MMWR™
Morbidity and Mortality Weekly Report
www.cdc.gov/mmwr

Weekly April 18, 2008 / Vol. 57 / No. 15

Interim Within-Season Estimate of the Effectiveness of Trivalent Inactivated Influenza Vaccine — Marshfield, Wisconsin, 2007–08 Influenza Season

During clinical trials, the efficacy of vaccination with inactivated influenza vaccines for the prevention of serologically confirmed influenza infection has been estimated as high as 70%–90% among healthier adults. However, the effectiveness of annual influenza vaccination typically is lower during those influenza seasons when a suboptimal match between the vaccine strains and circulating influenza strains is observed. For example, in a 4-year randomized study of influenza vaccine among healthy persons aged 1–65 years, the predominant strain was drifted from the vaccine strain in 2 of the 4 years. Inactivated vaccine effectiveness (VE) against culture-confirmed influenza ranged from 71% to 79% when the vaccine and circulating strains were suboptimally matched to 74% to 79% when the matches were well matched (*1*). In contrast, a 2-year study of inactivated influenza vaccine among healthy adults aged 18–64 years found no measurable VE during a year when a poorly matched strain circulated, but found VE of 86% against laboratory-confirmed influenza during the following year when the vaccine and circulating strains were well matched (*2*). Although laboratory data on the antigenic characteristics of circulating influenza viruses compared with vaccine strains are available during influenza seasons, estimates of VE usually have not been made until months after the conclusion of the season. This report summarizes interim results of a 2008 case-control study to estimate the effectiveness of trivalent inactivated influenza vaccine for prevention of medically attended, laboratory-confirmed influenza during the 2007–08 influenza season, when most circulating influenza A (H3N2) and B viruses were suboptimally matched to the vaccine strains. Despite the suboptimal match between two of three vaccine strains and circulating influenza strains, overall VE in the study population during January 21–February 8, 2008, was 44%. These findings demonstrate that, in any season, assessment of the clinical effectiveness of influenza vaccines cannot be determined solely by laboratory evaluation of the degree of antigenic match between vaccine and circulation strains.

Patients living in a 14 postal-code area surrounding Marshfield, Wisconsin, were eligible to participate in this study. Nearly all residents in this area receive outpatient and inpatient care from Marshfield Clinic health-care providers. Study enrollment began on January 21, 2008, based on laboratory evidence of influenza circulation from both Marshfield Clinic laboratories and the Wisconsin State Laboratory of Hygiene and continued through March 28, 2008. Patients who visited a Marshfield Clinic facility with medically attended illnesses were screened for study eligibility during outpatient or inpatient visits. Patients who reported feverishness, chills, or cough were eligible for enrollment. Those who reported symptoms for 8 or more days were not eligible for enrollment because influenza virus shedding decreases with illness duration, making detection of the virus unlikely after 8 days of symptoms. The majority of ill patients not approached during a

INSIDE

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

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 2008;57:[inclusive page numbers].

clinical encounter were identified the next day by using electronic diagnosis codes entered by the clinician; these patients were contacted by telephone and enrolled at home if they met eligibility criteria. The Marshfield Clinic Research Foundation institutional review board approved this study.

Nasal or nasopharyngeal swabs were obtained from consenting patients and were tested for influenza A or B infection by reverse transcription–polymerase chain reaction (RT-PCR) at the Marshfield Clinic Research Foundation using CDC-recommended probes and primers. Viral culture was performed on all samples that were RT-PCR positive to provide virus isolates for antigenic characterization. Influenza vaccination status was determined through an immunization information system (Regional Early Childhood Immunization Network*) used by all public and private immunization providers for vaccines administered to adults and children. Previous validations have demonstrated that the system captures 96%–98% of influenza vaccines administered to area residents (Marshfield Clinic Research Foundation, unpublished data, 2005–2007). Trivalent inactivated influenza vaccine from Sanofi-Pasteur ([Fluzone®], Swiftwater, Pennsylvania) was the only influenza vaccine used by Marshfield Clinic during the 2007–08 influenza season.

For this case-control study, a case of medically attended influenza was defined as an acute illness in a patient with feverishness, chills, or cough and documentation of influenza infection by RT-PCR. Controls were defined as patients with the same symptoms who had a negative RT-PCR test for influenza. Using persons with actute respiratory symptoms who test negative for influenza as controls is a method that in modeling studies has compared favorably with cohort studies and traditional case-control designs for the assessment of vaccine effectiveness (*3*). Patients were categorized as immunized if they had received influenza vaccine 14 days or more before enrollment; in addition, children aged <9 years were categorized as immunized if they had received 2 doses of influenza vaccine. Twenty-three children were excluded because they had received only 1 of the 2 recommended doses; this subgroup was too small to permit a separate analysis of VE for partial immunization.

VE was estimated by using logistic regression to compare patients with laboratory-confirmed influenza with patients who tested negative for influenza. The likelihood of receiving influenza vaccination in this population is associated with a propensity to seek health care, and use of

* Available at http://www.recin.org/default.asp.

test-negative controls helped adjust for this source of bias by estimating VE for medically attended influenza illness. Comparisons of this study design to traditional cohort and case-control methods for assessing VE have been published recently (*3*). For this analysis, the enrolled patients were categorized into two groups: persons for whom influenza vaccine was recommended by the Advisory Committee on Immunization Practices (ACIP) for the 2007–08 season based on age or an existing chronic medical condition[†] that increased their risk for influenza-related complications (i.e., the ACIP recommended group), and healthy children and adults aged 5–49 years (i.e., the healthy group).

Logistic regression models were adjusted for age, week of enrollment, and presence of a chronic medical condition. The last variable was not included in the models restricted to healthy patients aged 5–49 years. VE was estimated as 100 × [1 – adjusted odds ratio]) and was interpreted as zero if the percentage was negative. The first 59 influenza virus isolates obtained during the study were submitted to CDC for detailed antigenic characterization.

During January 21–February 8, 2008, a total of 1,779 patients were assessed for study eligibility after a clinical encounter for acute respiratory illness or febrile illness. A total of 850 (48%) did not meet eligibility criteria; 773 (91%) of exclusions resulted from absence of feverishness, chills, or cough or an illness duration 8 days or longer. Of the 929 eligible patients, 639 (69%) consented to the study and were tested for influenza infection. Final enrollment for this interim analysis was reduced to 616 patients after exclusion of 23 partially immunized children who had received only 1 of 2 recommended vaccine doses.

Influenza was detected by RT-PCR in 191 (31%) enrollees; 75% of influenza infections were type A. Distribution by sex was similar for patients who tested positive and patients who tested negative for influenza (Table 1); however, the median age was higher for patients who tested positive (21 years) than those who tested negative (10 years). Approximately 19% of patients who tested positive and 39% of those who tested negative had been vaccinated against influenza.

The overall interim estimate of VE was 44% (Table 2); the estimate was higher among persons in the healthy group aged 5–49 years (54%). The overall estimate of VE for prevention of medically attended influenza A infections was 58%. No VE was observed for prevention of medically attended influenza B infections.

Subtyping by RT-PCR performed at CDC demonstrated that 40 of 41 influenza A specimens were influenza A (H3N2) viruses; the remaining specimen was an H3N2 and B virus mixture. Preliminary data on antigenic characterizations were available for nine influenza A (H3N2) viruses and 18 of 20 influenza B viruses. Two of nine influenza A (H3N2) viruses were A/Wisconsin/67/2005-like, the H3N2 component of the 2007–08 Northern Hemisphere vaccine; the other seven were A/Brisbane/10/2007-like (H3N2) viruses, a strain that is drifted from the

[†] Defined as existing if the patient had two or more health-care visits with relevant *International Classification of Diseases, Ninth Revision, Clinical Modification* diagnosis codes during 2007. Diagnosis codes were based on ACIP criteria, including cardiac, pulmonary, renal, neurological/musculoskeletal, metabolic, cerebrovascular, immunosuppressive, circulatory system, and liver disorders; diabetes mellitus; and malignancies.

TABLE 1. Number and percentage of patients with medically attended acute respiratory illness who were enrolled* in a study and tested for influenza, by selected characteristics — Marshfield, Wisconsin, January 21–February 8, 2008

Characteristic	Patients testing positive for influenza† (n = 191)		Patients testing negative for influenza (n = 425)		Total (N = 616)	
	No.	(%)	No.	(%)	No.	(%)
Sex						
Male	94	(49)	188	(44)	**282**	**(46)**
Female	97	(51)	237	(56)	**334**	**(54)**
Age group						
6–59 mos	23	(12)	148	(35)	**171**	**(28)**
5–49 yrs	139	(73)	219	(52)	**358**	**(58)**
50–64 yrs	24	(13)	39	(9)	**63**	**(10)**
≥65 yrs	5	(3)	19	(4)	**24**	**(4)**
Existing chronic medical condition§						
Yes	17	(9)	62	(15)	**79**	**(13)**

* Patients who reported having feverishness, chills, or cough for <8 days were eligible for enrollment.
† By reverse transcription–polymerase chain reaction.
§ Defined as existing if the patient had two or more health-care visits with relevant *International Classification of Diseases, Ninth Revision, Clinical Modification* diagnosis codes during 2007. Diagnosis codes were based on Advisory Committee on Immunization Practices (ACIP) criteria, including cardiac, pulmonary, renal, neurological/musculoskeletal, metabolic, cerebrovascular, immunosuppressive, circulatory system, and liver disorders; diabetes mellitus; and malignancies.

TABLE 2. Interim vaccine effectiveness (VE) estimates among patients with medically attended acute respiratory illness who were enrolled* in a study and tested for influenza, by influenza type and selected categories — Marshfield, Wisconsin, January 21–February 8, 2008

Influenza type/Patient group	Patients testing positive for influenza† (n = 191)		Patients testing negative for influenza (n = 425)		Adjusted VE	
	Vaccinated§	Not vaccinated	Vaccinated	Not vaccinated	%	(95% CI¶)
All influenza						
All enrollees	36	155	165	260	44**	(11–65)
ACIP recommended††	21	39	120	114	34	(-31–67)
Healthy persons aged 5–49 yrs§§	15	116	45	146	54**	(12–76)
Influenza A						
All enrollees	22	122	179	293	58**	(28–76)
ACIP recommended	14	28	127	125	49	(-14–77)
Healthy persons aged 5–49 yrs	8	94	52	168	68**	(29–86)
Influenza B						
All enrollees	14	33	187	382	-35	(-172–33)
ACIP recommended	7	11	134	142	-32	(-287–55)
Healthy persons aged 5–49 yrs	7	22	53	240	-33	(-241–48)

* Patients who reported having feverishness, chills, or cough for <8 days were eligible for enrollment.
† By reverse transcription–polymerase chain reaction.
§ Patients were categorized as vaccinated if they had received influenza vaccine ≥14 days before enrollment; in addition, children aged <9 years were categorized as vaccinated if they had received 2 doses of influenza vaccine. Twenty-three children were excluded because they had received only 1 of the 2 recommended doses.
¶ Confidence interval.
** Statistically significant.
†† All children aged 6–59 months, all adults aged ≥50 years, and persons aged 5–49 years with an existing chronic medical condition for whom influenza vaccination is recommended by the Advisory Committee on Immunization Practices (ACIP).
§§ Persons aged 5–49 years with no chronic medical conditions for which ACIP recommends influenza vaccination.

A/Wisconsin/76/2005 strain. All 18 influenza B viruses were B/Florida/04/2006-like, belonging to the B/Yamagata/16/88 lineage of viruses. B/Yamagata-like viruses are antigenically distinct from the B/Victoria-like lineage virus that was included in the 2007–08 influenza vaccine.

Reported by: *E Belongia, MD, B Kieke, L Coleman, PhD, J Donahue, DVM, PhD, S Irving, J Meece, PhD, M Vandermause, Marshfield Clinic Research Foundation, Marshfield, Wisconsin. D Shay, MD, P Gargiullo, PhD, A Balish, A Foust, MA, L Guo, MD, S Lindstrom, PhD, X Xu, MD, A Klimov, PhD, J Bresee, MD, N Cox, PhD Influenza Div, National Center for Immunization and Respiratory Disease, CDC.*

Editorial Note: Influenza infections result in substantial morbidity and mortality each year in the United States (*4,5*). Because of the sizeable burden of influenza-associated disease, annual influenza vaccination was recommended by ACIP for the 2007–08 season for children aged 6–59 months, adults aged ≥50 years, persons with chronic medical conditions that place them at high risk for serious influenza-related complications, and close contacts of these groups and of children aged <6 months (*6*).

Viral data reported to World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) laboratories in the United States during the 2007–08 influenza season through April 5, 2008, demonstrated that influenza A and B viruses accounted for 74% and 26%, respectively, of influenza viruses characterized in the United States (*7*). Of influenza A viruses subtyped, 27% were influenza A (H1N1) viruses, and 73% were influenza A (H3N2) viruses. Antigenic characterization of a subset of these viruses by CDC indicated that 69% of A (H1N1) viruses were A/Solomon Islands/3/2006-like, the A (H1N1) vaccine component, but that 71% of A (H3N2) viruses were A/Brisbane/10/2007-like, a recent antigenic variant of the A/Wisconsin/67/2005-like virus, the A (H3N2) vaccine component. In addition, 95% of antigenically characterized B viruses belonged to the B/Yamagata lineage. Viruses in this lineage are antigenically distinct from the B/Malaysia/2506/2004-like component of the 2007–08 vaccine, which is in the B/Victoria lineage. These viral surveillance data suggested that the effectiveness of the 2007–08 influenza vaccine might be reduced against circulating influenza A (H3N2) and B viruses. However, in this analysis, preliminary VE results indicated that, despite the antigenic differences between vaccine and circulating H3N2 strains, the effectiveness of vaccine in preventing medically attended respiratory illnesses from influenza A infections was 58%. In contrast, no VE could be demonstrated against influenza B.

Multiple previous studies of the effectiveness of influenza vaccines have been reported (i.e., observational studies of the clinical effects of vaccination as opposed to randomized clinical trials) (*8*). VE varies from influenza season to season, based in part on the degree of antigenic match

between vaccine and circulating influenza strains. VE previously has been assessed sporadically in different populations and by using different methods. Annual systematic assessments of VE using laboratory-confirmed outcomes have not been available within an influenza season. Furthermore, antigenic characterization data rarely have been available for influenza viruses isolated from participants of VE studies, and not previously from the population for whom annual vaccination is recommended by ACIP. Despite a mismatch between the vaccine influenza A (H3N2) strain and seven of nine influenza A (H3N2) viruses isolated from study participants, the data in this report are consistent with results obtained in seasons with a moderate antigenic mismatch between vaccine and circulating strains of H3N2 viruses (*1,8*).

Based on preliminary analyses of A/Brisbane/10/2007-like (H3N2) viruses and the 2007–08 vaccine H3N2 strain using the method of antigenic mapping (*9*), an average fourfold difference was observed between the homologous titer for the vaccine strain and average titers for circulating strains. These differences were measured with hemagglutination inhibition tests by using a panel of reference postinfection ferret antisera. The degree of mismatch between the A/Wisconsin/67/2005 vaccine strain and H3N2 viruses tested at CDC thus far during the U.S. 2007–08 influenza season can be described as moderate in relation to antigenic distances seen over time for H3N2 viruses (*10*). By contrast, all the influenza B viruses isolated in the Marshfield Clinic study this season and antigenically characterized thus far belong to the B lineage not contained in this season's vaccine. Viruses from the B/Victoria-like lineage and B/Yamagata-like lineage are substantially more antigenically distinct from each other than A/Wisconsin/67/2005-like and A/Brisbane/10/2007-like H3N2 viruses are from each other.

The findings in this report are subject to at least four limitations. First, analyses were conducted while enrollment and laboratory testing were ongoing, and not all RT-PCR positive samples had yet been confirmed by culture. Thus, the preliminary subtype distribution and antigenic characterization results might not be representative of all patients in the study with influenza. Second, VE was estimated only for prevention of influenza among persons who sought care for acute respiratory illness, comparing patients who tested positive for influenza with patients who tested negative. Certain patients who tested negative for influenza might actually have had influenza virus infections, although RT-PCR is the most sensitive diagnostic test available. In addition, although simulation models have demonstrated that VE estimated with test-negative controls was close to the actual VE when test specificity was high, as is also the case with RT-PCR (*3*), this method is only beginning to be used in studies. VE was assessed against medically attended influenza and not against more severe outcomes of influenza infection, such as influenza hospitalizations; VE might vary with severity of the outcome studied. Third, if the antigenic characteristics of influenza viruses circulating in other regions of the United States differ substantially from viruses isolated from the Marshfield, Wisconsin, study participants, VE might vary by region. Finally, enrollment of patients continued in this study thorough March 28, and final analyses might differ from these interim assessments of VE.

These preliminary data based on study enrollment during January 21–February 8 suggest several conclusions. First, when assessing VE, laboratory data on antigenic characterization of circulating influenza viruses compared with vaccine strains should be interpreted together with data on the clinical effectiveness of vaccination in preventing laboratory-confirmed influenza illnesses. Although two of three vaccine strains were not optimally matched with circulating viruses this season, an interim VE estimate suggests that vaccination provided substantial protection against medically attended acute respiratory illness in this study population. In addition, intraseason estimates of VE, such as those from this analysis, might be useful to public health authorities and medical practitioners in their communications about the benefits of vaccination, especially late in the influenza season. Such data also might be helpful to practitioners when evaluating the need for antiviral treatment and prophylaxis for their patients. Therefore, creating systems that enable collection and dissemination of timely VE data during an influenza season are a priority for CDC. Finally, health-care providers should be aware of the types and subtypes of influenza circulating in their communities over the course of each influenza season. If influenza B strains predominate during the remainder of this season, providers can anticipate an increased risk for vaccine failures and should consider early use of antiviral medications for treatment and prophylaxis of persons at high risk for complications from influenza infection.

Acknowledgments

The findings in this report are based, in part, on contributions from V Allison, J Anderson, E Bergmann, C Beyer, L Bennetti, N Berger, C Becker, A Bernitt, A Brockman, K Buedding, D Cole, A Deedon, J Frahmann, D Gamble, L Gavigan, D Gentz, G Greenwald, N Hartl, J Herr, D Hilgemann, L Ivacic, D Johnson, D Kempf, T Kronenwetter-Koeppel, D Marx, C Meyer, C Reis, S Reisner, J Salzwedel, S Strey, P Siegler, P Stockwell, L Verhagen, D York, J Zygarlicke, Marshfield Clinic Research Foundation, Marshfield, Wisconsin.

References

1. Edwards KM, DuPont WD, Westrich MK, Plummer WD, Palmer PS, Wright PF. A randomized controlled trial of cold-adapted and inactivated vaccines for the prevention of influenza A disease. J Infect Dis 1994;169:68–76.
2. Bridges CB, Thompson WW, Meltzer MI, et al. Effectiveness and cost-benefit of influenza vaccination of healthy working adults: a randomized controlled trial. JAMA 2000;284:1655–63.
3. Orenstein EW, De Serres G, Haber MJ, et al. Methodologic issues regarding the use of three observational study designs to assess influenza vaccine effectiveness. Int J Epidemiol 2007;36:623–31.
4. Thompson WW, Shay DK, Weintraub E, et al. Mortality associated with influenza and respiratory syncytial virus in the United States. JAMA 2003;289:179–86.
5. Thompson WW, Shay DK, Weintraub E, et al. Influenza-associated hospitalizations in the United States. JAMA 2004;292:1333–40.
6. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2007. MMWR 2007;56(No. RR-6).
7. CDC. Update: influenza activity—United States, September 30, 2007–April 5, 2008, and composition of the 2008–09 influenza vaccine. MMWR 2008;57:404–9.
8. Nichol KL, Nordin JD, Nelson DB, Mullooly JP, Hak E. Effectiveness of influenza vaccine in the community-dwelling elderly. N Engl J Med 2007;357:1373–81.
9. Smith DJ, Lapedes AS, de Jong JC, et al. Mapping the antigenic and genetic evolution of influenza virus. Science 2004;305:371–6.
10. Russell CA, Jones TC, Barr IG, et al. The global circulation of seasonal influenza A(H3N2) viruses. Science. In press 2008.

Rotavirus Vaccination Coverage and Adherence to the Advisory Committee on Immunization Practices (ACIP)-Recommended Vaccination Schedule — United States, February 2006–May 2007

Worldwide, rotavirus is the leading cause of severe gastroenteritis in children aged <5 years. In February 2006, a new human-bovine rotavirus vaccine, RotaTeq® (Merck & Co., Inc., Whitehouse Station, New Jersey), was recommended by the Advisory Committee on Immunization Practices (ACIP) for routine vaccination of U.S. infants. Three doses of RotaTeq are recommended at ages 2, 4, and 6 months (*1*). The first dose should be administered between ages 6 and 12 weeks, and vaccination should not be initiated for infants aged >12 weeks. Subsequent doses should be administered at 4–10 week intervals, with all doses administered by age 32 weeks. This schedule is consistent with the ages at which RotaTeq was administered during prelicensure trials (*1*), and ACIP has recommended that RotaTeq only be administered at the ages for which safety and efficacy data are available. In 1999, a previous rhesus-human rotavirus vaccine, RotaShield® (Wyeth Laboratories, Inc., Marietta, Pennsylvania), was withdrawn voluntarily from the U.S. market by the manufacturer because it was associated with intussusception, a form of bowel obstruction. The greatest risk for intussusception was noted after the first dose of RotaShield (*2*). Data from a large-scale, prelicensure safety trial and postlicensure monitoring do not indicate an association between the current RotaTeq vaccine and intussusception (*3–5*). CDC assessed rotavirus vaccination coverage among U.S. infants during February 2006–May 2007 and examined adherence to the ACIP-recommended vaccination schedule. This report summarizes the results of that assessment, which indicated that, by May 15, 2007, nearly half of infants aged 3 months had received 1 dose of rotavirus vaccine, with the majority of doses administered according to ACIP recommendations. Health-care providers should remain vigilant in following the ACIP-recommended vaccination schedule for rotavirus vaccine.

To assess rotavirus vaccination coverage and adherence to the vaccination schedule, CDC examined data from three data systems: 1) immunization information systems (IISs), 2) IIS sentinel sites, and 3) the Vaccine Safety Datalink (VSD). IIS data are derived from confidential, computerized records of vaccine administration collected from multiple health-care providers within a defined geographic area (e.g., a state or city). CDC funds the development and operations of IISs under the Public Health Service Act.* In 2006, approximately 65% of U.S. children aged <6 years participated in an IIS (*6*). IIS data were used to measure the number of rotavirus vaccine doses administered. Additional data were derived from the population-based IISs of Arizona, the District of Columbia, Michigan, Minnesota, Montana, and Oregon, which were participants in CDC's IIS sentinel site project during 2004–2007. Sentinel sites are a subset of the state IIS coverage area and represent ≥10,000 children aged <6 years in contiguous geographic counties, postal code areas, or U.S. Census tracts. These surveillance areas have high health-care provider participation and child enrollment (>90%) in the IIS. Procedures are in place in these sites to increase completeness and accuracy of the data (e.g., routine comparisons of IIS records with health-care provider data) (*7*). IIS sentinel site data were used to assess rotavirus vaccination coverage and adherence to the ACIP-recommended vaccination schedule.

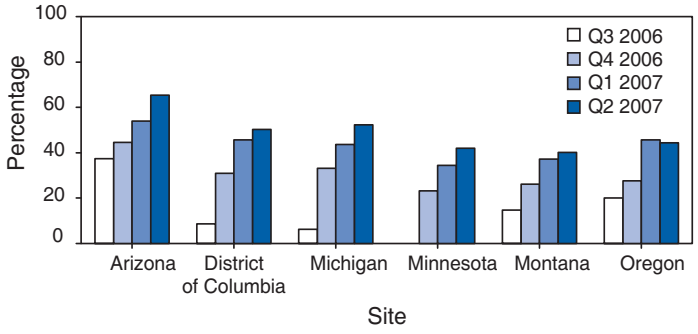
* 42 USC Sect. 247b (project grants for preventive health services).

VSD is a collaborative project involving CDC and eight medical-care organizations in the United States that collect data on approximately 5.5 million persons annually (*8*). VSD data provide comprehensive immunization histories and incorporate routine data-quality checks to promote data accuracy (*9*). VSD data were used to assess adherence to the ACIP-recommended vaccination schedule. For the assessment of adherence to the vaccination schedule, data on rotavirus vaccine administration by age (in weeks) and dose number in the series were reported by IIS sentinel sites through May 31, 2007, and by VSD through July 31, 2007. Some children might be enrolled in both IISs and VSD; however, this overlap is not anticipated to affect the estimates of adherence in either system, which were analyzed separately. In both systems, the date of vaccine administration was used to determine the dose number in the series, with the first date of vaccine administration counting as dose 1.

During February 2006–May 2007, a total of 1,120,239 administered doses that were recorded by IISs in 27 states reporting rotavirus vaccine administration by dose number in the series. The monthly number of doses administered increased from approximately 4,000 doses in May 2006 to nearly 134,000 in March 2007. At the six IIS sentinel sites, vaccination coverage increased from the third quarter of 2006 to the second quarter of 2007 (Figure 1). As of May 15, 2007, 1-dose rotavirus vaccination coverage among infants aged 3 months at IIS sentinel sites ranged from 40.1% to 65.4% (mean: 49.1%). Rotavirus vaccination coverage estimates were compared with coverage estimates of other infant vaccines. At IIS sentinel sites, 1-dose coverage at age 3 months ranged from 69.3% to 90.4% (mean: 84.1%) for pneumococcal conjugate vaccine (PCV7) and from 69.5% to 92.3% (mean: 85.7%) for diphtheria, tetanus, and acellular pertussis (DTaP) vaccine.

A total of 107,128 doses were reported by IIS sentinel sites, and 90,151 doses were reported by VSD (Table). At IIS sentinel sites, 45,659 (85.9%) of 53,143 first doses were administered within the recommended age range of 6–12 weeks, whereas in VSD, 38,582 (92.8%) of 41,583 first doses were administered within the recommended age range (Figure 2). For the respective 7,484 (14.1%) and 3,001 (7.2%) first doses administered outside the recommended age range, small peaks were observed at ages 17 and 26 weeks. When analysis of IIS sentinel site and VSD data was restricted to infants who received ≥3 doses, 21,395 (95.0%) of 22,526 first doses at IIS sentinel sites and 25,629 (98.6%) of 26,005 first doses in VSD were

FIGURE 1. First dose rotavirus vaccination coverage among children aged 3 months,* by quarter — immunization information system (IIS) sentinel sites, United States, 2006–2007†



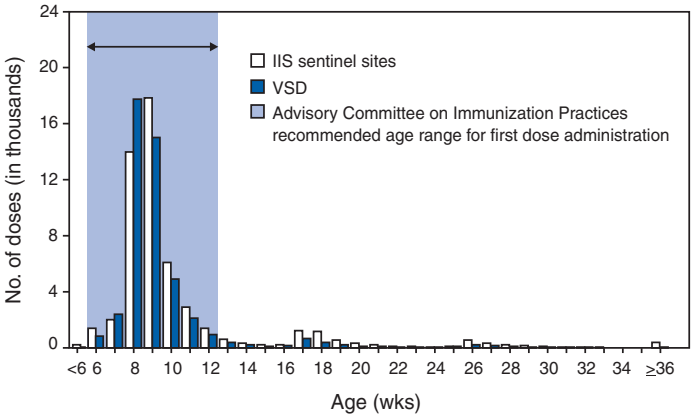
* Approximate populations of children aged 3 months in IIS sentinel site registries: Arizona (n = 785), District of Columbia (n = 220), Michigan (n = 7,299), Minnesota (n = 183), Montana (n = 506), and Oregon (n = 510). Populations varied by quarter.
† Data reported through May 15, 2007.

TABLE. Number of rotavirus vaccine doses administered, by data source and selected characteristics — immunization information system (IIS) sentinel sites and Vaccine Safety Datalink (VSD), United States, 2006–2007*

Characteristic	IIS sentinel sites	VSD
All infants		
Total doses administered	107,128	90,151
First doses administered	53,143	41,583
First doses administered at age 6–12 wks (% of first doses administered)	45,659 (85.9)	38,582 (92.8)
Infants receiving ≥3 doses		
Doses administered	67,600	64,317
First doses administered	22,526	26,005
First doses administered at age 6–12 wks (% of first doses administered)	21,395 (95.0)	25,629 (98.6)

* Data reported through May 31, 2007, by IIS sentinel sites and through July 31, 2007, by VSD.

FIGURE 2. Administration of first dose of rotavirus vaccine, by age of child — immunization information system (IIS) sentinel sites and Vaccine Safety Datalink (VSD), United States, 2006–2007*



* Data reported through May 31, 2007, by IIS sentinel sites and through July 31, 2007, by VSD.

administered within the recommended age range. Small peaks in administration of the first dose were noted at age 17 weeks in both data sources.

A small percentage of doses were reported as administered completely outside the recommended age range of 6–32 weeks. Of all doses reported by IISs, IIS sentinel sites, and VSD, 0.1%, 0.2%, and 0.04%, respectively, were administered at age <6 weeks, and 1.8%, 1.6%, and 0.7%, respectively, were administered at age >32 weeks.

Reported by: *HA Clayton, MPH, MM Cortese, MD, DC Payne, PhD, DL Bartlett, MPH, LA Zimmerman, MPH, WG Williams, MPH, M Wang, MPH, LJ Stockman, MPH, U Parashar, MBBS, National Center for Immunization and Respiratory Diseases; J Baggs, PhD, Immunization Safety Office, Office of the Chief Science Officer, CDC.*

Editorial Note: Routine vaccination of infants with rotavirus vaccine is anticipated to be the most effective public health intervention for reducing the substantial burden of rotavirus disease in children. Rotavirus vaccination coverage in the United States increased during the year after the February 2006 ACIP recommendation, and by May 2007, nearly half of infants aged 3 months in IIS sentinel sites had received 1 dose of rotavirus vaccine. Although the majority of health-care providers in these systems appear to be administering the vaccine as recommended, the findings in this report suggest that some infants are receiving their first dose of rotavirus vaccine outside of the ACIP-recommended schedule.

The findings in this report are subject to at least three limitations. First, in each data source, the date of vaccine administration was used to determine the dose number in the series, with the first date of vaccine administration counted as dose 1. Thus, doses counted as first doses but administered at approximately ages 17 and 26 weeks (i.e., the ages when second and third doses of vaccine are recommended) might actually represent second or third doses for infants whose previous doses were not recorded in these systems. Alternatively, the late first doses might represent infants receiving rotavirus vaccine during routine well-child visits at ages 4 and 6 months. To explore these hypotheses, analysis of IIS sentinel site and VSD data was restricted to infants who received ≥3 doses (i.e., infants who were more likely to have a first dose recorded); that analysis determined that a lower percentage of first doses were administered outside the recommended age range. However, small peaks in administration of first doses were still noted at age 17 weeks in both data sources, indicating that some children received rotavirus vaccine outside of the recommended schedule. The decrease in the percentage of first doses administered outside of the schedule might be attributable, in part, to the possibility that infants who receive all 3 doses are more likely to be vaccinated on schedule than other infants. Second, although IIS sentinel site and VSD data are monitored for accuracy and completeness, some vaccinations might not be entered into a child's electronic record, potentially resulting in an underestimation of vaccination coverage levels (*10*). Finally, the populations captured in IIS sentinel sites and VSD might not be nationally representative, which might limit the generalizability of these findings. The National Immunization Survey (NIS) provides childhood vaccination coverage data that are nationally representative. However, because the survey targets children aged 19–35 months, NIS data on rotavirus vaccination coverage will not be available until 2009 or 2010, nearly 2 to 3 years after the February 2006 ACIP recommendation for rotavirus vaccination.

Although these initial findings on rotavirus vaccination coverage are encouraging, public health professionals should continue to monitor vaccination coverage, identify potential barriers to vaccination, and increase vaccination coverage to levels similar to those for other recommended infant vaccines. In addition, health-care providers should remain vigilant in following the ACIP-recommended vaccination schedule for rotavirus vaccine and are reminded to report any adverse events to the Vaccine Adverse Events Reporting System.

Acknowledgments

The findings in this report are based, in part, on contributions by R Volp, Arizona Dept of Health Svcs; RP McLaren, MS, District of Columbia Dept of Health; KS Enger, MPH, Michigan Dept of Community Health; K White, MPH, Minnesota Dept of Health; B Wehner, Montana Dept of Public Health and Human Svcs; J Gaudino, MD, Oregon Dept of Human Svcs; and E Belongia, MD, Vaccine Safety Datalink, CDC.

References

1. CDC. Prevention of rotavirus gastroenteritis among infants and children: recommendations of the Advisory Committee on Immunization Practices. MMWR 2006;55(No. RR-12).
2. Murphy TV, Gargiullo PM, Massoudi MS, et al. Intussusception among infants given an oral rotavirus vaccine. N Engl J Med 2001;344:564–72.
3. Vesikari T, Matson DO, Dennehy P, et al. Safety and efficacy of a pentavalent human-bovine (WC3) reassortant rotavirus vaccine. N Engl J Med 2006;354:23–33.
4. CDC. Postmarketing monitoring of intussusception after RotaTeq™ vaccination—United States, February 1, 2006–February 15, 2007. MMWR 2007;56:218–22.
5. Haber P, Patel M, Hector IS, et al. Post-licensure monitoring of intussusception after RotaTeq vaccination in the United States, February 1, 2006–September 25, 2007. Pediatrics. In press 2008.
6. CDC. Immunization information systems progress—United States, 2006. MMWR 2008;57:289–91.

7. CDC. Influenza vaccination coverage among children aged 6–23 months—six immunization information system sentinel sites, United States, 2006–07 influenza season. MMWR 2007;56:963–5.
8. Chen RT, DeStefano F, Davis RL, et al. The Vaccine Safety Datalink: immunization research in health maintenance organizations in the USA. Bull World Health Organ 2000;78:186–94.
9. Chen RT, Glasser JW, Rhodes PH, et al. The Vaccine Safety Datalink project: a new tool for improving vaccine safety monitoring in the United States. Pediatrics 1997;99:765–73.
10. Khare M, Piccinino L, Barker LE, Linkins RW. Assessment of immunization registry databases as supplemental sources of data to improve ascertainment of vaccination coverage estimates in the National Immunization Survey. Arch Pediatr Adolesc Med 2006;160:838–42.

Laboratory-Acquired Vaccinia Exposures and Infections — United States, 2005–2007

The last case of naturally acquired smallpox disease, caused by the orthopoxvirus variola virus (VARV), occurred in 1977, and the last laboratory-acquired case occurred in 1978. Smallpox was eradicated largely as the result of a worldwide vaccination campaign that used the related orthopoxvirus, vaccinia virus (VACV), as a live virus vaccine. Routine childhood vaccination for smallpox in the United States was terminated by 1972, but vaccination continues or has been reintroduced for specific groups, including laboratory workers who may be exposed to orthopoxviruses, members of the military, selected health-care workers, and first responders. Severe complications of VACV infection can occur, particularly in persons with underlying risk factors, and secondary transmission of VACV also can occur (*1*). VACV is used in numerous institutions for various research purposes, including fundamental studies of orthopoxviruses and use as a vector for the expression of foreign proteins (often antigens or immunomodulators) in eukaryotic cells and animal models. The widespread use of VACV for research has resulted in laboratory-acquired VACV infections, some requiring hospitalization. The current Advisory Committee on Immunization Practices (ACIP) guidelines recommend VACV vaccination for laboratory workers who handle cultures or animals contaminated or infected with nonhighly attenuated VACV strains or other orthopoxviruses that infect humans (*2*). This report describes five recent occurrences of laboratory-acquired VACV infections and exposure and underscores the need for proper vaccination, laboratory safety, infection-control practices, and rapid medical evaluation of exposures in the context of orthopoxvirus research.

Case Reports

During 2005–2007, five cases of laboratory-acquired VACV infection were reported to CDC from state health departments and health-care providers in the United States. No national surveillance system exists to track laboratory-related VACV exposures, and the five cases were reported to CDC informally in the course of seeking consultation on treatment and prevention. All five cases involved the Western Reserve (WR) vaccinia strain. Cases 1–4 involved recombinant VACVs with an insertion at the thymidine kinase (TK) locus. Case 5 also involved a recombinant VACV, but details of the virus are not known (Table).

Case 1. In March 2005, a laboratory worker at an academic institution in Connecticut experienced a needlestick

TABLE. Characteristics of laboratory-acquired vaccinia virus (VACV) cases — United States, 2005–2007

Case	State	VACV vaccination history	Met ACIP* recommendations?	Vaccinia strain	Type of vaccinia virus	Time from incident to initial medical care	Location of initial medical care
1	Connecticut	Twice, most recently 10 years prior	Questionable; due for revaccination	Western Reserve	Recombinant, insert in TK† locus	3 days	Occupational health clinic
2	Pennsylvania	No previous vaccination	No; declined vaccination	Western Reserve	Recombinant, insert in TK locus	6 days	Health-care provider
3	Iowa	No previous vaccination	No; declined vaccination	Western Reserve	Recombinant, insert in TK locus	11 days	Emergency department
4	Maryland	6 years prior; no take	No; failed take; no follow-up vaccination	Western Reserve	Recombinant, insert in TK locus	Same day	Occupational health clinic
5	New Hampshire	No previous vaccination	No; declined vaccination	Western Reserve	Recombinant, details not known	8 days	Emergency department

* Advisory Committee on Immunization Practices. Vaccinia vaccine is recommended for laboratory workers who directly handle cultures or animals infected with nonhighly attenuated vaccinia viruses. Revaccination is recommended at least every 10 years. CDC. Vaccinia (smallpox) vaccine: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2001. MMWR 2001;50(No. RR-10).
† Thymidine kinase.

to a finger while injecting mice with recombinant VACV. The laboratory worker was admitted to a hospital 3 days later with fever, lymphadenopathy, lymphangitis, and a hemorrhagic bulla at the site of the injury. The laboratory worker had been vaccinated with VACV as a child, and a second time approximately 10 years before the incident. Symptoms improved rapidly, and the laboratory worker was released after one night in the hospital. Infection with an orthopoxvirus was confirmed by testing in the state's Laboratory Response Network (LRN) laboratory.

Case 2. In October 2006, a laboratory worker at an academic institution in Pennsylvania experienced a needlestick injury on the thumb while injecting a mouse with a recombinant WR VACV strain. The laboratory worker had previously declined VACV vaccination. Six days after the incident, the laboratory worker sought medical care, with a primary lesion at the site of the inoculation and a secondary lesion near the thumbnail. Nine days after inoculation, the laboratory worker reported malaise, and on the following day, had a fever of 102.0°F (38.9°C) and lymphadenopathy. By day 13, the laboratory worker was feeling better; on day 14, a surgeon debrided the lesion near the thumbnail. VACV infection was confirmed by polymerase chain reaction and viral culture at CDC.

Case 3. In May 2007, a laboratory worker at an academic institution in Iowa who had no previous history of VACV vaccination was unsheathing a sterile needle and received a needlestick in a finger. The laboratory worker continued with the experiments, which involved two recombinant VACVs, and did not change gloves or wash hands until finished. The typical challenge dose for this set of experiments was 3×10^6 plaque-forming units (pfu). Approximately 11 days after the needlestick, the laboratory worker developed symptoms of VACV infection, including fever and chills, and noted a lesion and swelling at the site of the needlestick. The laboratory worker sought medical attention at an urgent-care facility and informed the clinical staff of the incident. A diagnosis of VACV infection was confirmed by the state LRN laboratory. The laboratory worker recovered fully.

Case 4. In August 2007, a laboratory worker at a government facility in Maryland unintentionally inoculated a finger with approximately 5 μL of a solution containing VACV, after injection of a research animal. The inoculum contained up to 10^4 pfu of the virus, which was a recombinant strain of WR VACV. The laboratory worker did not wash the exposed area immediately, but instead immersed the wound in a disinfectant containing hypochlorite for a few minutes. The laboratory worker had received a primary VACV vaccination in 2001, but immunization was unsuccessful (i.e., no lesion developed at the site of the vaccination). On the day of the incident, the laboratory worker went to the occupational health clinic and was revaccinated with VACV. Vaccinia immunoglobulin was not administered. When the worker was reevaluated on days 3, 4, and 5 postvaccination, no evidence of VACV infection was observed at the site of inoculation, and a characteristic lesion developed at the site of vaccination, evidence of a take.

Case 5. In September 2007, a laboratory worker at an academic institution in New Hampshire who had no history of vaccination incurred a minor scratch to a finger with a small-gauge needle containing 5×10^4 pfu/mL of recombinant WR VACV, which was being used for injecting mice. The laboratory worker felt pain, but did not bleed, and so continued working. Seven days later, the laboratory worker noted a pustule at the site of the scratch, sought medical attention the following day, and was hospitalized when red streaking appeared from the site of the scratch and extended into the axilla. Samples from the pustule were submitted to the state LRN laboratory, where VACV infection was confirmed. The laboratory worker was afebrile and recovered without specific therapy.

Reported by: *R Melchreit, MD, Connecticut Dept of Public Health. F Lewis, MD, Philadelphia Dept of Public Health, Pennsylvania. P Quinlisk, MD, K Soyemi, MD, Iowa Dept of Public Health; L DesJardin, PhD, Univ of Iowa Hygienic Laboratory; LV Kirchhoff, MD, Univ of Iowa. EA Talbot, MD, Dartmouth Medical School; C Bean, PhD, New Hampshire Dept of Health and Human Svcs. J Schmitt, MD, National Institutes of Health. M Reynolds, PhD, W Davidson, MPH, S Smith, MS, Y Li, PhD, I Damon, MD, PhD, Div of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases; A MacNeil, PhD, D Dufficy, DVM, EIS officers, CDC.*

Editorial Note: Although laboratory-related VACV exposures are rare, the cases described in this report demonstrate the need for laboratory workers to comply with ACIP vaccination recommendations (*3,4*). The total number of laboratories or researchers using nonhighly attenuated-VACV strains is unknown; therefore, estimating the incidence of VACV infection among at-risk laboratory workers is not possible. However, CDC does continue to receive reports of laboratory-related VACV exposures (fewer than five per year).

Laboratory-acquired exposure to VACV can lead to severe or atypical infections; exposures can be associated with a high inoculum or can occur through a route that has a high risk of complications, such as ocular VACV infection (*5*). Recombinant strains of VACV are commonly

generated by insertion of genetic material in the TK locus of the virus. Because inactivation of the TK locus has been associated with decreased VACV virulence in mice (*6*), some laboratory workers might perceive TK insertion mutants as attenuated; however, at least four of the infections and attendant illnesses described in this report involved VACV strains that had insertions at the TK locus. Additionally, recombinant strains of VACV commonly encode foreign gene products, and the possibility exists that resultant recombinant strains might have increased pathogenicity in humans.

ACIP currently recommends VACV vaccination at least every 10 years for laboratory workers who handle cultures or animals infected with nonhighly attenuated orthopoxviruses (*2*), including the WR strain of VACV. Reasons the five persons described in this report failed to meet ACIP recommendations included refusal of vaccination, absence of follow-through on a failed vaccination take, and overdue revaccination. Because some laboratory workers are hesitant to receive VACV vaccination for fear of side effects, laboratory directors and occupational health programs are encouraged to provide education regarding the risks and potential benefits of vaccination, including, for the latter, the prevention or reduction of severe complications from laboratory-acquired VACV infection. This benefit accrues from receiving a carefully measured (rather than undetermined) dose of a well-characterized vaccine formulation, which results in local infection at a predetermined site on the body, and resultant memory-immune response on subsequent exposure. Laboratory workers should adhere to the vaccination schedule recommended by ACIP (*2*). Persons who have a contraindication to VACV vaccination should consider carefully the possible consequences of a laboratory-acquired VACV infection in their decisions to work with nonhighly attenuated VACV.

Laboratory directors, research staff, and institutional biosafety officials can further minimize the likelihood of inadvertent VACV exposure by reinforcing proper laboratory safety procedures, such as proper use of personal protective equipment and safe needle-handling practices when handling VACV-infected cultures or animals.

When a potential exposure occurs, the laboratory worker should immediately and thoroughly wash the affected body part with water and the available cleaning product sanctioned by their biosafety office; eyewash protocols should be followed for ocular exposures. The laboratory worker should then report the incident and strain to which they might have been exposed to the laboratory director and the occupational health clinic of the institution. VACV vaccination shortly after an exposure might help minimize the effects of inadvertent VACV infection. If severe illness or ocular infection occur, arrangements can be made with CDC for the administration of vaccinia immunoglobulin (*2,3*). The laboratory worker in case 4 immediately disinfected the wound and received prompt postexposure vaccination the day of the laboratory incident; this might have contributed to preventing infection at the site of the needlestick.

Secondary spread of VACV represents an additional public health concern. Patients with suspected VACV infection should be instructed by their caregivers in appropriate lesion care (*2*) as a precaution against spread of infection to another body site or to another person. Special care must be taken to avoid transmission to social contacts and persons in the health-care setting, particularly those with increased risk for severe illness from exposure to VACV, such as persons with atopic dermatitis, pregnant females, and immunocompromised persons.

Finally, occupational health clinics and health-care workers who might provide primary care for a laboratory worker exposed to VACV should become familiar with protocols for recognition and diagnosis of suspected poxvirus infections (*3*). Laboratory workers also should be instructed to seek care from appropriately trained health-care providers at their supporting institution. Appropriate infection-control measures should be instituted at the time of presentation of a patient with a suspected case, and whenever possible, clinical care should be provided by persons who have been vaccinated with VACV. Clinics also should review procedures for communication with and confirmation of orthopoxvirus infection through the LRN or the Poxvirus Program (404-639-4129) at CDC.

References

1. CDC. Surveillance guidelines for smallpox vaccine (vaccinia) adverse reactions. MMWR 2006;55(No. RR-1).
2. CDC. Vaccinia (smallpox) vaccine: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2001. MMWR 2001;50(No. RR-10).
3. CDC. Smallpox vaccination and adverse reactions. Guidance for clinicians. MMWR 2003;52(No. RR-4).
4. CDC. Recommendations for using smallpox vaccine in a pre-event vaccination program. MMWR 2003;52(No. RR-7).
5. Lewis FM, Chernak E, Goldman E, et al. Ocular vaccinia infection in laboratory worker, Philadelphia, 2004. Emerg Infect Dis 2006;12: 134–7.
6. Lee MS, Roos JM, McGuigan LC, et al. Molecular attenuation of vaccinia virus: mutant generation and animal characterization. J Virol 1992;66:2617–30.

Update: Influenza Activity — United States, September 30, 2007–April 5, 2008, and Composition of the 2008–09 Influenza Vaccine

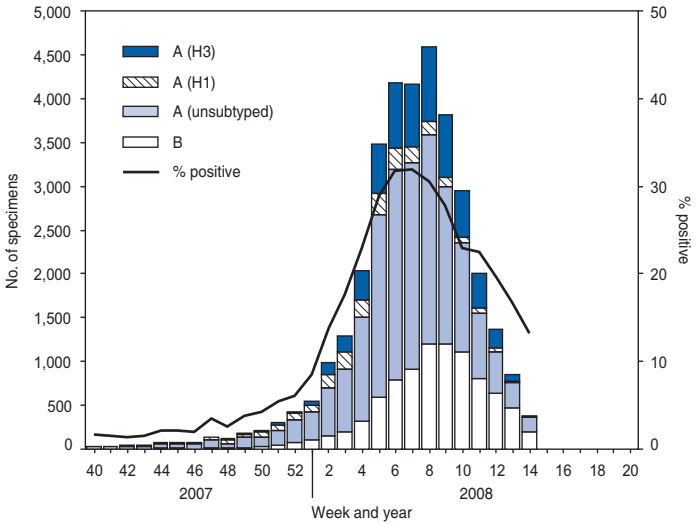
This report summarizes U.S. influenza activity* since September 30, 2007, the start of the 2007–08 influenza season, and updates the previous summary (*1*). Low levels of influenza activity were reported from October through early December. Activity increased from mid-December and peaked in mid-February.

Viral Surveillance

During September 30, 2007–April 5, 2008,† World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories in the United States reported testing 185,938 specimens for influenza viruses, and 34,380 (18.5%) tested positive (Figure 1). Of these, 25,456 (74.0%) were influenza A viruses, and 8,924 (26.0%) were influenza B viruses. A total of 7,715 (30.3%) of the 25,456 influenza A viruses have been subtyped: 2,110 (27.3%) were influenza A (H1N1) viruses, and 5,605 (72.7%) were influenza A (H3N2) viruses. The percentage of specimens testing positive for influenza first exceeded 10% during the week ending January 12 and peaked at 32.0% during the week ending February 16. For the week ending April 5, 13.2% of specimens tested for influenza were positive. Although influenza A (H1N1) viruses predominated through mid-January, the proportion of reported influenza viruses that were A (H3N2) viruses increased rapidly during January, and during the week ending January 26, influenza A (H3N2) became the predominant virus for the season overall.

This season, more influenza A viruses than influenza B viruses have been identified in all surveillance regions. However, for weeks 13 and 14 (March 23–April 5), more influenza B than influenza A viruses were reported. Among influenza A viruses, influenza A (H3N2) has predominated in the East North Central, East South Central, Mid-Atlantic, New England, South Atlantic, West North Central, and West South Central regions, and influenza A (H1N1) has predominated in the Mountain and Pacific regions.

FIGURE 1. Number* and percentage of respiratory specimens testing positive for influenza reported by World Health Organization and National Respiratory and Enteric Virus Surveillance System collaborating laboratories, by type, week, and year — United States, September 30, 2007–April 5, 2008



* N = 34,380 (of 185,938 tested).

Composition of the 2008–09 Influenza Vaccine

The Food and Drug Administration's Vaccines and Related Biological Products Advisory Committee recommended that the 2008–09 trivalent influenza vaccine for the United States contain A/Brisbane/59/2007-like (H1N1), A/Brisbane/10/2007-like (H3N2), and B/Florida/4/2006-like viruses. This represents a change in all three components from the 2007–08 influenza vaccine formulation used in the United States. These recommendations were based on antigenic analyses of recently isolated influenza viruses, epidemiologic data, post-vaccination serologic studies in humans, and the availability of candidate vaccine strains and reagents.

Antigenic Characterization

States are requested to submit a subset of their influenza virus isolates to CDC for further antigenic characterization. Since September 30, 2007, CDC has antigenically characterized 608 influenza viruses submitted by WHO

* The CDC influenza surveillance system collects five categories of information from 10 data sources. Viral surveillance: U.S. World Health Organization collaborating laboratories, the National Respiratory and Enteric Virus Surveillance System, and novel influenza A virus case reporting. Outpatient illness surveillance: U.S. Influenza Sentinel Provider Surveillance Network and the U.S. Department of Veterans Affairs/U.S. Department of Defense BioSense Outpatient Surveillance System. Mortality: 122 Cities Mortality Reporting System and influenza-associated pediatric mortality reports. Hospitalizations: Emerging Infections Program and New Vaccine Surveillance Network. Summary of geographic spread of influenza: state and territorial epidemiologist reports.

† Data as of April 5, 2008.

collaborating laboratories in the United States: 290 influenza A (H1N1), 161 influenza A (H3N2), and 157 influenza B viruses. A total of 200 (69%) of 290 influenza A (H1N1) viruses were characterized as A/Solomon Islands/3/2006-like, the influenza A (H1N1) component of the 2007–08 influenza vaccine for the Northern Hemisphere, and 70 (24%) were characterized as A/Brisbane/59/2007-like, the recommended H1N1 component of the 2008–09 Northern Hemisphere vaccine. Thirty-five (22%) of the 161 influenza A (H3N2) viruses were characterized as A/Wisconsin/67/2005-like, the influenza A (H3N2) component of the 2007–08 influenza vaccine for the Northern Hemisphere. One hundred fifteen (71%) of the 161 viruses were characterized as A/Brisbane/10/2007-like, the recommended influenza A (H3N2) component for the 2008 Southern Hemisphere and 2008–09 Northern Hemisphere vaccines. Influenza B viruses currently circulating can be divided into two antigenically distinct lineages represented by B/Victoria/02/87 and B/Yamagata/16/88. Eight (5%) of the 157 influenza B viruses characterized belong to the B/Victoria lineage of viruses. Six (75%) of these viruses from the B/Victoria lineage were characterized as B/Malaysia/2506/2004-like, the influenza B component of the 2007–08 influenza vaccine. One hundred forty-nine (95%) of the 157 influenza B viruses characterized belong to the B/Yamagata lineage.

Outpatient Illness Surveillance

For the week ending April 5, 2008, the percentage of outpatient visits for influenza-like illness (ILI)[§] reported by approximately 1,400 U.S. sentinel providers in 50 states, Chicago, the District of Columbia, New York City, and the U.S. Virgin Islands was 1.7%, which was below the national baseline of 2.2%.[¶] This season, the percentage of outpatient visits for ILI exceeded the national baseline for 13 consecutive weeks. The percentage of outpatient visits for ILI first exceeded baseline during the week ending December 29 and peaked at 5.9% during the week ending February 16. The percentage of outpatient visits for acute respiratory illness (ARI)[**] reported by approximately 350 U.S. Department of Defense (DoD) and 800 Department of Veterans Affairs (VA) BioSense[††] outpatient treatment facilities for the week ending April 5 was 2.2%, which was below the national baseline of 3.2%[§§] (Figure 2).

State-Specific Activity Levels

During the week ending April 5, 2008, influenza activity was reported as widespread[¶¶] in six states (Connecticut, Maine, Maryland, New York, Pennsylvania, and Vermont) (Figure 3). In addition, regional activity was reported by 11 states (Alaska, California, Colorado, Hawaii, Illinois, Iowa, Massachusetts, New Jersey, North Dakota, Oregon, and Washington); local influenza activity was reported by 23 states (Alabama, Arizona, Georgia, Idaho, Indiana, Kentucky, Louisiana, Michigan, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, Ohio, Rhode Island, South Carolina, South Dakota, Texas, Utah, Virginia, and Wyoming); and sporadic activity was reported by the District of Columbia and 10 states (Arkansas, Delaware, Florida, Kansas, Mississippi, Missouri, Oklahoma, Tennessee, West Virginia, and Wisconsin). Activity peaked during weeks 7 and 8 (February 10–23), when 49 states reported widespread influenza activity and one state reported regional activity.

Influenza-Associated Pediatric Hospitalizations

Pediatric hospitalizations associated with laboratory-confirmed influenza infections are monitored by two population-based surveillance networks, the Emerging Infections Program (EIP) and the New Vaccine Surveillance

[§] Defined as a temperature of ≥100.0°F (≥37.8°C), oral or equivalent, and cough and/or sore throat, in the absence of a known cause other than influenza.

[¶] The national and regional baselines are the mean percentage of visits for ILI during noninfluenza weeks for the previous three seasons plus two standard deviations. A noninfluenza week is a week during which <10% of specimens tested positive for influenza. National and regional percentages of patient visits for ILI are weighted on the basis of state population. Use of the national baseline for regional data is not appropriate.

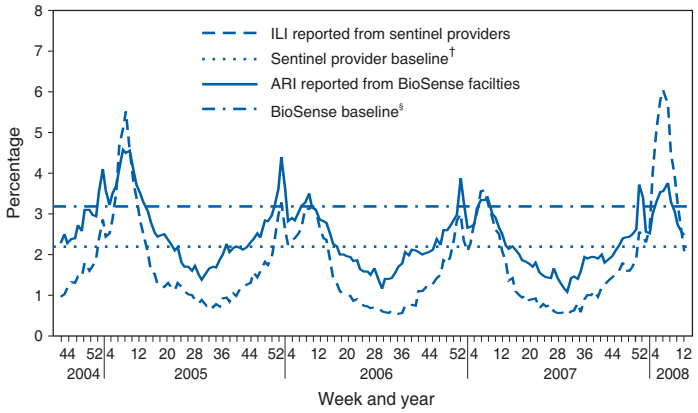
[**] Based on *International Classification of Diseases, Ninth Revision* codes for ARI: 460-66 and 480-88.

[††] BioSense is a national surveillance system that receives, analyzes, and evaluates health data from multiple sources, include 1) approximately 1,150 VA/DoD hospitals and ambulatory-care clinics; 2) multihospital systems, local hospitals, and state and regional syndromic surveillance systems in 37 states; and 3) Laboratory Corporation of America (LabCorp) test results.

[§§] The national, regional, and age-specific baselines are the mean percentage of visits for ARI during noninfluenza weeks for the previous three seasons plus two standard deviations. A noninfluenza week is a week during which <10% of specimens tested positive for influenza. Use of a national baseline for regional data is not appropriate.

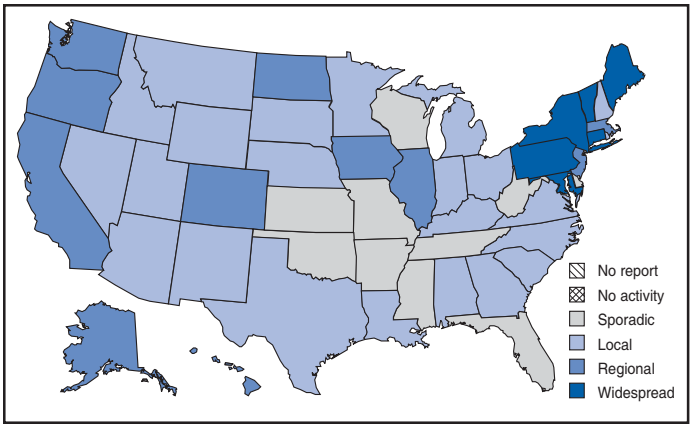
[¶¶] Levels of activity are 1) *no activity*; 2) *sporadic*: isolated laboratory-confirmed influenza cases or a laboratory-confirmed outbreak in one institution, with no increase in activity; 3) *local*: increased ILI , or at least two institutional outbreaks (ILI or laboratory-confirmed influenza) in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

FIGURE 2. Percentage of outpatient visits for influenza-like illness (ILI) and acute respiratory illness (ARI) reported by the Sentinel Provider Surveillance Network and the U.S. Department of Veterans Affairs/U.S. Department of Defense BioSense Outpatient Surveillance System, by week and year — United States, 2004–05, 2005–06, 2006–07, and 2007–08 influenza seasons*



* As of April 5, 2008.
† The national and regional baselines are the mean percentage of visits for ILI during noninfluenza weeks for the previous three seasons plus two standard deviations. A noninfluenza week is a week during which <10% of speciments tested positive for influenza. National and regional percentages of patient visits for ILI are weighted on the basis of state population. Use of the national baseline for regional data is not appropriate.
§ The national, regional, and age-specific baselines are the mean percentage of visits for ARI during noninfluenza weeks for the previous three seasons plus two standard deviations. A noninfluenza week is a week during which <10% of specimens tested positive for influenza. Use of national baseline for regional data is not appropriate.

FIGURE 3. Estimated influenza activity levels reported by state epidemiologists, by state and level of activity* — United States, week ending April 5, 2008



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

Network (NVSN). During November 4, 2007–March 22, 2008, the preliminary laboratory-confirmed influenza-associated hospitalization rate reported by NVSN for children aged 0–4 years was 5.61 per 10,000. During September 30, 2007–March 29, 2008, EIP sites reported a preliminary laboratory-confirmed influenza-associated hospitalization rate of 1.32 per 10,000 for children aged 0–17 years. For children aged 0–4 years, the rate was 3.47 per 10,000, and for children aged 5–17 years, the rate was 0.45 per 10,000. Differences in the rate estimates between the NVSN and the EIP systems likely result from the different case-finding methods and the different populations monitored.***

Pneumonia and Influenza-Related Mortality

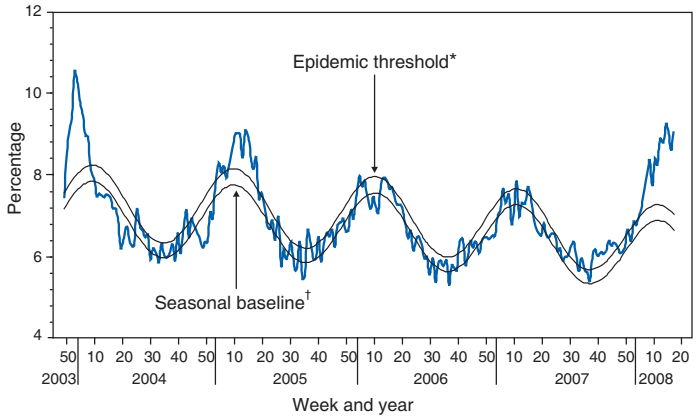
Pneumonia and influenza (P&I) was listed as an underlying or contributing cause of death for 8.9% of all deaths reported through the 122 Cities Mortality Reporting System for the week ending April 5, 2008. This percentage was above the epidemic threshold of 6.9% for the week††† and marked the thirteenth consecutive week that the proportion of all deaths attributed to P&I was above the epidemic threshold (Figure 4). The proportion of deaths from P&I exceeded the epidemic threshold during week ending January 5 and peaked at 9.1% during the week ending March 15.

Influenza-Related Pediatric Mortality

During September 30, 2007–April 5, 2008, a total of 65 pediatric deaths among children aged <18 years associ-

*** NVSN conducts surveillance in Monroe County, New York; Hamilton County, Ohio; and Davidson County, Tennessee. NVSN provides population-based estimates of laboratory-confirmed influenza hospitalization rates in children aged <5 years admitted to NVSN hospitals with fever or respiratory symptoms. Children are prospectively enrolled, and respiratory samples are collected and tested by viral culture and reverse transcription–polymerase chain reaction (RT-PCR). EIP conducts surveillance in 60 counties associated with 12 metropolitan areas: San Francisco, California; Denver, Colorado; New Haven, Connecticut; Atlanta, Georgia; Baltimore, Maryland; Minneapolis/St. Paul, Minnesota; Albuquerque, New Mexico; Las Cruces, New Mexico; Albany, New York; Rochester, New York; Portland, Oregon; and Nashville, Tennessee. EIP conducts surveillance for laboratory-confirmed, influenza-related hospitalizations in persons aged <18 years. Hospital laboratory and admission databases and infection-control logs are reviewed to identify children with a positive influenza test (i.e., viral culture, direct fluorescent antibody assays, RT-PCR, or a commercial rapid antigen test) from testing conducted as a part of their routine care.
††† The expected seasonal baseline proportion of P&I deaths reported by the 122 Cities Mortality Reporting System is projected using a robust regression procedure in which a periodic regression model is applied to the observed percentage of deaths from P&I that occurred during the preceding 5 years. The epidemic threshold is 1.645 standard deviations above the seasonal baseline.

FIGURE 4. Percentage of all deaths attributed to pneumonia and influenza (P&I) reported by the 122 Cities Mortality Reporting System, by week and year, 2003–2008



*The epidemic threshold is 1.645 standard deviations above the seasonal baseline.
†The seasonal baseline is projected using a robust regression procedure that applies a periodic regression model to the observed percentage of deaths from P&I during the preceding 5 years.

ated with laboratory-confirmed influenza were reported from 26 states, New York City, and Chicago through the National Notifiable Diseases Surveillance System. The median age of decedents was 4.5 years (range: 1 month to 17.8 years). During the preceding three influenza seasons, the total number of influenza-related pediatric deaths reported to CDC ranged from 46 to 74.

Resistance to Antiviral Medications

During this influenza season, an increase in the number of influenza viruses resistant to the neuraminidase inhibitor, oseltamivir, has been observed. Among the 1,153 influenza A and B viruses tested during the 2007–08 influenza season, to date, 84 (8.3%) have been found to be resistant to oseltamivir. All the oseltamivir-resistant viruses have been influenza A (H1N1) viruses and have been determined to share the same genetic mutation that confers oseltamivir resistance. These 84 viruses represent 10.2% of the 824 influenza A (H1N1) viruses that have been tested, an increase from four (0.7%) of 588 influenza A (H1N1) viruses tested during the 2006–07 season. No resistance to oseltamivir has been identified among the 194 influenza A (H3N2) or the 135 influenza B viruses tested, and no antiviral resistance to zanamivir has been detected in any influenza A or B viruses. Resistance to adamantanes (amantadine and rimantadine) continues to be high among influenza A viruses. Of 261 influenza A (H3N2) viruses tested, 260 (99.6%) were resistant to adamantanes. Adamantane resistance among influenza A (H1N1) viruses also has been detected, but at a lower level. Of 729 influenza A (H1N1) viruses tested, 81 (11.1%) were resistant to adamantanes. The adamantanes have no activity against influenza B viruses.

Based on the level of oseltamivir resistance observed in only one influenza A subtype (H1N1), persisting high levels of resistance to adamantanes in A (H3N2) viruses, and the predominance of A (H3N2) viruses circulating in the United States during the 2007–08 season with cocirculation of influenza B viruses, CDC continues to recommend the use of oseltamivir and zanamivir for the treatment or chemoprophylaxis of influenza (*2*). Use of amantadine or rimantadine is not recommended.

Reported by: *World Health Organization Collaborating Center for Surveillance, Epidemiology, and Control of Influenza; C Dao, MPH, L Blanton, MPH, S Epperson, MPH, L Brammer, MPH, L Finelli, DrPH, T Wallis, MS, T Uyeki, MD, J Bresee, MD, A Klimov, PhD, N Cox, PhD, Influenza Div, National Center for Immunization and Respiratory Diseases, CDC.*

Editorial Note: By some indicators, this influenza season has been more severe than the previous three seasons. Influenza activity in the United States remained low until January, peaked in mid-February, and decreased thereafter. For the week ending April 5, 2008, widespread activity was reported in six states, and regional activity was reported in 11 states, a decrease from mid-February, when 49 states reported widespread activity and one state reported regional activity. During peak activity of the previous three influenza seasons, the number of states reporting widespread or regional activity ranged from 41 to 49 states. During the 2007–08 season, the percentage of outpatient visits for ILI peaked at 5.9%, exceeded the national baseline for 13 consecutive weeks, and declined to 1.7% during the week ending April 5. During the previous three influenza seasons, the peak percentage of visits for ILI ranged from 3.2% to 5.4% and exceeded baseline levels for 14 to 16 consecutive weeks. To date, the percentage of deaths attributable to P&I peaked at 9.1% and exceeded the epidemic threshold for 13 consecutive weeks this season. For the week ending April 5, the proportion of deaths attributable to P&I was 8.9%. During the previous three seasons, the peak percentage of deaths attributable to P&I ranged from 7.7% to 8.9%, and the total number of weeks above the epidemic threshold ranged from 1 to 11 consecutive weeks. P&I mortality is higher this season than the previous three seasons, which were mild. The 2007–08 season is similar to the 2003–04 season, when the percentage of deaths attributable to P&I peaked at 10.4% and the number of consecutive weeks above the epidemic threshold was 9 weeks.

Influenza A (H1N1) viruses predominated through mid-January, but influenza A (H3N2) viruses were more frequently identified than influenza A (H1N1) viruses since late January and have predominated overall. The majority of influenza A (H1N1) viruses were characterized as A/Solomon Islands/3/2006, the influenza A (H1N1) component of the 2007–08 influenza vaccine for the Northern Hemisphere. To date, the majority of influenza A (H3N2) and influenza B viruses were characterized as A/Brisbane/10/2007 and B/Florida/04/2006, respectively, the recommended influenza A (H3N2) and influenza B components of the 2008–09 influenza vaccine for the Northern Hemisphere.

Clinical vaccine effectiveness cannot be accurately predicted using these data. A case-control study to estimate the effectiveness of trivalent inactivated influenza vaccine was conducted this season in Marshfield, Wisconsin. Preliminary results from subjects enrolled during January 21–February 8 show an overall vaccine effectiveness of 44%, suggesting that vaccination provided substantial protection against influenza-associated, medically attended illness in the study population, despite the suboptimal vaccine match (*3*). These preliminary results are similar to previous studies, which have shown that influenza vaccination provides measurable protection against influenza illness and influenza-related complications and death, even when vaccine strains are antigenically distinct from circulating strains (*4–7*).

As a supplement to influenza vaccination, antiviral drugs have aided in the control and prevention of influenza. Recent studies have identified a considerable protective effect of oseltamivir treatment against complications associated with influenza (*8*), including death among older adults hospitalized with laboratory-confirmed influenza (*9*). This season, resistance to the influenza antiviral drug oseltamivir among influenza A (H1N1) viruses (84 [10.2%] of 824 tested) has been detected. All 84 resistant influenza A (H1N1) viruses identified in the United States this season share the same genetic mutation; this mutation is the most common mutation in this subtype that confers resistance to oseltamivir. Increased resistance to oseltamivir among influenza A (H1N1) viruses has been reported from many countries this season (*10*). No oseltamivir resistance has been detected among influenza A (H3N2) or B viruses currently circulating in the United States. Given the low level of resistance to oseltamivir, the finding of resistance only in some influenza A (H1N1) viruses, and no resistance to zanamivir, these drugs continue to be recommended for the treatment and prophylaxis of influenza (*2*). Although recommendations for use of antiviral medications have not changed, enhanced surveillance for detection of oseltamivir-resistant influenza viruses is ongoing and will enable continued monitoring of changing trends over time. In addition to vaccination and antivirals, other means of decreasing the spread and impact of influenza include staying home from work or school when ill, avoiding others who are sick, covering the nose or mouth with a tissue when coughing or sneezing, and frequent hand washing. Additional information is available at http://www.cdc.gov/flu/protect/habits.htm.

Influenza surveillance reports for the United States are posted online weekly during October–May and are available at http://www.cdc.gov/flu/weekly/fluactivity.htm. Additional information regarding influenza viruses, influenza surveillance, the influenza vaccine, and avian influenza is available at http://www.cdc.gov/flu.

Acknowledgments

This report is based on data contributed by participating state and territorial health departments and state public health laboratories, World Health Organization collaborating laboratories, National Respiratory and Enteric Virus Surveillance System collaborating laboratories, the U.S. Influenza Sentinel Provider Surveillance System, the U.S. Department of Veterans Affairs/U.S. Department of Defense BioSense Outpatient Surveillance System, the New Vaccine Surveillance Network, the Emerging Infections Program, and the 122 Cities Mortality Reporting System.

References

1. CDC. Update: influenza activity—United States, September 30–February 9, 2008. MMWR 2008;57:179–83.
2. CDC. Health Advisory: influenza antiviral use for persons at high risk for influenza complications or who have severe influenza illness. Atlanta, GA: US Department of Health and Human Services, CDC; 2008 Available at http://www2a.cdc.gov/han/archivesys/viewmsgv.asp?alertnum=00271.
3. CDC. Interim within-season estimate of the effectiveness of trivalent inactivated influenza vaccine—Marshfield, Wisconsin, 2007–08 influenza season. MMWR 2008;57:393–8.
4. Edwards KM, Dupont WD, Westrich MK, Plummer WD Jr, Palmer PS, Wright PF. A randomized controlled trial of cold-adapted and inactivated vaccines for the prevention of influenza A disease. J Infect Dis 1994;169:68–76.
5. Nichol KL, Nordin JD, Nelson DB, Mullooly JP, Hak E. Effectiveness of influenza vaccine in the community-dwelling elderly. N Engl J Med 2007;357:1373–81.
6. Shuler CM, Iwamoto M, Bridges CB. Vaccine effectiveness against medically attended, laboratory-confirmed influenza among children aged 6 to 59 months, 2003–2004. Pediatrics 2007;119:e587–95.
7. Russell KL, Ryan MA, Hawksworth A, et al. Effectiveness of the 2003–2004 influenza vaccine among U.S. military basic trainees: a year of suboptimal match between vaccine and circulating strain. Vaccine 2005;23:1981–5.
8. Kaiser L, Wat C, Mills T, Mahoney P, Ward P, Hayden F. Impact of oseltamivir treatment on influenza-related lower respiratory tract complications and hospitalizations. Arch Intern Med 2003;163:1667–72.

9. McGeer A, Green KA, Plevneshi A, et al. Antiviral therapy and outcomes of influenza requiring hospitalization in Ontario, Canada. Clin Infect Dis 2007;45:1568–75.
10. World Health Organization. Influenza A (H1N1) virus resistance to oseltamivir—last quarter 2007 to 4 April 2008. Geneva, Switzerland: World Health Organization; 2008 Available at http://www.who.int/csr/disease/influenza/H1N1ResistanceWeb20080403.pdf.

Notice to Readers

National Infant Immunization Week — April 19–26, 2008

The week of April 19–26, 2008, is National Infant Immunization Week (NIIW) and Vaccination Week in the Americas (VWA). Immunization is one of the most effective ways to protect infants and children from potentially serious diseases. During the week, hundreds of communities throughout the United States are expected to sponsor activities to emphasize the health benefits of timely vaccination and the importance to parents, health-care providers, and communities of maintaining high vaccination coverage. One message stressed during this week will be the key role of the ongoing relationship among parents and their children's health-care providers in vaccination programs. CDC encourages parents to talk to their health-care providers about vaccinations at any time.

The week's activities provide an opportunity to showcase the success of vaccination in saving the lives and protecting the health of children. The currently recommended childhood vaccination schedule (*1*) includes vaccines that prevent infectious diseases such as measles, polio, whooping cough, some forms of meningitis and pneumonia, and liver cancer. An analysis of the impact of seven vaccines showed that they would prevent approximately 33,500 deaths and 14 million illnesses per annual birth cohort (*2*).

NIIW-VWA events held in collaboration with CDC and state and local health departments will be hosted in Rhode Island, Connecticut, and Washington. Events held in collaboration with CDC, state and local health departments, the United States-Mexico Border Health Commission, and the Pan American Health Organization (PAHO), will be hosted in communities along the U.S.-Mexico border, with kick-off events held in El Paso, Texas, and Sunland Park, New Mexico. In all locations, events will include education activities for health-care providers, media briefings, and immunization clinics.

VWA, sponsored by PAHO, targets children and other vulnerable and underserved populations who have low vaccination coverage rates, in all countries in the Western hemisphere. To support NIIW and VWA events nationwide, CDC provides annually updated English- and Spanish-language planning guides, campaign materials, and public relations tools. These include timely key messages, radio public service announcements, and sample media kits. These resources and event listings are available at http://www.cdc.gov/vaccines/events/niiw/default.htm. Additional information about VWA is available at http://www.paho.org/english/dd/pin/vw2008.htm.

References

1. CDC. Recommended immunization schedules for persons aged 0–18 years—United States, 2008. MMWR 2008;57:Q1–4.
2. Zhou F, Santoli J, Messonnier ML, et al. Economic evaluation of the 7-vaccine routine childhood immunization schedule in the United States, 2001. Arch Pediatr Adolesc Med 2005;159:1136–44.

Notice to Readers

International Course in Applied Epidemiology

CDC and Emory University's Rollins School of Public Health will cosponsor the International Course in Applied Epidemiology, to be held September 22–October 17, 2008, in Atlanta, Georgia. The course is designed for public health professionals from countries other than the United States. It will include presentations and discussions of epidemiologic principles, basic statistical analysis, public health surveillance, field investigations, surveys and sampling, and the epidemiologic aspects of current major public health problems in global health.

Group discussions of epidemiologic case exercises based on field investigations will be held during the course. Participants are encouraged to give a short presentation reviewing some epidemiologic data from their own country. The course also will include computer training using Epi Info (Windows version), a software program for epidemiologists developed at CDC and the World Health Organization.

Prerequisites are familiarity with the vocabulary and principles of basic epidemiology, or completion of CDC's Principles of Epidemiology home-study course or equivalent. Preference will be given to applicants whose work involves priority public health problems in international health. Tuition is charged.

Additional information and applications are available by mail (Emory University, Rollins School of Public Health, Hubert Global Health Dept. [Attn: Pia], 1518 Clifton Rd. NE, Rm. 746, Atlanta, GA 30322); fax (404-727-4590), e-mail (pvaleri@sph.emory.edu), or Internet (http://www.sph.emory.edu/epicourses).

Notice to Readers

Web Series: HIV/AIDS Crisis Among African Americans

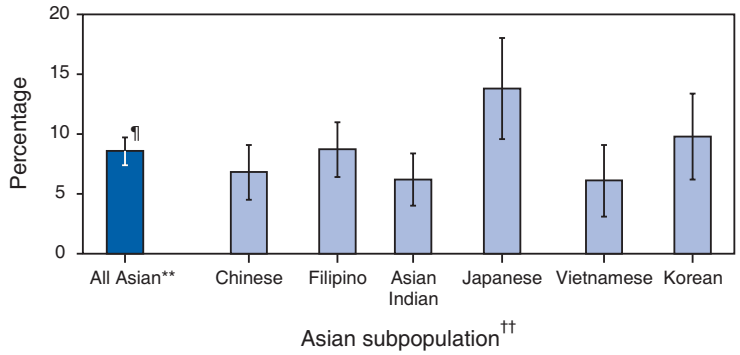
CDC and the Public Health Training Network will offer the six-part web series, A Call to Action for Leaders: The Crisis of HIV/AIDS Among African Americans, available online beginning June 30, 2008. This series is designed to 1) increase awareness of HIV/AIDS in African American communities; 2) highlight innovative, sustainable, and collaborative actions taken by leaders in places where African Americans live, work, play, learn, and worship; and 3) provide links to available resources. David Satcher, former Director of CDC and the 16th Surgeon General of the United States, will serve as senior host of the web series.

Each part of the series is a prerecorded, 30-minute segment, which can be viewed on computers with Internet access and Windows Media Player. The series will be available at http://www2a.cdc.gov/phtn. Parts 1–3 can be viewed beginning June 30, and parts 4–6 can be viewed beginning November 30. A free DVD of this series can be ordered by telephone (800-458-5231) after June 30 (parts 1–3) and after November 30 (parts 1–6).

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Asian Adults* Who Reported Moderate or Heavier Drinking,† by Asian Subpopulation — National Health Interview Survey, United States, 2004–2006§



* Non-Hispanic Asians aged ≥18 years.
† Respondents who had at least 12 drinks in their lifetime and more than three drinks per week, up to 14 drinks per week (on average) for men, and more than three drinks per week up to seven drinks per week (on average) for women were moderate drinkers. Adults who had at least 12 drinks in their lifetime and more than 14 drinks per week (on average) for men and more than seven drinks per week (on average) for women were heavier drinkers.
§ Estimates are age adjusted using the projected 2000 U.S. population as the standard population and using four age groups: 18–24 years, 25–44 years, 45–64 years, and ≥65 years. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized U.S. population and are derived from the National Health Interview Survey sample adult component. Data were combined from three years of surveys to increase reliability of estimates in smaller subpopulations.
¶ 95% confidence interval.
** Includes Chinese, Filipino, Asian Indian, Japanese, Vietnamese, and Korean subpopulations; also includes Other Asian and Native Hawaiian or Other Pacific Islander subpopulations, which are not shown separately because of small sample sizes.
†† Among persons who reported a single Asian subpopulation.

During 2004–2006, Asian adults had the lowest percentage of current moderate or heavier drinkers (9%), when compared with whites (22%), American Indian/Alaska Natives (15%), Hispanics (13%), and blacks (12%). However, the percentage of moderate or heavier drinkers varied substantially among Asian subpopulations: Japanese (14%), Korean (10%), Filipino (9%), Chinese (7%), Vietnamese (6%), and Asian Indian (6%).

SOURCE: Barnes PM, Adams PF, Powell-Griner E. Health characteristics of the Asian adult population: United States, 2004–2006. Adv Data 2008;394. Available at http://www.cdc.gov/nchs/data/ad/ad394.pdf.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending April 12, 2008 (15th Week)*

Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years 2007	2006	2005	2004	2003	States reporting cases during current week (No.)
Anthrax	—	—	—	—	1	—	—	—	
Botulism:									
foodborne	—	2	0	32	20	19	16	20	
infant	—	17	1	84	97	85	87	76	
other (wound & unspecified)	1	2	1	24	48	31	30	33	CA (1)
Brucellosis	2	13	2	128	121	120	114	104	CA (2)
Chancroid	—	13	1	30	33	17	30	54	
Cholera	—	—	0	7	9	8	6	2	
Cyclosporiasis§	—	21	3	91	137	543	160	75	
Diphtheria	—	—	—	—	—	—	—	1	
Domestic arboviral diseases§,¶:									
California serogroup	—	—	0	44	67	80	112	108	
eastern equine	—	—	—	4	8	21	6	14	
Powassan	—	—	—	1	1	1	1	—	
St. Louis	—	—	0	7	10	13	12	41	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§,**:									
Ehrlichia chaffeensis	—	22	2	739	578	506	338	321	
Ehrlichia ewingii	—	1	—	—	—	—	—	—	
Anaplasma phagocytophilum	—	5	3	732	646	786	537	362	
undetermined	—	1	1	162	231	112	59	44	
Haemophilus influenzae,††									
invasive disease (age <5 yrs):									
serotype b	—	11	0	22	29	9	19	32	
nonserotype b	2	45	3	176	175	135	135	117	NY (2)
unknown serotype	3	69	4	191	179	217	177	227	GA (1), AZ (1), AK (1)
Hansen disease§	1	19	2	73	66	87	105	95	MO (1)
Hantavirus pulmonary syndrome§	—	2	0	32	40	26	24	26	
Hemolytic uremic syndrome, postdiarrheal§	2	17	3	277	288	221	200	178	WA (1), CA (1)
Hepatitis C viral, acute	6	184	16	883	766	652	720	1,102	PA (1), MI (1), MN (1), KY (1), OK (2)
HIV infection, pediatric (age <13 yrs)§§	—	—	5	—	—	380	436	504	
Influenza-associated pediatric mortality§,¶¶	1	66	1	76	43	45	—	N	FL (1)
Listeriosis	5	125	11	785	884	896	753	696	NC (1), WA (1), CA (2), AK (1)
Measles***	3	15	1	42	55	66	37	56	NY (1), AZ (2)
Meningococcal disease, invasive†††:									
A, C, Y, & W-135	—	82	6	307	318	297	—	—	
serogroup B	—	55	3	149	193	156	—	—	
other serogroup	—	13	1	31	32	27	—	—	
unknown serogroup	12	206	17	580	651	765	—	—	PA (1), OH (1), FL (1), WA (1), OR (1), CA (7)
Mumps	2	172	113	778	6,584	314	258	231	NY (1), CO (1)
Novel influenza A virus infections	—	—	—	4	N	N	N	N	
Plague	—	1	0	6	17	8	3	1	
Poliomyelitis, paralytic	—	—	—	—	—	1	—	—	
Poliovirus infection, nonparalytic§	—	—	—	—	N	N	N	N	
Psittacosis§	—	1	0	11	21	16	12	12	
Q fever§,§§§ total:	—	13	2	190	169	136	70	71	
acute	—	9	—	—	—	—	—	—	
chronic	—	4	—	—	—	—	—	—	
Rabies, human	—	—	—	—	3	2	7	2	
Rubella¶¶¶	—	3	0	11	11	11	10	7	
Rubella, congenital syndrome	—	—	0	—	1	1	—	1	
SARS-CoV§,****	—	—	0	—	—	—	—	8	

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

* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 2003, 2004, 2005, and 2006 are finalized.

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

§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 and 2008 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/epo/dphsi/phs/infdis.htm.

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

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

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

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

¶¶ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Sixty-six cases occurring during the 2007–08 influenza season have been reported.

*** Two measles cases reported for the current week were indigenous while one was imported.

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

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

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

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

TABLE I. (*Continued*) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending April 12, 2008 (15th Week)

Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years 2007	2006	2005	2004	2003	States reporting cases during current week (No.)
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	2	38	4	116	125	129	132	161	OH (2)
Syphilis, congenital (age <1 yr)	—	26	7	308	349	329	353	413	
Tetanus	—	2	0	22	41	27	34	20	
Toxic-shock syndrome (staphylococcal)§	3	17	2	86	101	90	95	133	MI (1), CA (2)
Trichinellosis	—	1	0	6	15	16	5	6	
Tularemia	—	4	1	115	95	154	134	129	
Typhoid fever	4	88	6	383	353	324	322	356	NC (1), CA (3)
Vancomycin-intermediate *Staphylococcus aureus*§	—	1	0	27	6	2	—	N	
Vancomycin-resistant *Staphylococcus aureus*§	—	—	0	—	1	3	1	N	
Vibriosis (noncholera *Vibrio* species infections)§	2	37	2	361	N	N	N	N	FL (2)
Yellow fever	—	—	—	—	—	—	—	—	

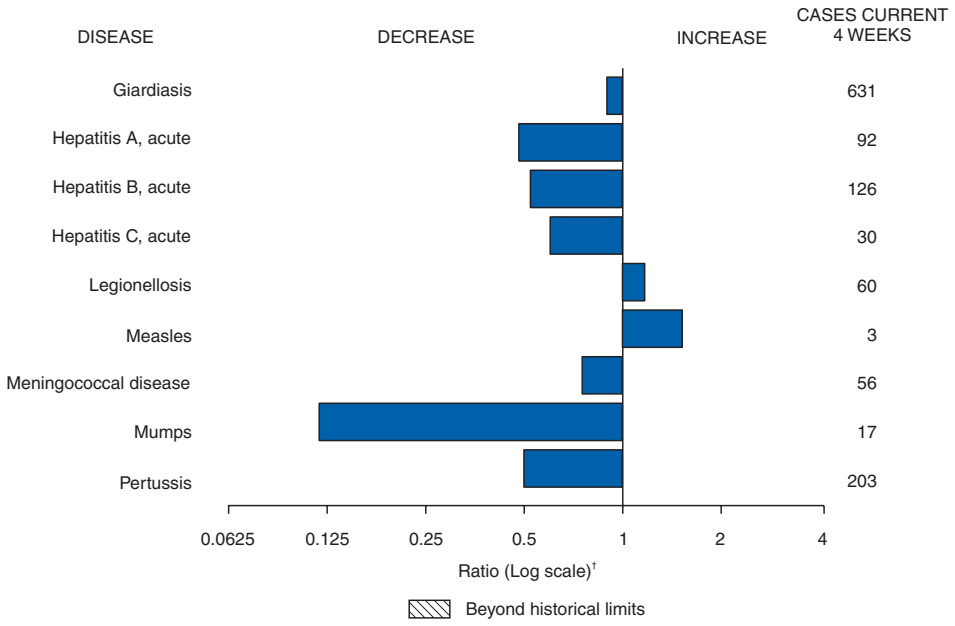
—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 2003, 2004, 2005, and 2006 are finalized.

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

§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 and 2008 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.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals April 12, 2008, 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
Willie J. Anderson
Lenee Blanton
Rosaline Dhara
Carol Worsham
Pearl C. Sharp

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Chlamydia†					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	12,028	20,918	24,271	266,706	304,567	128	132	309	1,939	2,193	42	85	978	862	820
New England	697	671	1,517	9,747	9,742	—	0	1	1	1	3	5	16	51	87
Connecticut	262	210	1,093	2,444	2,435	N	0	0	N	N	—	0	3	3	42
Maine§	35	49	67	763	755	N	0	0	N	N	2	1	5	5	8
Massachusetts	323	306	661	5,077	4,740	N	0	0	N	N	1	2	11	22	18
New Hampshire	6	39	73	552	565	—	0	1	1	1	—	1	5	8	13
Rhode Island§	71	61	98	905	970	—	0	0	—	—	—	0	3	2	—
Vermont§	—	11	32	6	277	N	0	0	N	N	—	1	4	11	6
Mid. Atlantic	3,331	2,724	4,715	36,982	40,060	—	0	0	—	—	7	11	117	120	102
New Jersey	213	387	522	3,707	6,359	N	0	0	N	N	—	0	7	3	7
New York (Upstate)	543	557	2,044	7,266	6,759	N	0	0	N	N	6	4	20	35	27
New York City	2,449	924	2,907	14,812	14,701	N	0	0	N	N	—	1	10	19	23
Pennsylvania	126	787	1,754	11,197	12,241	N	0	0	N	N	1	6	103	63	45
E.N. Central	1,355	3,407	4,863	42,976	50,199	—	1	3	10	11	6	20	134	187	186
Illinois	3	1,016	2,209	9,695	14,245	N	0	0	N	N	—	2	13	17	25
Indiana	201	392	651	5,675	6,175	N	0	0	N	N	—	2	41	22	11
Michigan	1,059	731	1,002	12,837	11,356	—	0	2	7	9	3	4	11	48	40
Ohio	92	875	2,119	9,400	12,691	—	0	1	3	2	3	5	60	59	55
Wisconsin	—	381	610	5,369	5,732	N	0	0	N	N	—	7	59	41	55
W.N. Central	814	1,215	1,462	16,829	18,062	—	0	77	—	3	8	15	124	137	103
Iowa	136	162	251	2,468	2,444	N	0	0	N	N	—	3	61	34	18
Kansas	208	149	393	1,918	2,298	N	0	0	N	N	1	1	16	14	13
Minnesota	—	260	318	3,200	3,893	—	0	77	—	—	—	3	34	32	26
Missouri	357	464	551	6,842	6,723	—	0	1	—	3	5	2	13	23	19
Nebraska§	45	88	183	1,151	1,456	N	0	0	N	N	2	2	24	20	6
North Dakota	2	32	65	443	539	N	0	0	N	N	—	0	6	1	1
South Dakota	66	52	81	807	709	N	0	0	N	N	—	2	16	13	20
S. Atlantic	2,123	3,952	6,420	51,496	57,135	—	0	1	2	2	11	20	65	195	186
Delaware	70	64	140	1,012	1,038	—	0	0	—	—	—	0	4	4	2
District of Columbia	115	113	200	1,607	1,609	—	0	0	—	—	—	0	2	3	3
Florida	1,046	1,268	1,556	19,152	13,170	N	0	0	N	N	7	8	35	90	89
Georgia	6	478	1,502	101	12,184	N	0	0	N	N	3	4	15	68	46
Maryland§	357	466	675	6,160	4,898	—	0	1	2	2	—	0	3	3	6
North Carolina	—	218	4,656	7,008	8,850	N	0	0	N	N	—	1	18	9	10
South Carolina§	—	503	3,155	7,723	7,323	N	0	0	N	N	1	1	15	9	12
Virginia§	527	485	1,062	7,835	7,183	N	0	0	N	N	—	1	5	6	16
West Virginia	2	63	96	898	880	N	0	0	N	N	—	0	5	3	2
E.S. Central	804	1,492	2,283	21,526	24,587	—	0	0	—	—	1	4	65	32	41
Alabama§	23	480	605	6,078	7,421	N	0	0	N	N	—	1	14	15	17
Kentucky	292	203	357	3,064	1,836	N	0	0	N	N	—	1	40	4	11
Mississippi	—	268	1,048	4,399	6,768	N	0	0	N	N	—	0	11	3	8
Tennessee§	489	503	718	7,985	8,562	N	0	0	N	N	1	1	18	10	5
W.S. Central	967	2,584	3,784	36,370	32,973	—	0	1	1	—	4	6	28	53	48
Arkansas§	269	207	455	4,113	2,556	N	0	0	N	N	2	0	8	5	3
Louisiana	352	328	851	3,298	5,435	—	0	1	1	—	—	1	4	3	16
Oklahoma	346	244	418	3,602	3,817	N	0	0	N	N	2	1	11	13	11
Texas§	—	1,737	3,398	25,357	21,165	N	0	0	N	N	—	3	16	32	18
Mountain	415	1,382	1,830	9,361	21,135	70	89	171	1,327	1,461	2	9	571	74	51
Arizona	63	438	668	819	6,706	70	87	169	1,307	1,421	—	1	6	11	6
Colorado	48	300	488	1,412	5,200	N	0	0	N	N	—	2	26	15	16
Idaho§	77	57	233	1,085	1,182	N	0	0	N	N	2	1	72	17	2
Montana§	26	48	363	840	825	N	0	0	N	N	—	1	7	9	3
Nevada§	151	181	291	2,079	2,733	—	1	6	11	13	—	0	6	2	3
New Mexico§	—	160	394	1,490	2,714	—	0	2	6	9	—	2	9	7	15
Utah	50	121	216	1,625	1,401	—	0	7	3	18	—	1	488	8	1
Wyoming§	—	20	34	11	374	—	0	1	—	—	—	0	8	5	5
Pacific	1,522	3,309	4,055	41,419	50,674	58	36	217	598	715	—	2	20	13	16
Alaska	66	91	137	1,123	1,381	N	0	0	N	N	—	0	2	1	—
California	1,293	2,717	3,464	35,719	39,972	58	36	217	598	715	—	0	0	—	—
Hawaii	3	110	134	1,423	1,643	N	0	0	N	N	—	0	4	1	—
Oregon§	160	189	403	3,046	2,743	N	0	0	N	N	—	1	16	11	16
Washington	—	126	621	108	4,935	N	0	0	N	N	—	0	0	—	—
American Samoa	14	0	32	56	21	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	9	34	34	227	—	0	0	—	—	—	0	0	—	—
Puerto Rico	105	112	612	1,572	2,376	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	3	9	—	60	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes†				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	165	298	1,110	3,535	4,173	3,477	6,595	7,948	76,921	98,122	37	45	145	837	806
New England	5	24	54	306	305	96	101	227	1,356	1,563	1	3	8	45	55
Connecticut	—	6	18	69	82	49	41	199	510	544	1	0	8	2	15
Maine§	2	3	10	35	41	1	2	8	25	20	—	0	3	5	5
Massachusetts	2	9	29	131	142	36	50	127	690	788	—	1	6	29	30
New Hampshire	—	1	4	18	3	4	2	6	31	45	—	0	2	4	5
Rhode Island§	—	1	15	21	2	6	6	14	100	149	—	0	2	2	—
Vermont§	1	2	8	32	35	—	1	5	—	17	—	0	1	3	—
Mid. Atlantic	23	59	118	610	743	691	659	1,004	8,137	10,176	7	9	27	158	180
New Jersey	—	7	15	21	96	74	114	142	1,367	1,757	—	1	7	24	27
New York (Upstate)	14	24	100	251	226	140	124	518	1,657	1,656	4	2	20	41	46
New York City	3	16	29	154	250	428	163	476	2,202	3,180	—	1	6	29	40
Pennsylvania	6	14	30	184	171	49	230	551	2,911	3,583	3	3	11	64	67
E.N. Central	24	45	91	509	682	697	1,300	1,820	15,501	20,522	3	6	23	125	107
Illinois	—	13	33	103	199	1	378	772	2,928	5,090	—	2	7	34	37
Indiana	N	0	0	N	N	66	161	308	2,345	2,468	—	1	19	30	13
Michigan	4	10	22	110	194	604	285	541	5,045	4,966	—	0	3	5	10
Ohio	20	15	37	233	196	26	366	914	3,569	5,994	3	2	6	54	40
Wisconsin	—	7	21	63	93	—	121	214	1,614	2,004	—	0	1	2	7
W.N. Central	8	23	581	380	264	203	363	446	4,331	5,786	5	3	24	65	39
Iowa	—	5	23	66	58	13	29	56	367	598	—	0	1	1	—
Kansas	2	3	11	36	32	67	40	102	481	670	—	0	2	6	4
Minnesota	—	0	575	115	6	—	65	90	792	994	3	0	21	13	12
Missouri	5	8	23	105	119	96	185	255	2,221	3,056	—	1	6	31	17
Nebraska§	1	3	8	38	28	19	26	57	363	351	2	0	3	11	5
North Dakota	—	0	3	7	3	—	2	6	29	28	—	0	2	3	1
South Dakota	—	1	6	13	18	8	5	11	78	89	—	0	0	—	—
S. Atlantic	35	56	102	682	724	746	1,560	2,521	17,993	22,365	6	11	30	225	204
Delaware	—	1	6	11	8	31	24	44	360	409	—	0	1	2	5
District of Columbia	1	0	6	17	16	48	44	71	573	668	—	0	2	4	2
Florida	17	22	47	291	316	345	486	619	6,702	5,636	2	3	10	59	62
Georgia	13	14	45	212	162	3	180	621	46	4,944	2	2	9	57	46
Maryland§	1	4	18	49	71	92	129	235	1,722	1,596	2	2	6	45	34
North Carolina	N	0	0	N	N	—	170	1,825	3,094	4,198	—	0	9	23	15
South Carolina§	1	3	6	30	21	—	201	1,361	2,743	2,941	—	1	4	15	19
Virginia§	2	9	40	59	122	227	124	485	2,535	1,734	—	1	23	14	15
West Virginia	—	0	8	13	8	—	17	38	218	239	—	0	3	6	6
E.S. Central	9	10	23	105	131	295	565	868	7,805	9,022	5	2	8	43	43
Alabama§	1	5	11	58	75	16	207	282	2,497	3,132	1	0	3	6	10
Kentucky	N	0	0	N	N	94	80	161	1,154	624	—	0	1	—	2
Mississippi	N	0	0	N	N	—	112	401	1,723	2,366	—	0	2	7	3
Tennessee§	8	4	16	47	56	185	174	261	2,431	2,900	4	2	6	30	28
W.S. Central	4	6	21	56	88	351	1,006	1,347	12,498	13,901	5	2	15	39	31
Arkansas§	3	2	9	27	35	72	78	138	1,343	1,207	—	0	2	1	1
Louisiana	—	2	14	11	29	178	181	384	1,797	3,219	—	0	2	2	4
Oklahoma	1	3	9	18	24	101	87	172	1,358	1,611	5	1	8	35	24
Texas§	N	0	0	N	N	—	641	961	8,000	7,864	—	0	3	1	2
Mountain	10	32	68	248	385	108	254	339	1,679	3,804	1	5	13	107	98
Arizona	—	3	11	29	58	19	95	130	233	1,377	1	2	11	61	44
Colorado	6	10	26	62	129	42	58	91	389	975	—	1	4	8	21
Idaho§	2	3	19	36	33	—	4	19	48	80	—	0	1	1	3
Montana§	1	2	8	22	22	2	1	48	26	30	—	0	1	1	—
Nevada§	—	3	8	24	30	39	44	85	540	654	—	0	1	5	5
New Mexico§	—	2	5	18	37	—	29	64	281	459	—	1	4	12	16
Utah	1	7	33	48	64	6	14	39	162	211	—	1	6	19	8
Wyoming§	—	1	3	9	12	—	1	5	—	18	—	0	1	—	1
Pacific	47	60	228	639	851	290	658	800	7,621	10,983	4	2	7	30	49
Alaska	—	1	5	21	17	12	10	24	118	145	1	0	4	5	4
California	37	41	84	447	621	258	566	693	6,930	9,323	—	0	5	1	12
Hawaii	—	1	4	6	23	2	12	23	146	196	1	0	1	5	3
Oregon§	1	9	19	110	125	18	24	63	410	317	2	1	4	19	30
Washington	9	8	137	55	65	—	16	142	17	1,002	—	0	3	—	—
American Samoa	—	0	0	—	—	—	0	1	2	2	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	—	—	—	2	13	18	20	—	0	1	—	—
Puerto Rico	—	5	31	6	72	2	4	23	67	104	—	0	1	—	—
U.S. Virgin Islands	—	0	0	—	—	—	1	2	—	18	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Hepatitis (viral, acute), by type† A: Current week	A: Previous 52 weeks Med	A: Previous 52 weeks Max	A: Cum 2008	A: Cum 2007	B: Current week	B: Previous 52 weeks Med	B: Previous 52 weeks Max	B: Cum 2008	B: Cum 2007	Legionellosis: Current week	Legionellosis: Previous 52 weeks Med	Legionellosis: Previous 52 weeks Max	Legionellosis: Cum 2008	Legionellosis: Cum 2007
United States	28	53	147	643	754	36	81	230	837	1,200	16	48	96	485	435
New England	3	2	6	33	21	—	1	6	12	19	1	2	14	20	21
Connecticut	2	0	3	9	5	—	0	2	6	9	1	0	4	5	2
Maine§	—	0	1	2	—	—	0	2	3	1	—	0	2	1	—
Massachusetts	1	1	5	12	9	—	0	1	1	1	—	0	2	1	12
New Hampshire	—	0	3	1	4	—	0	1	1	4	—	0	2	2	—
Rhode Island§	—	0	2	9	3	—	0	3	1	3	—	0	6	8	6
Vermont§	—	0	1	—	—	—	0	1	—	1	—	0	2	3	1
Mid. Atlantic	3	9	21	84	116	2	9	17	80	176	5	14	37	104	115
New Jersey	—	2	6	14	39	—	2	7	1	61	—	1	11	11	20
New York (Upstate)	1	1	6	20	24	1	2	7	17	17	3	4	15	25	27
New York City	1	3	9	22	39	—	2	7	11	41	—	2	11	9	24
Pennsylvania	1	2	6	28	14	1	3	14	51	57	2	5	21	59	44
E.N. Central	1	6	13	73	89	2	8	15	96	147	2	11	30	115	103
Illinois	—	2	5	14	38	—	1	6	14	44	—	2	12	13	23
Indiana	—	0	4	5	4	—	1	8	9	9	—	1	7	6	6
Michigan	—	2	7	41	21	—	2	6	34	41	—	3	11	34	30
Ohio	1	1	3	10	20	2	2	6	36	42	2	4	17	62	37
Wisconsin	—	0	2	3	6	—	0	1	3	11	—	0	1	—	7
W.N. Central	2	3	24	82	35	1	2	8	22	50	1	2	9	25	14
Iowa	—	1	5	27	6	—	0	2	4	11	—	0	2	4	2
Kansas	—	0	3	5	—	1	0	2	4	4	—	0	1	1	—
Minnesota	—	0	23	9	20	—	0	5	—	4	—	0	6	2	2
Missouri	—	1	3	17	4	—	1	5	12	24	—	1	3	10	7
Nebraska§	2	1	4	23	3	—	0	1	2	4	1	0	2	7	2
North Dakota	—	0	0	—	—	—	0	1	—	—	—	0	0	—	—
South Dakota	—	0	1	1	2	—	0	1	—	3	—	0	1	1	1
S. Atlantic	2	10	22	92	137	8	19	53	229	300	2	8	32	104	102
Delaware	—	0	1	1	—	—	0	2	—	3	—	0	2	1	1
District of Columbia	—	0	5	—	13	—	0	0	—	1	—	0	2	6	—
Florida	1	3	8	42	49	5	6	12	98	92	2	3	12	45	45
Georgia	1	1	5	15	20	2	2	6	33	45	—	1	3	15	11
Maryland§	—	1	5	12	19	—	2	7	22	31	—	1	5	17	22
North Carolina	—	0	9	9	6	1	0	16	25	49	—	0	7	5	9
South Carolina§	—	0	4	2	4	—	1	6	19	22	—	0	2	2	4
Virginia§	—	1	5	10	26	—	2	16	25	43	—	1	6	10	7
West Virginia	—	0	2	1	—	—	0	23	7	14	—	0	5	3	3
E.S. Central	2	2	5	10	25	2	7	15	92	90	—	2	6	22	20
Alabama§	1	0	4	2	5	—	2	6	27	32	—	0	1	2	2
Kentucky	—	0	2	3	5	1	2	7	29	9	—	1	3	12	9
Mississippi	—	0	1	—	4	—	0	3	10	10	—	0	0	—	—
Tennessee§	1	1	3	5	11	1	2	8	26	39	—	1	4	8	9
W.S. Central	—	5	46	61	58	14	18	112	183	200	—	2	12	12	13
Arkansas§	—	0	1	—	4	—	1	3	7	21	—	0	3	1	1
Louisiana	—	0	3	3	8	—	1	6	14	26	—	0	2	—	1
Oklahoma	—	0	8	3	—	2	1	38	19	8	—	0	2	—	—
Texas§	—	4	45	55	46	12	12	94	143	145	—	2	12	11	11
Mountain	5	4	10	49	68	1	3	8	40	69	—	2	6	23	21
Arizona	2	2	10	24	53	—	1	4	9	32	—	1	5	7	6
Colorado	—	0	3	3	6	1	0	3	6	10	—	0	2	1	4
Idaho§	3	0	2	11	1	—	0	2	3	4	—	0	1	1	1
Montana§	—	0	2	—	—	—	0	1	—	—	—	0	1	2	1
Nevada§	—	0	1	—	4	—	1	3	12	16	—	0	2	3	2
New Mexico§	—	0	2	7	1	—	0	2	4	4	—	0	1	2	2
Utah	—	0	2	2	2	—	0	2	6	3	—	0	3	7	3
Wyoming§	—	0	1	2	1	—	0	1	—	—	—	0	1	—	2
Pacific	10	12	44	159	205	6	9	30	83	149	5	3	16	60	26
Alaska	—	0	1	1	1	—	0	2	2	3	—	0	0	—	—
California	10	9	34	128	189	6	6	19	62	119	5	2	13	51	20
Hawaii	—	0	2	3	2	—	0	2	2	—	—	0	1	2	1
Oregon§	—	1	3	10	5	—	1	3	8	18	—	0	2	4	—
Washington	—	1	8	17	8	—	1	10	9	9	—	0	2	3	5
American Samoa	—	0	0	—	—	—	0	13	—	1	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	—	1	—	0	0	—	—
Puerto Rico	—	0	4	2	29	—	1	5	4	20	—	0	1	—	2
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 notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Data for acute hepatitis C, viral are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All serogroups				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	52	327	1,329	1,429	2,201	6	25	115	176	262	12	19	53	356	372
New England	—	44	301	63	186	—	1	25	3	11	—	1	3	14	13
Connecticut	—	12	214	—	36	—	0	18	—	—	—	0	1	1	2
Maine§	—	6	61	33	15	—	0	2	—	3	—	0	1	1	2
Massachusetts	—	0	31	3	62	—	0	3	2	7	—	0	3	12	6
New Hampshire	—	8	88	23	66	—	0	4	1	1	—	0	1	—	—
Rhode Island§	—	0	79	—	—	—	0	7	—	—	—	0	1	—	1
Vermont§	—	1	13	4	7	—	0	2	—	—	—	0	1	—	2
Mid. Atlantic	34	171	690	870	1,133	—	7	18	37	65	1	2	7	40	42
New Jersey	—	42	219	153	362	—	1	4	—	12	—	0	1	1	7
New York (Upstate)	17	54	224	108	164	—	1	8	4	10	—	1	3	15	9
New York City	—	5	27	4	46	—	4	9	25	37	—	0	4	6	7
Pennsylvania	17	51	324	605	561	—	1	4	8	6	1	1	5	18	19
E.N. Central	—	10	169	22	84	—	2	7	36	40	1	3	8	58	60
Illinois	—	0	16	1	6	—	1	6	16	19	—	1	3	16	23
Indiana	—	0	7	1	1	—	0	2	1	1	—	0	4	10	7
Michigan	—	0	5	6	3	—	0	2	6	7	—	0	2	11	10
Ohio	—	0	4	3	2	—	0	3	11	7	1	1	3	15	13
Wisconsin	—	9	149	11	72	—	0	1	2	6	—	0	2	6	7
W.N. Central	—	4	714	6	34	2	0	8	8	13	—	1	8	37	28
Iowa	—	1	11	5	8	1	0	1	1	2	—	0	3	8	7
Kansas	—	0	2	—	2	—	0	1	—	—	—	0	1	1	2
Minnesota	—	0	714	—	23	—	0	8	1	7	—	0	7	15	8
Missouri	—	0	4	1	1	1	0	1	2	2	—	0	3	8	8
Nebraska§	—	0	1	—	—	—	0	2	4	2	—	0	2	4	1
North Dakota	—	0	2	—	—	—	0	1	—	—	—	0	1	—	1
South Dakota	—	0	0	—	—	—	0	1	—	—	—	0	1	1	1
S. Atlantic	7	60	215	401	714	3	5	15	49	51	1	3	11	43	47
Delaware	—	11	34	110	122	—	0	1	—	2	—	0	1	—	—
District of Columbia	—	0	7	29	2	—	0	1	—	1	—	0	0	—	—
Florida	—	1	11	6	7	1	1	7	16	13	1	1	7	20	15
Georgia	—	0	3	1	—	—	1	3	12	5	—	0	3	4	6
Maryland§	7	31	133	225	484	2	1	5	17	16	—	0	2	4	11
North Carolina	—	0	8	2	6	—	0	4	2	4	—	0	4	3	4
South Carolina§	—	0	4	2	4	—	0	1	1	—	—	0	3	9	5
Virginia§	—	17	63	25	85	—	1	7	1	10	—	0	2	2	6
West Virginia	—	0	9	1	4	—	0	1	—	—	—	0	1	1	—
E.S. Central	1	0	5	1	7	1	0	3	3	8	—	1	3	22	17
Alabama§	1	0	3	1	1	1	0	1	2	1	—	0	2	1	3
Kentucky	—	0	2	—	—	—	0	1	1	1	—	0	2	5	2
Mississippi	—	0	1	—	—	—	0	1	—	1	—	0	2	6	4
Tennessee§	—	0	4	—	6	—	0	2	—	5	—	0	2	10	8
W.S. Central	2	1	8	8	15	—	1	56	8	24	—	2	11	33	40
Arkansas§	—	0	1	—	—	—	0	1	—	—	—	0	2	2	5
Louisiana	—	0	0	—	2	—	0	1	—	11	—	0	3	10	12
Oklahoma	—	0	0	—	—	—	0	2	1	1	—	0	4	6	7
Texas§	2	1	8	8	13	—	1	55	7	12	—	1	6	15	16
Mountain	—	1	3	3	3	—	1	5	6	16	—	1	3	20	32
Arizona	—	0	1	1	—	—	0	1	1	4	—	0	1	2	7
Colorado	—	0	1	2	—	—	0	2	2	9	—	0	2	4	11
Idaho§	—	0	2	—	—	—	0	2	—	—	—	0	2	2	2
Montana§	—	0	2	—	1	—	0	1	—	1	—	0	1	2	1
Nevada§	—	0	2	—	2	—	0	3	3	—	—	0	2	4	3
New Mexico§	—	0	2	—	—	—	0	1	—	1	—	0	1	3	1
Utah	—	0	2	—	—	—	0	3	—	1	—	0	2	2	6
Wyoming§	—	0	1	—	—	—	0	0	—	—	—	0	1	1	1
Pacific	8	3	11	55	25	—	3	9	26	34	9	4	20	89	93
Alaska	—	0	2	—	2	—	0	0	—	2	—	0	1	—	1
California	8	2	9	54	23	—	2	8	19	23	7	3	12	68	67
Hawaii	N	0	0	N	N	—	0	1	1	1	—	0	2	—	3
Oregon§	—	0	1	1	—	—	0	2	3	7	1	1	3	11	11
Washington	—	0	7	—	—	—	0	3	3	1	1	0	8	10	11
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	—	1	—	0	1	—	3
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 notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Data for meningococcal disease, invasive caused by serogroups A, C, Y, & W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	64	165	690	1,594	2,680	84	93	174	937	1,299	3	35	147	65	157
New England	2	21	45	223	430	8	9	22	73	133	—	0	1	—	2
Connecticut	—	0	5	—	20	4	4	10	41	58	—	0	0	—	—
Maine†	—	1	5	14	31	1	1	5	10	23	N	0	0	N	N
Massachusetts	1	18	33	188	343	N	0	0	N	N	—	0	1	—	2
New Hampshire	—	1	5	7	19	1	1	4	8	10	—	0	1	—	—
Rhode Island†	1	0	8	10	2	N	0	0	N	N	—	0	0	—	—
Vermont†	—	0	6	4	15	2	2	13	14	42	—	0	0	—	—
Mid. Atlantic	10	22	39	203	424	10	24	56	183	334	—	1	7	5	15
New Jersey	—	3	8	3	71	—	0	0	—	—	—	0	3	—	2
New York (Upstate)	4	8	24	67	206	10	9	20	97	98	—	0	1	—	—
New York City	—	2	7	15	45	—	0	5	5	23	—	0	3	2	7
Pennsylvania	6	7	22	118	102	—	11	44	81	213	—	0	3	3	6
E.N. Central	4	22	186	438	513	3	2	39	5	5	—	1	4	3	5
Illinois	—	2	8	19	65	N	0	0	N	N	—	1	3	1	2
Indiana	—	0	12	12	7	—	0	1	—	—	—	0	2	—	—
Michigan	2	3	16	41	103	3	1	28	4	4	—	0	1	—	1
Ohio	2	12	176	366	223	—	1	11	1	1	—	0	2	2	2
Wisconsin	—	0	14	—	115	N	0	0	N	N	—	0	0	—	—
W.N. Central	2	12	134	127	195	1	4	13	16	47	—	5	37	12	20
Iowa	—	2	8	20	55	—	0	3	2	5	—	0	4	—	1
Kansas	—	2	5	18	52	—	1	7	—	30	—	0	2	—	3
Minnesota	—	0	131	—	40	—	0	6	9	3	—	0	4	—	—
Missouri	1	2	16	71	19	1	0	3	1	2	—	5	29	12	16
Nebraska†	1	1	12	16	7	—	0	0	—	—	—	0	2	—	—
North Dakota	—	0	4	—	1	—	0	5	2	6	—	0	0	—	—
South Dakota	—	0	7	2	21	—	0	2	2	1	—	0	1	—	—
S. Atlantic	23	14	51	165	286	43	40	62	562	666	2	14	111	30	78
Delaware	—	0	2	2	1	—	0	0	—	—	—	0	2	1	5
District of Columbia	—	0	1	2	2	—	0	0	—	—	1	0	1	1	—
Florida	9	3	9	42	86	—	0	15	34	124	—	0	3	1	3
Georgia	—	0	3	2	13	22	6	31	109	58	—	0	6	3	5
Maryland†	—	2	5	20	46	10	9	18	120	104	1	1	6	8	12
North Carolina	14	3	38	54	75	9	9	19	130	130	—	3	96	11	37
South Carolina†	—	1	22	18	26	—	0	11	—	35	—	0	7	—	7
Virginia†	—	2	11	25	33	—	12	29	141	192	—	2	11	4	8
West Virginia	—	0	12	—	4	2	0	11	28	23	—	0	3	1	1
E.S. Central	4	6	35	56	84	3	3	7	33	38	1	5	16	7	32
Alabama†	—	1	6	15	25	—	0	0	—	—	—	1	10	3	10
Kentucky	—	0	4	6	5	3	0	3	7	6	—	0	2	—	—
Mississippi	—	3	32	20	15	—	0	1	1	—	—	0	3	1	1
Tennessee†	4	1	5	15	39	—	2	6	25	32	1	2	10	3	21
W.S. Central	3	20	144	57	149	11	1	23	24	18	—	1	30	6	3
Arkansas†	3	2	17	19	21	1	1	3	13	8	—	0	15	—	—
Louisiana	—	0	2	1	7	—	0	0	—	—	—	0	2	2	1
Oklahoma	—	0	26	2	—	10	0	22	11	10	—	0	20	—	—
Texas†	—	16	134	35	121	—	0	0	—	—	—	1	7	4	2
Mountain	3	19	48	177	367	1	2	8	11	1	—	0	4	1	1
Arizona	—	2	8	15	113	N	0	0	N	N	—	0	1	—	—
Colorado	—	5	14	28	90	—	0	0	—	—	—	0	2	—	—
Idaho†	2	0	4	9	11	—	0	4	—	—	—	0	1	—	1
Montana†	—	1	11	54	12	—	0	3	—	—	—	0	1	—	—
Nevada†	—	0	6	2	8	—	0	2	—	—	—	0	0	—	—
New Mexico†	—	1	7	3	15	—	0	2	8	—	—	0	1	1	—
Utah	1	6	38	65	105	—	0	2	—	1	—	0	0	—	—
Wyoming†	—	0	2	1	13	1	0	4	3	—	—	0	2	—	—
Pacific	13	16	243	148	232	4	4	10	30	57	—	0	2	1	1
Alaska	3	1	6	22	9	—	0	3	9	25	N	0	0	N	N
California	—	8	32	23	158	4	3	8	21	32	—	0	2	1	1
Hawaii	—	0	2	4	8	—	0	0	—	—	N	0	0	N	N
Oregon†	1	2	14	34	20	—	0	3	—	—	—	0	1	—	—
Washington	9	3	209	65	37	—	0	0	—	—	N	0	0	N	N
American Samoa	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	0	—	—	—	0	5	11	15	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Salmonellosis					Shiga toxin-producing *E. coli* (STEC)†					Shigellosis				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	372	871	1,956	6,869	8,874	31	79	237	772	649	188	360	1,103	3,780	3,134
New England	3	31	117	344	753	1	4	11	37	113	1	3	11	44	99
Connecticut	—	0	89	89	431	—	0	6	6	71	—	0	8	8	44
Maine§	2	2	14	30	28	—	0	4	3	11	—	0	2	1	8
Massachusetts	1	21	58	182	235	—	2	10	18	21	1	2	8	28	43
New Hampshire	—	3	10	13	28	1	0	4	6	7	—	0	1	1	3
Rhode Island§	—	1	15	19	19	—	0	2	2	1	—	0	9	5	1
Vermont§	—	1	5	11	12	—	0	3	2	2	—	0	1	1	—
Mid. Atlantic	29	108	190	750	1,218	2	9	196	283	86	21	20	154	355	151
New Jersey	—	19	48	59	245	—	1	7	1	22	—	4	13	55	24
New York (Upstate)	13	26	63	204	290	2	3	192	257	22	21	4	19	111	28
New York City	1	25	52	215	288	—	1	5	8	10	—	7	19	157	80
Pennsylvania	15	34	69	272	395	—	2	11	17	32	—	2	141	32	19
E.N. Central	21	104	255	702	1,211	3	9	35	55	77	27	57	134	674	301
Illinois	—	29	188	183	445	—	1	13	4	13	—	15	29	196	154
Indiana	—	11	34	67	110	—	2	12	5	4	—	5	82	221	16
Michigan	6	19	43	152	188	—	2	8	16	13	1	1	7	13	12
Ohio	15	24	64	226	250	3	2	9	24	30	26	20	104	215	68
Wisconsin	—	12	50	74	218	—	2	11	6	17	—	4	13	29	51
W.N. Central	30	49	103	500	566	10	12	38	79	72	13	25	80	221	520
Iowa	—	9	18	74	94	—	2	13	17	15	1	2	6	20	19
Kansas	7	7	20	54	88	3	1	4	7	5	—	0	3	4	9
Minnesota	—	13	39	127	128	—	3	15	14	24	2	4	10	37	76
Missouri	10	14	29	152	167	2	3	12	28	16	9	17	72	99	393
Nebraska§	13	5	13	66	37	5	2	6	9	12	—	0	3	—	5
North Dakota	—	0	9	7	8	—	0	1	—	—	1	0	5	17	6
South Dakota	—	3	11	20	44	—	1	5	4	—	—	1	30	44	12
S. Atlantic	115	230	447	2,019	2,303	8	13	39	136	132	21	83	152	902	1,022
Delaware	3	3	8	28	26	—	0	2	2	4	—	0	2	1	4
District of Columbia	—	0	4	12	8	—	0	1	1	—	—	0	4	8	3
Florida	58	87	181	971	965	3	3	18	49	35	12	33	75	278	659
Georgia	4	36	86	347	341	—	1	6	10	17	4	31	85	399	276
Maryland§	9	15	44	123	168	2	1	5	20	19	—	2	7	16	24
North Carolina	36	23	228	223	370	2	1	24	14	23	5	0	12	30	16
South Carolina§	2	18	51	167	183	—	0	3	11	3	—	6	21	149	17
Virginia§	3	22	50	115	212	1	3	9	24	30	—	3	14	20	22
West Virginia	—	4	25	33	30	—	0	3	5	1	—	0	62	1	1
E.S. Central	22	60	144	451	549	3	4	26	50	27	25	49	177	476	254
Alabama§	2	16	50	140	153	—	1	19	25	5	3	13	43	129	99
Kentucky	6	10	23	80	111	—	1	12	6	9	4	8	35	49	30
Mississippi	1	13	57	89	101	—	0	1	2	1	2	18	111	141	65
Tennessee§	13	17	34	142	184	3	2	12	17	12	16	7	32	157	60
W.S. Central	46	97	833	560	547	—	5	13	37	36	32	49	665	691	293
Arkansas§	5	13	50	75	79	—	0	3	7	8	2	2	13	63	21
Louisiana	—	16	44	58	119	—	0	0	—	3	—	9	22	57	96
Oklahoma	10	9	43	79	67	—	0	3	3	5	1	3	8	28	13
Texas§	31	53	790	348	282	—	3	11	27	20	29	34	645	543	163
Mountain	36	52	83	583	587	2	9	42	60	58	19	17	40	158	198
Arizona	11	17	39	182	202	—	2	8	19	18	6	10	30	76	94
Colorado	23	10	47	188	152	1	1	17	4	13	3	2	6	10	30
Idaho§	2	3	10	33	32	—	2	16	19	4	—	0	2	3	3
Montana§	—	1	10	15	26	—	0	3	3	—	—	0	2	—	8
Nevada§	—	5	12	45	60	—	0	3	2	5	10	1	10	54	11
New Mexico§	—	5	13	52	57	1	1	3	8	11	—	1	6	9	34
Utah	—	5	17	53	42	—	1	9	4	7	—	0	5	3	5
Wyoming§	—	1	5	15	16	—	0	1	1	—	—	0	5	3	13
Pacific	70	114	391	960	1,140	2	9	38	35	48	29	27	70	259	296
Alaska	—	1	5	9	24	1	0	1	1	—	—	0	1	—	6
California	55	85	230	738	900	1	5	33	19	27	26	22	61	219	239
Hawaii	2	5	14	51	62	—	0	4	3	3	—	0	3	11	12
Oregon§	—	6	16	68	70	—	1	11	3	8	1	1	6	11	12
Washington	13	12	152	94	84	—	1	17	9	10	2	2	21	18	27
American Samoa	—	0	1	1	—	—	0	0	—	—	—	0	1	1	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	5	4	2	—	0	0	—	—	—	0	3	5	5
Puerto Rico	—	14	55	40	210	—	0	1	—	—	—	0	2	—	11
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 notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Streptococcal disease, invasive, group A					*Streptococcus pneumoniae*, invasive disease, nondrug resistant† Age <5 years				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max		
United States	73	94	214	1,827	1,844	27	34	151	520	517
New England	5	5	28	108	124	—	2	5	32	46
Connecticut	3	0	22	13	13	—	0	4	—	8
Maine§	—	0	3	10	7	—	0	1	1	—
Massachusetts	2	3	9	66	78	—	1	4	26	35
New Hampshire	—	0	4	10	16	—	0	1	5	—
Rhode Island§	—	0	3	4	—	—	0	1	—	2
Vermont§	—	0	2	5	10	—	0	1	—	1
Mid. Atlantic	18	17	40	356	385	3	5	38	60	76
New Jersey	—	3	11	40	81	—	1	6	14	22
New York (Upstate)	11	6	20	126	98	3	2	14	32	33
New York City	—	4	10	62	95	—	1	35	14	21
Pennsylvania	7	4	16	128	111	N	0	0	N	N
E.N. Central	14	16	57	381	356	2	5	20	100	87
Illinois	—	4	13	93	123	—	1	6	18	18
Indiana	—	2	11	50	35	—	0	12	12	6
Michigan	2	3	10	62	81	2	1	5	27	33
Ohio	12	4	12	111	96	—	1	5	20	24
Wisconsin	—	0	38	65	21	—	0	9	23	6
W.N. Central	2	6	39	152	128	4	2	22	46	34
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	1	0	6	26	16	1	0	2	6	1
Minnesota	—	0	35	55	60	2	1	21	15	17
Missouri	1	2	10	39	34	—	0	2	16	12
Nebraska§	—	0	3	16	6	1	0	3	3	3
North Dakota	—	0	3	7	9	—	0	0	—	1
South Dakota	—	0	2	9	3	—	0	1	6	—
S. Atlantic	13	24	50	387	400	4	5	10	79	77
Delaware	—	0	3	7	1	—	0	0	—	—
District of Columbia	—	0	4	11	4	—	0	1	2	—
Florida	6	6	16	92	86	3	1	4	23	21
Georgia	1	5	13	80	92	—	0	0	—	—
Maryland§	4	4	9	73	72	1	1	5	27	26
North Carolina	—	2	22	46	44	N	0	0	N	N
South Carolina§	—	1	7	21	35	—	1	4	17	9
Virginia§	2	2	12	45	60	—	0	4	7	19
West Virginia	—	0	3	12	6	—	0	1	3	2
E.S. Central	5	4	13	58	69	2	2	11	31	29
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	3	13	19	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	3	7	2
Tennessee§	5	3	13	45	50	2	2	9	24	27
W.S. Central	10	7	70	156	111	7	4	60	84	87
Arkansas§	—	0	1	2	10	1	0	2	4	6
Louisiana	—	0	1	3	12	—	0	2	1	21
Oklahoma	3	1	9	48	33	3	1	4	32	19
Texas§	7	5	61	103	56	3	3	56	47	41
Mountain	6	10	24	190	232	5	4	12	87	77
Arizona	2	4	9	72	80	3	2	8	52	40
Colorado	2	2	9	42	63	2	1	4	18	17
Idaho§	1	0	2	8	5	—	0	1	2	1
Montana§	N	0	0	N	N	—	0	1	—	—
Nevada§	—	0	1	3	2	N	0	0	N	N
New Mexico§	1	2	8	42	38	—	0	3	9	16
Utah	—	1	5	21	41	—	0	4	6	3
Wyoming§	—	0	1	2	3	—	0	0	—	—
Pacific	—	3	7	39	39	—	0	1	1	4
Alaska	—	0	3	10	6	N	0	0	N	N
California	—	0	0	—	—	N	0	0	N	N
Hawaii	—	2	5	29	33	—	0	1	1	4
Oregon§	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	1	0	12	13	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Includes cases of invasive pneumococcal disease, in children aged <5 years, caused by *S. pneumoniae*, which is susceptible or for which susceptibility testing is not available (NNDSS event code 11717).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	*Streptococcus pneumoniae*, invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages					Age <5 years									
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	39	46	129	967	1,008	9	8	26	143	196	109	222	286	2,800	2,799
New England	—	1	18	11	62	—	0	4	2	6	6	6	14	74	51
Connecticut	—	0	16	—	40	—	0	3	—	4	1	0	6	4	7
Maine§	—	0	2	6	4	—	0	1	1	—	1	0	2	2	1
Massachusetts	—	0	0	—	—	—	0	0	—	—	4	3	10	63	33
New Hampshire	—	0	0	—	—	—	0	0	—	—	—	0	3	3	4
Rhode Island§	—	0	2	2	10	—	0	1	—	2	—	0	5	2	5
Vermont§	—	0	2	3	8	—	0	1	1	—	—	0	5	—	1
Mid. Atlantic	3	2	6	52	65	1	0	2	11	16	36	31	45	486	449
New Jersey	—	0	0	—	—	—	0	0	—	—	4	4	10	66	58
New York (Upstate)	2	1	4	17	23	1	0	1	3	8	5	3	10	34	32
New York City	—	0	0	—	—	—	0	0	—	—	26	18	30	315	284
Pennsylvania	1	1	5	35	42	—	0	2	8	8	1	5	12	71	75
E.N. Central	8	13	46	277	271	1	2	14	39	42	10	16	28	234	239
Illinois	—	2	13	44	54	—	0	6	9	18	—	6	14	29	113
Indiana	—	3	28	78	47	—	0	11	11	4	—	1	6	39	14
Michigan	—	0	1	3	—	—	0	1	1	—	5	2	17	59	34
Ohio	8	6	17	152	170	1	1	3	18	20	5	4	15	94	61
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	3	13	17
W.N. Central	2	3	49	79	75	—	0	2	2	9	1	7	14	109	73
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	2	2
Kansas	—	1	5	34	43	—	0	1	1	2	1	0	5	10	5
Minnesota	—	0	46	—	—	—	0	1	—	5	—	1	4	24	17
Missouri	2	1	8	45	26	—	0	1	1	—	—	5	10	71	49
Nebraska§	—	0	1	—	2	—	0	0	—	—	—	0	1	2	—
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	4	—	0	1	—	2	—	0	3	—	—
S. Atlantic	17	19	45	406	436	5	4	9	64	103	32	49	152	568	586
Delaware	—	0	1	1	3	—	0	1	—	1	—	0	3	1	3
District of Columbia	—	0	3	11	4	—	0	0	—	—	1	2	10	26	53
Florida	16	11	26	224	241	4	2	6	40	56	6	17	35	236	175
Georgia	1	7	17	143	169	1	1	5	19	41	—	7	131	11	73
Maryland§	—	0	2	3	1	—	0	1	1	—	12	6	15	101	92
North Carolina	N	0	0	N	N	N	0	0	N	N	6	5	18	89	100
South Carolina§	—	0	0	—	—	—	0	0	—	—	—	1	11	22	25
Virginia§	N	0	0	N	N	N	0	0	N	N	7	4	17	82	61
West Virginia	—	1	12	24	18	—	0	2	4	5	—	0	1	—	4
E.S. Central	8	4	12	113	52	2	1	4	16	11	7	20	31	287	204
Alabama§	N	0	0	N	N	N	0	0	N	N	4	8	17	123	73
Kentucky	2	0	3	24	12	—	0	2	4	1	—	1	6	20	24
Mississippi	—	0	0	—	—	—	0	0	—	—	—	2	15	28	32
Tennessee§	6	3	12	89	40	2	0	3	12	10	3	8	14	116	75
W.S. Central	—	1	5	21	35	—	0	2	6	3	12	39	56	492	425
Arkansas§	—	0	1	4	1	—	0	1	2	—	2	2	10	25	33
Louisiana	—	1	4	17	34	—	0	2	4	3	9	11	22	97	99
Oklahoma	N	0	0	N	N	N	0	0	N	N	1	1	5	18	21
Texas§	—	0	0	—	—	—	0	0	—	—	—	25	46	352	272
Mountain	1	1	6	8	12	—	0	2	2	6	—	9	28	53	126
Arizona	—	0	0	—	—	—	0	0	—	—	—	4	20	2	60
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	7	22	15
Idaho§	N	0	0	N	N	N	0	0	N	N	—	0	1	1	1
Montana§	—	0	0	—	—	—	0	0	—	—	—	0	3	—	1
Nevada§	N	0	0	N	N	N	0	0	N	N	—	2	6	20	28
New Mexico§	1	0	1	1	—	—	0	0	—	—	—	1	3	8	16
Utah	—	0	6	7	9	—	0	2	2	5	—	0	2	—	4
Wyoming§	—	0	2	—	3	—	0	1	—	1	—	0	1	—	1
Pacific	—	0	0	—	—	—	0	1	1	—	5	42	65	497	646
Alaska	N	0	0	N	N	N	0	0	N	N	—	0	1	—	3
California	N	0	0	N	N	N	0	0	N	N	4	38	58	434	601
Hawaii	—	0	0	—	—	—	0	1	1	—	—	0	2	8	1
Oregon§	N	0	0	N	N	N	0	0	N	N	1	0	2	6	5
Washington	N	0	0	N	N	N	0	0	N	N	—	3	13	49	36
American Samoa	N	0	0	N	N	N	0	1	N	N	—	0	4	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	5	2	10	39	35
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 notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Includes cases of invasive pneumococcal disease caused by drug-resistant *S. pneumoniae* (DRSP) (NNDSS event code 11720).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending April 12, 2008, and April 14, 2007 (15th Week)*

Reporting area	Varicella (chickenpox)					West Nile virus disease†									
						Neuroinvasive					Nonneuroinvasive§				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	525	620	1,417	9,155	14,204	—	1	141	—	4	—	2	299	—	1
New England	6	12	47	160	225	—	0	2	—	—	—	0	2	—	—
Connecticut	—	0	1	—	1	—	0	2	—	—	—	0	1	—	—
Maine¶	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	2	—	—	—	0	2	—	—
New Hampshire	2	6	18	77	117	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Vermont¶	4	6	38	83	107	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	55	61	137	722	1,948	—	0	3	—	—	—	0	3	—	—
New Jersey	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
New York (Upstate)	N	0	0	N	N	—	0	1	—	—	—	0	1	—	—
New York City	N	0	0	N	N	—	0	3	—	—	—	0	3	—	—
Pennsylvania	55	61	137	722	1,948	—	0	1	—	—	—	0	1	—	—
E.N. Central	99	156	358	1,969	4,151	—	0	18	—	—	—	0	12	—	1
Illinois	5	3	38	170	66	—	0	13	—	—	—	0	8	—	—
Indiana	—	0	222	—	—	—	0	4	—	—	—	0	2	—	—
Michigan	26	63	154	861	1,662	—	0	5	—	—	—	0	0	—	—
Ohio	68	61	208	937	1,969	—	0	4	—	—	—	0	3	—	1
Wisconsin	—	5	80	1	454	—	0	2	—	—	—	0	2	—	—
W.N. Central	14	23	92	418	759	—	0	41	—	—	—	1	117	—	—
Iowa	N	0	0	N	N	—	0	4	—	—	—	0	3	—	—
Kansas	9	6	36	205	316	—	0	3	—	—	—	0	7	—	—
Minnesota	—	0	0	—	—	—	0	9	—	—	—	0	12	—	—
Missouri	5	12	78	199	331	—	0	9	—	—	—	0	3	—	—
Nebraska¶	N	0	0	N	N	—	0	5	—	—	—	0	15	—	—
North Dakota	—	0	1	1	84	—	0	11	—	—	—	0	49	—	—
South Dakota	—	1	14	13	28	—	0	9	—	—	—	0	32	—	—
S. Atlantic	67	103	180	1,687	1,897	—	0	12	—	—	—	0	6	—	—
Delaware	—	1	4	7	12	—	0	1	—	—	—	0	0	—	—
District of Columbia	—	0	8	8	—	—	0	0	—	—	—	0	0	—	—
Florida	42	27	87	673	408	—	0	1	—	—	—	0	0	—	—
Georgia	N	0	0	N	N	—	0	8	—	—	—	0	5	—	—
Maryland¶	N	0	0	N	N	—	0	2	—	—	—	0	2	—	—
North Carolina	N	0	0	N	N	—	0	1	—	—	—	0	1	—	—
South Carolina¶	2	14	51	245	520	—	0	2	—	—	—	0	1	—	—
Virginia¶	12	26	81	484	494	—	0	1	—	—	—	0	1	—	—
West Virginia	11	18	66	270	463	—	0	0	—	—	—	0	0	—	—
E.S. Central	15	14	82	376	159	—	0	11	—	4	—	0	14	—	—
Alabama¶	14	14	82	369	157	—	0	2	—	—	—	0	1	—	—
Kentucky	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Mississippi	1	0	2	7	2	—	0	7	—	3	—	0	12	—	—
Tennessee¶	N	0	0	N	N	—	0	1	—	1	—	0	2	—	—
W.S. Central	227	172	842	3,202	3,895	—	0	34	—	—	—	0	18	—	—
Arkansas¶	5	13	46	217	254	—	0	5	—	—	—	0	2	—	—
Louisiana	—	1	8	27	53	—	0	5	—	—	—	0	3	—	—
Oklahoma	N	0	0	N	N	—	0	11	—	—	—	0	7	—	—
Texas¶	222	159	825	2,958	3,588	—	0	18	—	—	—	0	10	—	—
Mountain	42	38	130	610	1,150	—	0	36	—	—	—	1	143	—	—
Arizona	—	0	0	—	—	—	0	8	—	—	—	0	10	—	—
Colorado	30	13	62	203	443	—	0	17	—	—	—	0	65	—	—
Idaho¶	N	0	0	N	N	—	0	3	—	—	—	0	22	—	—
Montana¶	6	6	40	131	132	—	0	10	—	—	—	0	30	—	—
Nevada¶	N	0	0	N	N	—	0	1	—	—	—	0	3	—	—
New Mexico¶	1	4	37	59	182	—	0	8	—	—	—	0	6	—	—
Utah	5	8	72	216	380	—	0	8	—	—	—	0	8	—	—
Wyoming¶	—	0	9	1	13	—	0	4	—	—	—	0	33	—	—
Pacific	—	0	4	11	20	—	0	18	—	—	—	0	23	—	—
Alaska	—	0	4	11	20	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	17	—	—	—	0	21	—	—
Hawaii	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oregon¶	N	0	0	N	N	—	0	3	—	—	—	0	4	—	—
Washington	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	3	19	21	104	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	11	37	65	239	—	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 notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2007 and 2008 are provisional.
† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.
§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/epo/dphsi/phs/infdis.htm.
¶ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE III. Deaths in 122 U.S. cities,* week ending April 12, 2008 (15th Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
New England	518	389	90	20	10	9	55
Boston, MA	137	92	28	8	5	4	16
Bridgeport, CT	32	29	1	1	—	1	3
Cambridge, MA	18	13	5	—	—	—	3
Fall River, MA	29	24	5	—	—	—	3
Hartford, CT	39	29	8	—	2	—	4
Lowell, MA	24	19	4	1	—	—	2
Lynn, MA	14	12	2	—	—	—	—
New Bedford, MA	22	17	4	1	—	—	3
New Haven, CT	12	10	1	—	1	—	2
Providence, RI	58	43	10	2	2	1	4
Somerville, MA	5	3	2	—	—	—	—
Springfield, MA	35	22	7	3	—	3	2
Waterbury, CT	30	26	3	1	—	—	5
Worcester, MA	63	50	10	3	—	—	8
Mid. Atlantic	2,229	1,581	456	122	26	43	138
Albany, NY	58	36	16	2	1	3	5
Allentown, PA	24	22	1	1	—	—	3
Buffalo, NY	87	60	22	4	1	—	13
Camden, NJ	48	29	12	5	—	2	1
Elizabeth, NJ	16	9	6	1	—	—	3
Erie, PA	59	44	12	2	1	—	5
Jersey City, NJ	22	15	5	1	—	1	1
New York City, NY	1,099	799	215	63	9	13	54
Newark, NJ	40	13	13	6	1	7	2
Paterson, NJ	21	10	4	2	1	4	1
Philadelphia, PA	291	184	77	17	6	7	18
Pittsburgh, PA§	33	25	6	2	—	—	5
Reading, PA	52	43	4	4	1	—	6
Rochester, NY	148	114	25	4	3	2	14
Schenectady, NY	27	20	6	1	—	—	1
Scranton, PA	32	25	6	1	—	—	2
Syracuse, NY	104	86	12	2	2	2	3
Trenton, NJ	32	18	9	4	—	1	1
Utica, NY	11	10	—	—	—	—	—
Yonkers, NY	25	19	5	—	—	1	—
E.N. Central	2,135	1,464	476	106	38	49	177
Akron, OH	48	31	14	1	1	1	—
Canton, OH	40	31	5	3	—	1	6
Chicago, IL	271	167	64	26	7	6	25
Cincinnati, OH	75	55	17	—	2	1	9
Cleveland, OH	249	208	31	4	4	2	16
Columbus, OH	261	178	58	17	3	5	24
Dayton, OH	132	97	27	8	—	—	13
Detroit, MI	171	94	43	12	4	18	5
Evansville, IN	52	44	8	—	—	—	4
Fort Wayne, IN	67	45	14	2	4	1	8
Gary, IN	25	15	5	3	2	—	—
Grand Rapids, MI	52	35	12	1	3	1	8
Indianapolis, IN	192	114	58	10	3	7	18
Lansing, MI	46	34	10	1	1	—	5
Milwaukee, WI	124	75	42	4	1	2	10
Peoria, IL	49	30	15	3	1	—	7
Rockford, IL	50	37	12	1	—	—	1
South Bend, IN	63	49	8	2	1	3	4
Toledo, OH	111	74	27	8	1	1	8
Youngstown, OH	57	51	6	—	—	—	6
W.N. Central	655	416	166	36	15	21	64
Des Moines, IA	—	—	—	—	—	—	—
Duluth, MN	29	21	6	2	—	—	3
Kansas City, KS	25	17	5	3	—	—	2
Kansas City, MO	110	68	32	4	2	4	9
Lincoln, NE	59	44	8	4	1	2	4
Minneapolis, MN	66	25	25	4	2	10	11
Omaha, NE	85	63	17	4	—	1	11
St. Louis, MO	127	72	36	11	5	2	8
St. Paul, MN	54	40	11	2	—	1	4
Wichita, KS	100	66	26	2	5	1	12
S. Atlantic	1,310	829	318	106	30	26	104
Atlanta, GA	185	111	50	15	4	5	10
Baltimore, MD	212	109	61	32	6	3	17
Charlotte, NC	131	86	27	12	2	4	14
Jacksonville, FL	178	103	53	12	7	3	—
Miami, FL	96	70	18	6	—	2	24
Norfolk, VA	51	36	12	1	—	2	2
Richmond, VA	82	50	24	6	1	1	3
Savannah, GA	77	64	10	2	—	1	10
St. Petersburg, FL	73	47	16	2	4	4	6
Tampa, FL	203	138	42	17	5	1	15
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, DE	22	15	5	1	1	—	3
E.S. Central	911	591	222	54	25	19	82
Birmingham, AL	100	64	28	5	2	1	10
Chattanooga, TN	98	75	13	3	6	1	7
Knoxville, TN	108	70	22	12	2	2	10
Lexington, KY	126	70	42	9	2	3	11
Memphis, TN	172	110	45	9	5	3	20
Mobile, AL	102	72	20	4	2	4	10
Montgomery, AL	70	48	13	5	2	2	2
Nashville, TN	135	82	39	7	4	3	12
W.S. Central	1,570	1,028	365	111	32	34	82
Austin, TX	86	51	21	10	2	2	3
Baton Rouge, LA	33	20	6	4	—	3	—
Corpus Christi, TX	61	47	11	3	—	—	5
Dallas, TX	205	121	50	20	8	6	10
El Paso, TX	110	78	23	3	4	2	4
Fort Worth, TX	147	100	34	8	1	4	5
Houston, TX	374	235	85	38	7	9	15
Little Rock, AR	92	54	26	5	3	4	1
New Orleans, LA¶	U	U	U	U	U	U	U
San Antonio, TX	243	165	63	10	3	2	12
Shreveport, LA	67	49	13	2	1	2	17
Tulsa, OK	152	108	33	8	3	—	10
Mountain	1,153	759	263	69	31	30	101
Albuquerque, NM	99	62	20	7	4	6	6
Boise, ID	61	43	16	2	—	—	3
Colorado Springs, CO	54	37	11	2	3	1	6
Denver, CO	92	62	21	6	—	3	6
Las Vegas, NV	277	178	76	15	5	3	28
Ogden, UT	38	27	9	1	—	1	1
Phoenix, AZ	191	107	52	19	7	5	18
Pueblo, CO	39	23	11	2	3	—	4
Salt Lake City, UT	128	92	19	6	5	6	12
Tucson, AZ	174	128	28	9	4	5	17
Pacific	1,332	930	281	72	26	23	117
Berkeley, CA	15	10	4	1	—	—	3
Fresno, CA	166	127	22	11	5	1	6
Glendale, CA	U	U	U	U	U	U	U
Honolulu, HI	58	42	10	3	2	1	7
Long Beach, CA	66	40	23	1	1	1	9
Los Angeles, CA	U	U	U	U	U	U	U
Pasadena, CA	23	16	4	3	—	—	3
Portland, OR	146	109	23	6	4	4	8
Sacramento, CA	U	U	U	U	U	U	U
San Diego, CA	188	119	47	14	4	4	21
San Francisco, CA	125	80	28	10	2	5	7
San Jose, CA	189	136	42	3	4	4	27
Santa Cruz, CA	41	29	10	1	1	—	3
Seattle, WA	115	76	27	9	1	2	8
Spokane, WA	61	46	10	2	2	1	8
Tacoma, WA	139	100	31	8	—	—	7
Total	11,813**	7,987	2,637	696	233	254	920

U: Unavailable. —:No reported cases.

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

† Pneumonia and influenza.

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

¶ Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted.

** 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, send an e-mail message to *listserv@listserv.cdc.gov*. The body content should read *SUBscribe mmwr-toc*. Electronic copy also is available from CDC's Internet server at *http://www.cdc.gov/mmwr* or from CDC's file transfer protocol server at *ftp://ftp.cdc.gov/pub/publications/mmwr*. 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 *www.mmwrq@cdc.gov*.

☆U.S. Government Printing Office: 2008-723-026/41089 Region IV ISSN: 0149-2195