438	2	1	7	37	44	1	1	9	49	76
lowa Kansas	_	1 0	11 4	64 15	89 6	_	0 0	3 2	6 3	5 4	_	0	1 2	6 7	15 4
Minnesota	_	1	326	67	329	_	0	7	13	19	1	0	4	10	21
Missouri Nebraska§	1	0 0	2 3	4 12	3 8	1	0	2 1	9 5	9 7	_	0	3 1	18 5	23 10
North Dakota	_	0	10	_	_	_	0	0	_	—	_	0	3	1	1
South Dakota	_	0	1	1	3	_	0	1	1	_	_	0	1	2	2
S. Atlantic Delaware	36 5	63 12	205 62	2,366 698	2,701 592	2	6 0	17 1	233 3	195 2	1	3 0	9 1	113 2	119 1
District of Columbia	_	0	5	18	53		0	2	5	2	—	0	0	—	—
Florida Georgia	_4	1 0	10 6	48 39	40 31	2	2	7 5	69 49	34 45	_	1 0	4 2	42 21	41 14
Maryland§	27	27	130	1,113	1,355	_	1	8	51	52	1	0	1	6	12
North Carolina South Carolina <sup>§</sup>	_	1 0	14 3	56 18	10 18	_	0	5 1	21 2	21 7	_	0	5 1	18 10	11 19
Virginia§	_	12	61	312	498	_	1	4	31	30	_	Ő	2	9	16
West Virginia	_	0	17	64	104	_	0	1	2	2	—	0	2	5	5
E.S. Central Alabama <sup>§</sup>	_	0 0	2	18 2	37 8	_	0	3 3	23 6	13 3	_	0	3 1	20 5	39 5
Kentucky	_	0	1	1	4	_	0	2	8	4	_	0	1	4	7
Mississippi Tennessee <sup>§</sup>	—	0 0	0 2	— 15	1 24	—	0	1 3	1 8	1 5	—	0	1	2 9	9 18
W.S. Central	5	1	21	34	68	1	1	8	34	49	1	1	12	58	93
Arkansas§	_	Ó	0		—	_	ò	1	3	_	_	Ó	2	5	13
Louisiana Oklahoma	_	0 0	1 2	_	_2	1	0	1 2	3 2	2 2	1	0	3 3	11 6	19 12
Texas§	5	1	21	34	66	_	1	7	26	45	_	1	9	36	49
Mountain	_	1	13	31	4 <u>1</u>	1	0	4	21	20	_	1	4	49	46
Arizona Colorado	_	0 0	2 1	3 3	7	1	0 0	2 3	5 8	9 3	_	0	2 2	13 15	6 9
Idaho§	_	0	2	9	6	_	0	1	1	_	_	0	1	5	4
Montana <sup>§</sup> Nevada <sup>§</sup>	_	0 0	13 2	2 12	4 10	_	0	3 1	4	4	_	0	2 2	4 4	4 7
New Mexico§	_	Ő	1	1	8	_	ŏ	1	_	2	_	Ő	1	3	7
Utah Wyoming <sup>§</sup>	—	0 0	1 1	- 1	2 2	_	0 0	2 0	3	_2	_	0 0	1 2	1 4	7 2
Pacific	5	3	13	י 144	2 77	4	3	10	97	98	2	3	2 14	4 137	2 222
Alaska		0	1	2	5		0	1	2	4	—	Ō	2	3	6
California Hawaii	5 N	3 0	12 0	125 N	39 N	3	2 0	8 1	72 1	70 2	2	2 0	8 1	92 3	163 4
Oregon <sup>§</sup>		0	3	12	26	_	0	2	9	4	_	0	6	26	26
Washington	—	0	12	5	7	1	0	3	13	18	—	0	6	13	23
American Samoa C.N.M.I.	N	0	0	N	N	_	0	0	_	_	_	0	0	_	_
Guam	_	0	0	_	_	_	0	2	_	1	_	0	0	_	_
Puerto Rico	N	0	0	N	N	—	0	1	2	2	—	0	1	—	2
U.S. Virgin Islands	N	0	0	N	N	—	0	0		_		0	0	_	

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

(35th week)*															
			Pertussis					bies, anir	nal		R		untain spo	tted fever	
			vious veeks					vious reeks					vious veeks		
Reporting area	Current week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008
United States	87	270	1,697	8,643	6,022	57	68	138	2,432	2,909	7	33	179	980	1,592
New England	—	15	29	386	683	10	8	14	224	272	—	0	2	8	4
Connecticut Maine <sup>†</sup>	_	1	4 10	26 64	39 23	8 2	3 1	10 5	101 36	130 36	_	0	0 2	4	1
Massachusetts	—	8	21	224	537	_	0	0	_	_	—	0	1	3	1
New Hampshire Rhode Island <sup>†</sup>	_	1 0	7 5	53 11	21 55	_	0 0	7 3	24 27	29 24	_	0 0	0 2	_	1 1
Vermont <sup>†</sup>	—	0	2	8	8	—	1	4	36	53	—	0	1	1	—
Mid. Atlantic New Jersey	6	23 4	64 12	755 128	699 144	20	14 0	27 0	428	632	1	1 0	29 2	49	102 70
New York (Upstate)	2	5	41	136	265	20	8	20	310	343	1	0	29	10	12
New York City Pennsylvania	1 3	0 13	21 33	53 438	49 241	_	0 5	2 17	118	12 277	_	0 0	4 2	21 18	9 11
E.N. Central	17	52	238	1,759	985	8	2	19	177	184	_	- 1	6	55	118
Illinois	_	12 5	45 158	268	190 35	3	1 0	9 6	71	77	_	1 0	6 3	33 4	86
Indiana Michigan	4	11	26	171 452	157	_	1	5	17 49	4 63	_	0	2	4 5	6 3
Ohio Wisconsin	13	20 3	57 11	774 94	514 89	5 N	0 0	7 0	40 N	40 N	—	0 0	3 0	13	23
Wisconsin W.N. Central	17	34	872	94 1.237	499	4	5	17	198	209	_	4	25	207	349
lowa		6	21	122	76	—	Ō	5	24	16	_	0	2	4	7
Kansas Minnesota	_	4 0	12 808	132 165	40 153	1	1 0	6 11	56 40	50 34	_	0 0	1	2 2	_
Missouri	14	20	51	678	159	3	1	5	47	47	_	4	24	189	324
Nebraska† North Dakota	3	4 0	32 24	108 17	51 1	_	0 0	2 9	4	28 17	_	0 0	2 1	10	15
South Dakota	—	0	10	15	19	—	0	4	27	17	—	0	0	—	3
S. Atlantic Delaware	31	27 0	71 2	1,074 10	580 11	3	25 0	111 0	1,057	1,211	_	13 0	42 3	365 14	526 26
District of Columbia	_	0	2	2	3	_	0	0	_	_	_	0	0	—	6
Florida Georgia	23	8 3	32 11	392 106	173 61	_	0	95 71	121 262	138 272	_	0 1	2 6	5 34	9 64
Maryland <sup>†</sup>	1	3	10	76	74	_	6	14	226	312	—	1	3	27	66
North Carolina South Carolina <sup>†</sup>	2	0 3	65 17	204 151	79 83	N	0	4 0	N	N	_	8 0	36 9	225 15	222 28
Virginia <sup>†</sup>	3	3	24	109	89	_	10	23	364	424	_	2	9	42	98
West Virginia	2	0	5	24	7	3	2	6 7	84	65	_	0 4	1	3	7
E.S. Central Alabama <sup>†</sup>	_2	14 4	33 19	548 202	216 28	1	2 0	0	70	131	3	4	19 6	170 38	236 61
Kentucky Mississippi	2	6 1	15 4	178 40	58 76	1	1 0	4 2	36	32 2	_	0 0	1	1 7	1 9
Tennessee <sup>†</sup>	_	3	14	128	54	_	1	4	34	97	3	2	15	124	165
W.S. Central	_	55	389	1,748	960	_	0	13	45	74	3	1	161	105	224
Arkansas† Louisiana	_	4 2	38 8	155 90	58 59	_	0	5 0	23	41	3	0	61 1	47 2	44 5
Oklahoma	—	0	45	36	30	—	Ö	13	21	31	—	0	98	44	142
Texas <sup>†</sup> Mountain	1	41 17	304 31	1,467 571	813 593	_	0 1	1 9	1 57	2 61	_	0 1	6 3	12 19	33 30
Arizona	_	4	10	144	161	N	Ó	õ	N N	N	_	Ó	2	4	8
Colorado Idaho†	1	5 1	12 5	193 54	109 22	_	0	0 2	_	7	_	0	0	1	1
Montana <sup>†</sup>	_	Ö	4	12	74	_	Õ	4	16	7	_	Ō	2	8	3
Nevada† New Mexico†	_	0 1	3 10	10 37	26 32	_	0 0	1 2	4 16	9 23	_	0 0	1	1	2 3
Utah	—	3	19	113	158	—	0	6	4	4	—	0	1	1	5
Wyoming <sup>†</sup>		0	5	8	11		0	4	17	11	_	0	2	3	7
Pacific Alaska	13	19 1	98 21	565 31	807 108	11	5 0	12 2	176 10	135 12	N	0 0	1 0	2 N	3 N
California Hawaii	2	5 0	19 3	143 22	366 8	10	4 0	12 0	152	116	N	0 0	1 0	2 N	N
Oregon <sup>†</sup>	4	3	16	175	122	1	Ō	3	14	7		0	0		3
Washington	7	6	76	194	203		0	0		_		0	0		
American Samoa C.N.M.I.	_	0	0	_	_	N	0	0	N	N	N	0	0	N	N
Guam	_	0	0	_	—	_	0	0		45	N	0	0	N	N
Puerto Rico U.S. Virgin Islands	_	0 0	1 0	1	_	N	1 0	3 0	27 N	45 N	N N	0 0	0 0	N N	N N
		· ·	· ·			11	0	0	14	14	1.4	v	·	14	

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

		s	almonello	sis		Shig	ja toxin-pi	oducing	E. coli (S1	EC)†		5	Shigellosis		
			vious					ious					vious		
Reporting area	Current week	52 v Med	veeks Max	Cum 2009	Cum 2008	Current week	52 w Med	eeks Max	Cum 2009	Cum 2008	Current week	52 v Med	veeks Max	Cum 2009	Cum 2008
United States	788	900	2,323	27,342	30,111	101	86	255	2,573	3,214	164	317	1,268	9,929	12,954
New England	_	30	303	1,316	1,642	_	3	51	137	176	_	3	31	150	167
Connecticut Maine <sup>§</sup>	_	0 2	277 7	277 83	491 103	_	0 0	51 3	51 14	47 11	_	0 0	26 1	26 2	40 18
Massachusetts New Hampshire	_	20 3	39 42	631 198	813 104	_	1 1	6 3	41 23	85 14	_	2 0	15 3	101 8	92 4
Rhode Island§	_	2	11	87	67	—	Ó	1	—	7	_	0	1	8	10
Vermont <sup>§</sup> Mid. Atlantic	77	1 91	5 182	40 2,952	64 3,812	 51	0 6	6 16	8 268	12 338	21	0 56	2 79	5 1,878	3 1,647
New Jersey	_	11	41	226	912	_	1	5	24	103	_	13	35	391	555
New York (Upstate) New York City	54	24 18	66 49	869 712	866 844	6	3 1	9 5	90 39	109 35	11	5 9	23 23	156 267	432 529
Pennsylvania	23	29	66	1,145	1,190	45	1	5	115	91	10	24	61	1,064	131
E.N. Central Illinois	35	90 25	141 50	3,144 810	3,479 1,020	7	12 1	74 10	420 65	509 84	7	65 13	132 25	1,841 362	2,483 710
Indiana Michigan	8	8 18	50 29	243 647	404 656	2	1 3	7 43	39 98	61 92	3	1 5	21 24	38 158	490 88
Ohio Wisconsin	27	28 12	52 30	1,027 417	878 521	5	3	15 10	100 118	120 152	4	36 11	80 42	931 352	937 258
Wisconsin W.N. Central	39	51	109	1,825	1,936	11	12	38	494	567	14	15	42	601	636
lowa Kansas	_	7 6	16 19	284 225	306 311	_	2 1	14 7	116 30	149 31	_	2 3	12 11	47 147	114 25
Minnesota	15	12	51	439	504	8	2	19	148	111	4	2	14	58	214
Missouri Nebraska <sup>§</sup>	18 6	12 5	31 41	416 267	516 163	3	2 2	10 6	81 64	122 118	8 2	3 0	40 3	324 19	171 5
North Dakota South Dakota	_	0 3	30 22	40 154	31 105	_	0	28 12	3 52	1 35	_	0 0	9 1	3 3	32 75
S. Atlantic	275	262	440	7,444	7,284	7	13	30	415	569	29	47	85	1,558	2,179
Delaware District of Columbia	1	2 0	8 5	70 20	104 47	_	0 0	2 1	10 1	9 5	_	1 0	8 2	72 6	7 15
Florida Georgia	179 51	110 39	197 96	3,513 1,408	2,993 1,423	3 1	3 1	7 4	112 49	99 65	9 12	8 13	24 30	304 451	616 806
Maryland§	15	16	26	483	567	3	2	8	58	93	6	6	14	250	66
North Carolina South Carolina§	26	25 14	104 54	778 439	697 655	_	2 0	21 3	74 20	59 31	2	6 4	27 14	251 81	99 427
Virginia <sup>§</sup> West Virginia	3	20 4	88 23	577 156	654 144	_	2 0	16 3	73 18	178 30	_	5 0	59 3	137 6	116 27
E.S. Central	26	56	140	1,758	2,147	3	4	12	144	187	8	19	58	571	1,352
Alabama <sup>ş</sup> Kentucky	5 8	15 10	40 18	426 335	610 298	1	1 2	4 7	33 52	48 59	3	4 2	11 25	97 143	321 207
Mississippi Tennessee <sup>§</sup>	 13	14 14	57 62	509 488	713 526	2	0 2	1 5	6 53	4 76	5	1 11	4 48	28 303	273 551
W.S. Central	164	110	1,333	2,894	4,129	4	4	139	96	233	39	60	967	1,758	2,853
Arkansas <sup>§</sup> Louisiana	24 12	12 18	38 43	400 599	470 729	_	1 0	5 1	25	34 7	1	8 4	20 17	234 108	368 487
Oklahoma	29	14	102	422	477	2	0	82	19	22	6	5	61	186	83
Texas <sup>§</sup> Mountain	99 19	55 57	1,204 107	1,473 1,903	2,453 2,250	2 3	2 10	55 40	52 311	170 372	31 10	42 24	889 54	1,230 788	1,915 626
Arizona Colorado	13	20 13	45 34	677 440	700 501	_	1	4 18	50 103	47 101	9	16 2	41 11	591 62	307 70
Idaho§	1	4	10	128	117	3	2	15	58	77	_	0	2	7	8
Montana <sup>§</sup> Nevada <sup>§</sup>	4	2 4	7 13	73 179	80 158	_	0 0	3 4	15 20	27 13	1	0 1	5 11	13 47	4 150
New Mexico <sup>§</sup> Utah	1	5 6	25 15	200 163	405 237	_	0	2 5	19 41	41 56	_	2 0	12 3	57 11	60 24
Wyoming§	_	1	6	43	52	_	0	2	41	10	_	0	1	—	3
Pacific Alaska	153	126 1	537 6	4,106 52	3,432 41	15	9 0	31 1	288	263 5	36	27 0	82 1	784 1	1,011
California	117	94	516	3,122	2,482	8	5	15	156	120	35	20	75	633	876
Hawaii Oregon <sup>§</sup>	2 2	5 8	13 15	163 274	181 308	1	0 1	1 6	3 41	11 44	_	0 1	4 10	24 27	31 50
Washington American Samoa	32	12 0	85 1	495	420 2	6	3 0	16 0	88	83	1	3 0	11 2	99 3	54
C.N.M.I.	_	_	_	_	—	_	_	_	_	_	_	_		_	1
Guam Puerto Rico	2	0 9	2 40	244	10 454	1	0 0	0 0	1	_	_	0 0	1 2	7	14 21
U.S. Virgin Islands	_	0	0	_	—	—	0	0	—	_	—	0	0	—	_

C.N.M.I.: Commonwealth of Northern Mariana Islands. U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum. \* Incidence data for reporting year 2008 and 2009 are provisional. † Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped. § Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

(35th week)*		Streptococcal	diseases, inv	asive, group A		Streptococc	us pneumonia	ae, invasive d Age <5 years	isease, nondru	ıg resistant <sup>†</sup>
	Current		vious veeks	Cum	Cum	Current	Prev 52 w	ious eeks	Cum	Cum
Reporting area	week	Med	Max	2009	2008	week	Med	Max	2009	2008
United States	27	101	239	3,822	4,087	18	36	122	1,172	1,221
New England	—	5	28	223	296	—	1	12	41	60
Connecticut Maine <sup>§</sup>	_	0 0	21 2	63 13	83 20	_	0	11	3	1
Massachusetts	_	2	10	91	140	_	1	4	28	44
New Hampshire	—	1	4	34	20	_	0	2	8	8
Rhode Island <sup>§</sup> Vermont <sup>§</sup>	_	0 0	2 3	9 13	21 12	_	0 0	2 1	2	7
Mid. Atlantic	6	19	43	776	839	3	5	33	180	153
New Jersey	_	3	6	103	153	_	1	4	31	46
New York (Upstate)	4	7	25	258	261	2	2	17	85	68
New York City Pennsylvania	2	4 6	12 18	145 270	151 274	1 N	0 0	31 2	64 N	39 N
E.N. Central	3	17	42	731	779	3	6	18	177	222
Illinois		5	12	204	210		1	5	23	63
Indiana	—	3	23	116	102	—	0	13	25	24
Michigan Ohio	3	3 4	11 13	119 185	133 214	3	1 1	5 6	47 52	57 41
Wisconsin	_	2	10	107	120	_	1	4	30	37
W.N. Central	1	6	37	318	311	3	2	11	107	66
lowa	_	0 1	0	37			0	0		
Kansas Minnesota	1	0	5 34	37 146	32 150	N 2	0 0	1 10	N 60	N 18
Missouri		1	8	69	72	_	Õ	4	29	29
Nebraska§	_	1	3	35	31	1	0	1	8	7
North Dakota South Dakota	_	0 0	4 3	11 20	8 18	_	0 0	3 2	4 6	6 6
S. Atlantic	12	22	48	869	832	2	6	16	216	239
Delaware	_	0	1	9	6	_	0	0	_	_
District of Columbia Florida	2	0 6	3 12	11 212	12 189	N	0 1	0 6	N 49	N 46
Georgia	5	5	13	206	185	1	2	6	49 54	63
Maryland <sup>§</sup>	4	3	12	138	145	1	1	4	51	46
North Carolina South Carolina <sup>§</sup>	1	2 1	12 5	81 53	104 51	<u>N</u>	0 1	0 6	N 32	N 42
Virginia§	_	3	9	125	108	_	ò	4	18	37
West Virginia	—	1	4	34	32	—	0	3	12	5
E.S. Central	1	4	10	147	144	2	2	7	61	63
Alabama <sup>§</sup> Kentucky	<u>N</u>	0 1	0 5	N 28	N 31	N N	0	0 0	N N	N N
Mississippi	N	0	0	N	N	_	0	2	14	8
Tennessee§	1	3	9	119	113	2	1	6	47	55
W.S. Central	3	9	79	318	359	4	6	46 4	198	189
Arkansas§ Louisiana	_	0 0	2 3	14 11	8 14	_	0 0	4 3	20 13	11 11
Oklahoma		3	20	108	81	1	1	7	40	49
Texas§	3	5	59	185	256	3	4	34	125	118
Mountain Arizona	1	10 3	22 7	329 110	422 146	1	4 2	16 10	169 88	193 89
Colorado	_	3	9	107	106	_	1	4	32	42
Idaho§		0	2	7	12		0	2	7	3
Montana <sup>§</sup> Nevada <sup>§</sup>	<u>N</u>	0 0	0 1	N 5	N 8	<u>N</u>	0 0	0	N	N 3
New Mexico§	_	2	7	59	103	_	õ	4	15	27
Utah	—	1	6	40	41	—	0	5	27	28
Wyoming§	_	0	1	1	6	—	0	1		1
Pacific Alaska	_	3 1	9 3	111 21	105 26	_	0 0	4 3	23 17	36 23
California	N	0	0	N	N	Ν	0	0	N	N
Hawaii Orogon <sup>§</sup>		3 0	8	90 N	79 N		0	2	6	13 N
Oregon <sup>§</sup> Washington	N N	0	0	N N	N N	N N	0 0	0 0	N N	N N
American Samoa	_	0	0		30	N	0	0	N	N
C.N.M.I.	_	_	_	_	—	_	_	_	_	_
Guam Buorto Pico		0	0		N		0	0		
Puerto Rico U.S. Virgin Islands	N	0 0	0 0	N	N	N N	0 0	0 0	N N	N N
0.0. Virgin Islanus		U	0			IN	U	0	IN	IN

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

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

(35th week)*		S	treptococ	cus pneur	noniae, in	vasive dise	ease, drug	g resistan	t†						
			All ages					jed <5 yea			Sy	/philis, pr	imary and	l seconda	ry
	Current	Prev 52 w		C	C	Current		rious reeks	C	C	Current	Prev 52 w	ious eeks	C	C
Reporting area	Current week	Med	Max	Cum 2009	Cum 2008	week	Med	Max	Cum 2009	Cum 2008	Current week	Med	Max	Cum 2009	Cum 2008
United States	23	60	276	1,984	2,203	2	9	21	307	336	102	262	452	8,746	8,489
New England Connecticut	_	1 0	48 48	34	46	_	0 0	5 5	3	7		5 1	15 5	225 41	216 21
Maine <sup>§</sup> Massachusetts	_	0 0	2 1	9 2	15	_	0 0	1 1	1 2	1	2	0 4	1 11	1 159	9 153
New Hampshire Rhode Island <sup>§</sup>	_	0 0	3 6	5 7	18	_	0 0	0 1	_	4	_	0 0	2 5	12 12	13 14
Vermont§	_	0	2	11	13	—	0	Ó		2		0	2	_	6
Mid. Atlantic New Jersey	1	3 0	14 0	117	228	_	0 0	3 0	20	20	39 2	35 4	51 13	1,255 153	1,122 151
New York (Upstate) New York City	1	1 0	10 4	52 3	48 92	_	0 0	2 2	10	6 1	3 29	2 23	8 40	85 786	93 693
Pennsylvania	_	1	8	62	88	—	0	2	10	13	5	6	12	231	185
E.N. Central Illinois	2 N	11 0	41 0	439 N	471 N	N	1 0	7 0	63 N	64 N	20 9	23 7	44 19	703 203	783 311
Indiana Michigan	_	3 0	32 2	151 19	161 17	_	0 0	6 1	21 2	20 2	3 8	2 3	10 18	108 165	96 129
Ohio Wisconsin	2	7 0	18 0	269	293	_	1 0	4 0	40	42	_	6 1	17 4	197 30	208 39
W.N. Central	1	2	161	94	155	_	0	3	20	31	1	6	11	208	284
Iowa Kansas	_	0 1	0 5	39	58	_	0	0 2	13	3	1	0	2	16 19	13 23
Minnesota Missouri	1	0 1	156 5	43	23 67	_	0 0	3 1	5	23 2	_	2 3	6 6	40 115	71 167
Nebraska <sup>§</sup> North Dakota	_	0	0 3	10	2	_	0 0	0	_	_	_	0	3 1	14 3	10
South Dakota		0	2	2	5	_	0	2	2	3	_	0	1	1	
S. Atlantic Delaware	17	26 0	53 2	946 15	902 3	2	4	14 0	140	147	14	64 0	262 3	2,154 22	1,828 10
District of Columbia Florida	N 10	0 15	0 36	N 550	N 513	N	0 2	0 13	N 86	N 96	2 3	3 20	9 31	116 658	94 692
Georgia Maryland <sup>§</sup>	5	8 0	25 1	290 4	300 4	_2	1 0	5 0	47	43 1	9	14 6	227 16	488 211	402 227
North Carolina South Carolina§	<u>N</u>	0 0	0 0	N	N	N	0 0	0 0	N	N	_	9 2	21 6	361 78	171 57
Virginia <sup>§</sup> West Virginia	N 2	0	0 13	N 87	N 82	N	0	0 3	N 7	N 7	_	7 0	16 2	216 4	167 8
E.S. Central	1	5	25	196	233	_	1	3	29	42	12	22	36	774	723
Alabama <sup>§</sup> Kentucky	<u>N</u>	0 1	0 5	N 55	N 56	<u>N</u>	0 0	0 2	N 7	N 9	3	8 1	17 10	288 46	299 58
Mississippi Tennessee§	1	0 3	3 23	3 138	28 149	_	0 0	1 3	2 20	8 25	3 6	4 8	18 19	152 288	103 263
W.S. Central	1	2	6	72	74	_	0	3	14	12	7	49	80	1,640	1,452
Arkansas <sup>§</sup> Louisiana	1	1 1	5 5	40 32	13 61	_	0 0	3 1	9 5	3 9	6	4 11	35 40	151 303	110 403
Oklahoma Texas <sup>§</sup>	<u>N</u>	0 0	0 0	<u>N</u>	N	N	0 0	0 0	<u>N</u>	<u>N</u>	1	1 32	7 48	42 1,144	51 888
<b>Mountain</b> Arizona	_	2 0	7 0	84	92	_	0	3 0	17	11	2 1	9 4	18 9	293 132	434 223
Colorado	_	0	0	_	_	_	0	0	_	_	_	1	4	58	104
Idaho <sup>§</sup> Montana <sup>§</sup>	N	0	1	N 	N 	N	0	1 0		<u>N</u>		0	2 7	3	2
Nevada <sup>§</sup> New Mexico <sup>§</sup>	_	1 0	4 0	33	44	_	0 0	2 0	7	5	1	1 1	7 5	65 33	56 30
Utah Wyoming§	_	1 0	6 2	42 9	47 1	_	0 0	3 1	9 1	6	_	0 0	2 1	2	16 3
Pacific	—	0	1	2	2	—	0	1	1	2	5	44	66	1,494	1,647
Alaska California	N	0	0	N	N	N	0	0	N	N	3	0 40	0 59	1,360	1,488
Hawaii Oregon§	N	0 0	1 0	2 N	2 N	N	0 0	1 0	1 N	2 N	1	0 1	3 4	19 32	16 12
Washington American Samoa	N N	0 0	0 0	N N	N N	N N	0 0	0 0	N N	N N	1	2 0	7 0	83	130
C.N.M.I.		—	_	—	—	—	_	_		—	_	_	_	_	_
Guam Puerto Rico	_	0 0	0 0	_	_	_	0 0	0 0	_	_	_	0 3	0 16	142	101
U.S. Virgin Islands		0	0		_	_	0	0				0	0		

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

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

<u> </u>									We	st Nile vi	rus disease	t			
		Varic	ella (chick	enpox)			Ne	euroinvasi	ve			Nonn	euroinvas	ive§	
			vious				Prev						vious		
Reporting area	Current week	Med	veeks Max	Cum 2009	Cum 2008	Current week	Med	eeks Max	Cum 2009	Cum 2008	Current week	Med	eeks Max	Cum 2009	Cum 2008
United States	60	451	1,035	12,161	20,567		1	70	98	417		0	55	97	483
New England	_	8	46	194	1,139	_	0	2	_	3	_	0	0	_	3
Connecticut Maine <sup>¶</sup>	_	0 0	21 11	5	587 175	_	0	2 0	_	3	_	0	0	_	3
Massachusetts	_	0	1	1	_	_	Ō	1	_	_	_	0	Ō	_	_
New Hampshire Rhode Island <sup>¶</sup>	_	4 0	11 1	141 4	181	_	0 0	0 1	_	_	_	0 0	0	_	_
Vermont <sup>¶</sup>	—	2	17	43	196	—	0	Ó	—	—	—	0	Ō	—	—
Mid. Atlantic New Jersey	15 N	38 0	58 0	1,049 N	1,637 N	_	0 0	6 2	_2	28 2	_	0 0	4	_	11 3
New York (Upstate)	N	0	0	N	N	—	0	3	1	13	—	0	2	—	3
New York City Pennsylvania	15	0 38	0 58	1,049	1,637	_	0	2 1	1	5 8	_	0	1	_	4 1
E.N. Central	25	154	254	4,184	4,977	_	0	8	2	15	_	0	3	1	12
Illinois Indiana	_	33 2	73 19	835 207	720	_	0 0	4	1	2 2	_	0 0	1	_	6
Michigan	1	48	90	1,314	2,094	_	0	4	_	3	_	0	2	_	2
Ohio Wisconsin	24	42 14	91 55	1,444 384	1,598 565	_	0	3 2	_	6 2	_	0	1 0	1	4
W.N. Central	4	22	114	669	811	_	0	6	5	33	_	0	6	20	108
lowa Kansas	N	0 5	0 22	N 176	N 318	_	0 0	1 2	_	2 8	_	0 0	1 2	1 4	2 12
Minnesota	_	0	0	170	- 310	_	0	0	_	2	_	0	2	4	6
Missouri Nebraska <sup>¶</sup>	4 N	10 0	51 0	436 N	459 N	_	0 0	3 1	1	5 3	_	0 0	1 3	6	2 26
North Dakota		0	108	57	_	_	0	0	1	2	_	0	0	_	35
South Dakota		0	4		34	_	0	2	3	11	_	0	2	8	25
S. Atlantic Delaware	15	57 0	146 4	1,433 8	3,353 30	_	0 0	2 0	3	13	_	0 0	3 0	_	13 1
District of Columbia	_	0	3	8	18	—	0	2	—	2	—	0	1	—	1
Florida Georgia	9 N	28 0	67 0	927 N	1,181 N	_	0 0	0 1	2	3 2	_	0 0	0 1	_	3
Maryland <sup>¶</sup>	N	0	0	N	N	—	0	2	—	3	—	0	2	—	5
North Carolina South Carolina <sup>¶</sup>	<u>N</u>	0 4	54	N 154	N 590	_	0	0 1	1	2	_	0 0	0 0	_	1 1
Virginia <sup>¶</sup>	6	0	119	28	1,027	—	0 0	0 0	_		_	0	0	—	1
West Virginia E.S. Central	<u> </u>	9 12	32 28	308 358	507 861	_	0	5	17	1 33	_	0 0	5	10	 45
Alabama¶		12	28	356	851	_	0	1	_	9	_	0	2	_	5
Kentucky Mississippi	N	0 0	0 1	N 2	N 10	_	0	1 5	16	16	_	0	0 5	9	33
Tennessee <sup>¶</sup>	Ν	0	0	Ν	N	_	Ō	2	1	8	_	0	1	1	7
W.S. Central Arkansas <sup>¶</sup>	1	94 3	747 47	3,259 96	6,200 491	_	0	7 1	25 1	48 6	_	0	5 0	9	42 2
Louisiana	1	1	7	76	56	_	0	3	5	12	_	0	5	5	16
Oklahoma Texas <sup>¶</sup>	N	0 86	0 721	N 3,087	N 5,653	_	0 0	1 6	2 17	2 28	_	0	0 2	4	5 19
Mountain	_	33	83	936	1,499	_	0	12	32	56	_	0	17	42	131
Arizona Colorado	—	0 13	0 44	367	608	—	0 0	7 3	9 9	30 12	_	0 0	8 9	3 24	21 42
Idaho¶	N	0	0	507 N	N	_	0	1	9	3	_	0	2	6	32
Montana <sup>¶</sup> Nevada <sup>¶</sup>	N	2 0	20 0	105 N	229 N	_	0 0	1 2	2 7	5	_	0 0	1	1 5	5 6
New Mexico <sup>¶</sup>		2	20	134	160	_	0	1	2	3	_	0	1	1	1
Utah Wyoming <sup>¶</sup>	_	13 0	31 1	330	492 10	_	0 0	1 1	1	3	_	0	1 2	2	18 6
Pacific	_	2	7	79	90	_	0	34	12	188	_	0	15	15	118
Alaska	—	1	6	49	44	—	Ō	0	—	—	_	0	0	_	_
California Hawaii	_	0 1	0 4	30	46	_	0 0	33 0	12	184	_	0 0	15 0	14	104
Oregon <sup>®</sup>	N	0	0	N	N	—	0	1	—	2	—	0	0		13
Washington American Samoa	N N	0 0	0	N N	N N	_	0 0	0	_	2	_	0 0	1	1	1
C.N.M.I.		—	_	_	_	—	—	_	—	—	—	—	_	—	_
Guam Puerto Rico	1	2 8	3 23	317	55 433	_	0 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. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum. \* Incidence data for reporting year 2008 and 2009 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly. † Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.

<sup>§</sup> 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. <sup>1</sup> Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

### TABLE III. Deaths in 122 U.S. cities,\* week ending September 5, 2009 (35th week)

	All causes, by age (years)								All causes, by age (years)						
Reporting area	All Ages	≥65	45–64	25–44	1–24	<1	P&I <sup>†</sup> Total	Reporting area	All Ages	≥65	45–64	25–44	1–24	<1	P&I <sup>†</sup> Total
New England	444	291	100	34	4	15	30	S. Atlantic	1,181	711	300	100	35	35	55
Boston, MA	106	60	29	7	2	8	4	Atlanta, GA	107	63	23	11	4	6	4
Bridgeport, CT	23	17	2	4	_	—	4	Baltimore, MD	132	72	32	20	3	5	5
Cambridge, MA	15	11	4	_	—	—	1	Charlotte, NC	107	64	29	9	2	3	7
Fall River, MA	21	17	3	1	_	_	1	Jacksonville, FL	120	71	35	9	3	2	2
Hartford, CT Lowell, MA	49 22	31 18	12 2	5 2	_	1	2 1	Miami, FL Norfolk, VA	73 51	51 31	12 15	7	2 2	1 3	8 4
Lynn, MA	4	2	2		_	_	_	Richmond, VA	53	26	19	7	1		4
New Bedford, MA	20	16	1	3	_	_	1	Savannah, GA	67	41	19	4	1	2	4
New Haven, CT	20	13	5	2	_	_	5	St. Petersburg, FL	54	31	13	4	4	2	5
Providence, RI	63	41	15	5	_	2	3	Tampa, FL	209	127	51	17	8	6	11
Somerville, MA	4	1	3	_	_	_	_	Washington, D.C.	201	129	51	11	5	5	1
Springfield, MA	29	14	9	3	1	2	1	Wilmington, DE	7	5	1	1	_	_	2
Waterbury, CT	26	19	5	2	_	—	1	E.S. Central	771	487	199	50	17	18	52
Worcester, MA	42	31	8	—	1	2	6	Birmingham, AL	122	74	37	8	1	2	9
Mid. Atlantic	1,747	1,193	380	113	31	30	59	Chattanooga, TN	75	53	17	3	2	—	1
Albany, NY	46	29	12	3	1	1	1	Knoxville, TN	109	76	24	6	1	2	6
Allentown, PA	36	25	8	2		1	2	Lexington, KY	50	26	16	5	1	2	2
Buffalo, NY	64	40	17	4	1	2	3	Memphis, TN	156	94	37	14	4	7	15
Camden, NJ	33	17	11	2	1	2	_	Mobile, AL	94	56	29	5	1	3	5
Elizabeth, NJ	18	11	4	3	_	—	1	Montgomery, AL	19	15	3	_	1		2
Erie, PA	37	30	5	2		_	3	Nashville, TN	146	93	36	9	6	2	12
Jersey City, NJ	20	10	7	2	1		3	W.S. Central	1,192	757	301	70	37	26	67
New York City, NY Newark, NJ	985 U	688 U	210 U	56 U	14 U	17 U	22 U	Austin, TX	105 U	66 U	26 U	8 U	2 U	3 U	6 U
Paterson, NJ	8	5	2	1	0	_	_	Baton Rouge, LA Corpus Christi, TX	U	U	U	U	U	U	U
Philadelphia, PA	o 247	144	69	23	8	3	13	Dallas, TX	156	91	47	9	3	6	13
Pittsburgh, PA§	247 U	U	U	23 U	Ŭ	U	U	El Paso. TX	94	67	21	2	2	2	3
Reading, PA	31	23	5	2	1	_	1	Fort Worth, TX	Ű	Ű	Ű	Ū	Ū	Ú	Ŭ
Rochester, NY	123	93	18	7	2	3	6	Houston, TX	357	213	97	23	18	6	11
Schenectady, NY	0	7	2	_	_	_	_	Little Rock, AR	72	45	21	3	2	1	1
Scranton, PA	29	23	3	2	1	_	1	New Orleans, LA	U	Ŭ	U	Ū	Ū	Ú	Ŭ
Syracuse, NY	13	9	2	1	_	1	3	San Antonio, TX	247	162	53	15	8	8	22
Trenton, NJ	22	17	3	1	1	—	_	Shreveport, LA	40	24	10	5	1	_	4
Utica, NY	9	7	1	1	_	—	_	Tulsa, OK	121	89	26	5	1	_	7
Yonkers, NY	17	15	1	1	—	—	_	Mountain	1,171	737	278	95	33	28	54
E.N. Central	1,343	927	302	63	21	30	68	Albuquerque, NM	107	66	27	10	3	1	3
Akron, OH	51	33	15	1	_	2	1	Boise, ID	48	37	7	3	_	1	9
Canton, OH	31	23	6		2	_	1	Colorado Springs, CO	141	95	29	10	3	4	3
Chicago, IL	U	U	U	U	U	U	U	Denver, CO	89	57	18	7	1	6	7
Cincinnati, OH	75	41	22	3	3	6	9	Las Vegas, NV	300	172	92	25	7	4	11
Cleveland, OH	208	160	39	6	_	3	9	Ogden, UT	31	19	6	3	3	_	4
Columbus, OH	121	78	26	9	1	7	4	Phoenix, AZ	153	86	41	13	7	6	6
Dayton, OH Detroit, MI	142 U	99 U	33 U	5 U	2 U	3 U	9 U	Pueblo, CO	20 118	11 87	5 16	3 9	1 2	4	6
Evansville, IN	39	26	10	2	1	_	3	Salt Lake City, UT Tucson, AZ	164	107	37	12	6	2	5
Fort Wayne, IN	55	20 41	11	2 1	1	1	3	Pacific	1,583	1,080	345	90	39	26	119
Gary, IN	15	10	1	4	_	_	_	Berkeley, CA	1,583	1,000	1	1		20	
Grand Rapids, MI	57	41	11	1	2	2	3	Fresno, CA	97	59	24	10	4		9
Indianapolis, IN	180	118	48	8	4	2	9	Glendale, CA	36	28	6	1	_	1	4
Lansing, MI	35	27	5	2	1	_	_	Honolulu, HI	59	45	10		3	1	7
Milwaukee, WI	92	50	29	10	1	2	1	Long Beach, CA	67	41	16	5	3	2	8
Peoria, IL	Ŭ	Ŭ	U	U	Ú	Ū	U	Los Angeles, CA	206	126	58	11	5	6	19
Rockford, IL	43	29	9	4	ĩ	_	1	Pasadena, CA	21	15	5	1	_	_	3
South Bend, IN	55	44	8	2	_	1	1	Portland, OR	116	87	24	3	1	1	4
Toledo, OH	85	60	18	5	1	1	7	Sacramento, CA	240	163	51	15	7	4	13
Youngstown, OH	59	47	11	_	1	—	7	San Diego, CA	155	103	36	5	6	3	11
W.N. Central	448	301	84	36	17	9	15	San Francisco, CA	130	89	24	13	2	2	9
Des Moines, IA	_	—	—	_	_	—	_	San Jose, CA	187	128	44	11	4	_	20
Duluth, MN	35	28	4	2	1	—	2	Santa Cruz, CA	23	18	1	2		1	2
Kansas City, KS	23	16	3	4	_	_	_	Seattle, WA	78	54	17	4	2	1	2
Kansas City, MO	89	57	14	8	7	3	2	Spokane, WA	48	34	10	3	_	1	2
Lincoln, NE	35	28	4	2		1	2	Tacoma, WA	106	79	18	5	2	2	6
Minneapolis, MN	63	39	14	5	4	1	6	Total <sup>1</sup>	9,880	6,484	2,289	651	234	217	519
Omaha, NE	U	U	U	U	U	U	U								
St. Louis, MO	60	38	13	4	4	1	3								
St. Paul, MN	49	37	7	5	_	_	_								
Wichita, KS	94	58	25	6	1	3	_	1							

U: Unavailable. —:No reported cases. \* Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of >100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included. \* Pneumonia and influenza.

<sup>5</sup> Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks. <sup>1</sup> Total includes unknown ages.

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 in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the following Friday. Data are compiled in the National Center for Public Health Informatics, Division of Integrated Surveillance Systems and Services. 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*.

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.

☆ U.S. Government Printing Office: 2009-523-019/41198 Region IV ISSN: 0149-2195