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Preventable Measles Among U.S. Residents, 2001–2004

Elimination of endemic measles has been achieved in the United States (*1*); however, measles continues to be imported from areas of the world where the disease remains endemic, resulting in substantial morbidity and expenditure of local, state, and federal public health resources (*2,3*). Measles among U.S. residents results from returning residents who become infected while living or traveling abroad, from contact or association with an infected traveler, or from an unknown source. This report summarizes surveillance data reported to CDC by state and local health departments regarding confirmed measles cases among U.S. residents during 2001–2004; an illustrative case report is included. The majority of measles cases occurring among U.S. residents can be prevented by following current recommendations for vaccination, including specific guidelines for travelers (*4*).

Confirmed measles cases (*4*) were defined as preventable if they occurred among persons for whom vaccination is recommended by the Advisory Committee on Immunization Practices (ACIP) but who had not received 1 or more doses of measles-containing vaccine (MCV). Cases were considered nonpreventable if they occurred among persons who 1) had received 1 or more doses of MCV, 2) were not vaccinated and for whom vaccination is not recommended, or 3) were born before 1957 (presumed immune from natural disease in childhood). Persons with unknown vaccination status were considered unvaccinated. Outbreaks were defined as three or more epidemiologically linked cases.

During 2001–2004, a total of 251* measles cases were reported to CDC, of which 177 (71%) occurred among U.S. residents, and 74 (29%) occurred among nonresidents. Of the 177 cases among U.S. residents, 100 (56%) were preventable, and 77 (44%) were nonpreventable (Table 1).

*Data for 2004 are provisional.

TABLE 1. Preventable and nonpreventable* reported cases† of measles in U.S. residents, by age, travel history, and measles vaccination status — United States, 2001–2004

	International travel		No international travel	
Age group	Vaccinated	Not vaccinated	Vaccinated	Not vaccinated
<6 mos	0	0	0	2
6–11 mos	0	12§	0	20
12–15 mos	0	5§	1	7
16 mos–4 yrs	1	4§	1	2§
5–9 yrs	0	2§	0	2§
10–19 yrs	3	5§	12	13§
20–29 yrs	0	9§	7	17§
30–39 yrs	6	3§	7	15§
≥40 yrs	1	4¶	2	14**
Total	**11**	**44**	**30**	**92**

* Cases were defined as nonpreventable if they occurred among persons who 1) had received 1 or more doses of measles-containing vaccine (MCV), 2) were not vaccinated and for whom vaccination is not recommended, or 3) were born before 1957 (presumed immune from natural disease in childhood).
† N = 177 (100 preventable, 77 nonpreventable).
§ Preventable cases. Defined as preventable if they occurred among persons for whom vaccination is recommended by the Advisory Committee on Immunization Practices but who had not received 1 or more doses of MCV.
¶ Three of the four cases were preventable; one case occurred in a person born before 1957 and was classified as nonpreventable because MCV is not recommended for that age group.
** Eight of 14 cases were preventable; the other six cases occurred in persons born before 1957 and were classified as nonpreventable because MCV is not recommended for that age group.

INSIDE

820 *Shigella flexneri* Serotype 3 Infections Among Men Who Have Sex with Men — Chicago, Illinois, 2003–2004
822 Progress in Improving State and Local Disease Surveillance — United States, 2000–2005
826 QuickStats

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

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Preventable Cases. Of the 100 preventable cases, 43 (43%) occurred among international travelers (imported cases), and 57 (57%) among nontravelers (indigenous cases). Of the 17 (17%) preventable cases among infant travelers aged 6–15 months, 12 occurred among infants aged 6–11 months, and five occurred among children aged 12–15 months. Of the 83 (83%) preventable cases among persons aged ≥16 months, 26 were in persons who became infected during international travel, and 57 were in persons infected in the United States (Table 1).

Nonpreventable Cases. Of the 77 cases that were nonpreventable, 12 (16%) occurred among international travelers; 11 of the 12 travelers had received at least 1 dose of MCV, and the other was born before 1957 and had not been vaccinated. A total of 65 (84%) cases occurred among nontravelers; all were in persons previously vaccinated, except 29 cases in infants aged ≤15 months (routine MCV may be administered as late as age 15 months) and six in persons born before 1957. Seven of the unvaccinated infants were aged 12–15 months and thus were eligible for vaccination.

Outbreaks. Of the 14 outbreaks identified during 2001–2004, nine involved three or more U.S. residents; of these, seven originated with a U.S. resident traveler. In one outbreak, 10 cases in a daycare center resulted from exposure to an unvaccinated daycare attendee (an infant aged 9 months) who was infected during travel abroad (*2*).

Case Report. During June 20–22, 2004, a North Carolina resident aged 11 years traveled from the United Kingdom to North Carolina via New York and Connecticut. After her arrival in North Carolina on June 22, she had cough, coryza, and fever, followed by onset of a rash on June 25. She had suspected measles diagnosed on June 28. She had not received MCV; her parents had declined to have her vaccinated for religious beliefs. One day before her rash onset, the girl had close contact with a male infant aged 11 months. The infant subsequently had measles with rash onset on July 4. Two days before his rash onset, the infant visited a summer camp, where he potentially had contact with up to 234 persons, including 113 campers, 63 parents/visitors, and 58 staff members. Several campers returned home at the end of the camp session, the day after the exposure. Multistate and multinational investigation and control efforts to prevent further spread were conducted. Potentially infected persons subsequently traveled to Arizona, Arkansas, Florida, New York, Australia, Costa Rica, New Zealand, South Africa, and Wales. No additional cases of measles were subsequently identified.

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Editorial Note: Travel anywhere outside of the United States, including to industrialized regions such as Western Europe,

presents a risk for measles exposure. In 2003, approximately 24 million U.S. residents traveled abroad, and 40 million international visitors entered the United States (*5,6*). Importation of measles from foreign visitors is unavoidable because no regulations are in effect requiring vaccination of visitors. However, as other countries reduce the burden of measles, the risk of travelers bringing measles into the United States will decrease.

Measles can cause serious complications and death, particularly among children aged <5 years. All U.S. residents should be vaccinated in accordance with ACIP recommendations (*4*), with special attention to international travelers who now account for a substantial proportion of the measles disease burden in the United States. Health-care providers who serve populations that travel should be aware of the vaccination recommendations for international travelers (*7*). Current measles recommendations for travelers include vaccination for infants aged 6–11 months and 2 doses of MCV for travelers aged ≥12 months (Table 2). Despite these recommendations, 17% of the preventable cases described in this report occurred among unvaccinated travelers aged 6–15 months. The reasons for these children not receiving MCV are unknown but might include lack of awareness among parents and health-care providers regarding recommendations for infants aged 6–11 months, refusal because of personal or religious beliefs, or lack of perceived risk, especially for children of foreign-born U.S. residents who travel to their country of origin (*8,9*). Imported and secondary cases among U.S. residents who refuse vaccination because of personal or religious beliefs can result in the introduction of measles into communities with other susceptible persons who share the same beliefs, thereby posing a risk for substantial spread of disease (*3,10*). In addition, seven cases in nontravelers aged 12–15 months might have been prevented if these children had been vaccinated as soon as they became eligible for MCV (e.g., MMR) at age 12 months.

Measles cases among persons born before 1957 for whom vaccination is not recommended are rare. However, persons in this age group who travel internationally might wish to consider vaccination to minimize their risk for measles.

The findings in this report are subject to at least three limitations. First, certain measles cases might have been missed or not reported to public health officials, including cases that occurred and resolved during travel abroad. Second, because information on multiple doses of MCV is collected inconsistently, persons who had received at least 1 dose of MCV were considered vaccinated, even though 2 doses are recommended for some age groups and for most international travelers (*4*), thus potentially underestimating the number of preventable cases. Third, preventable cases might be overestimated because vaccine efficacy is <100%, and vaccination data were missing for 30 (17%) persons. All persons with missing data were considered unvaccinated, although some might have received MCV.

Because of the high infectivity and morbidity associated with measles, contact tracing is a standard public health practice and can require many hours of public health staff time and can cost thousands of dollars (*3*). A recent study evaluating the economic impact of an infected U.S. traveler returning from India estimated the costs of locating and vaccinating

TABLE 2. Summary of ACIP* recommendations for measles-containing vaccine (MCV) for international travelers, by age group

Age group	Recommended ages for vaccination	Recommended doses of MCV	Considerations
Children			
Infants	<6 mos	None	MCV is not recommended for infants aged <6 months.
Infants	6–11 mos	1 dose	Infants who receive MCV at age 6–11 months should receive an additional 2 doses of MCV as measles-mumps-rubella (MMR) vaccine. If they continue to travel or reside outside of the United States, the first of these 2 additional doses should be administered at age 12 months, and the second ≥28 days after the first dose. If they return to the United States, they should resume the recommended vaccination schedule.
Children	≥12 mos	2 doses MMR	Children aged ≥12 months who will travel abroad should receive 2 doses of MMR separated by at least 28 days, with the first dose administered on or after the first birthday.
Adults			
Born 1957 or later	All	2 doses MMR	Persons born in the United States in 1957 or later should have received 2 doses of MMR or have presumptive evidence of immunity, which includes laboratory evidence of immunity or documentation of physician-diagnosed measles.
Born before 1957	N/A	None†	For persons born before 1957, MCV is generally not indicated.

* Advisory Committee on Immunization Practices.
† Women of childbearing age who could become pregnant should have acceptable evidence of immunity to rubella, which includes receipt of 1 dose of live rubella virus vaccine (e.g., MMR vaccine) or laboratory evidence of immunity.

susceptible contacts at $140,000 (*3*). Although few cases have been associated with transmission during air travel (*3*; CDC, unpublished data, 2005), contact tracing of infected air travelers is particularly challenging; a person with measles can be infectious from at least 4 days before through 4 days after rash onset. To avoid outbreaks or a resurgence of measles, as occurred during 1989–1991, when approximately 55,000 cases and 120 measles-related deaths were reported in the United States (*4*), high population immunity and surveillance must be maintained.

To prevent measles among U.S. residents, health-care providers should follow ACIP vaccination recommendations, ensuring that travelers are vaccinated, particularly infants aged 6–11 months, and that 2 doses are administered for those aged ≥12 months. In addition, parents should be educated about the risk for measles associated with international travel and the need for vaccination. Information on vaccination recommendations for travelers is available from CDC at http://www.cdc.gov/travel.

Acknowledgments

The data in this report are based on contributions by state and local health departments.

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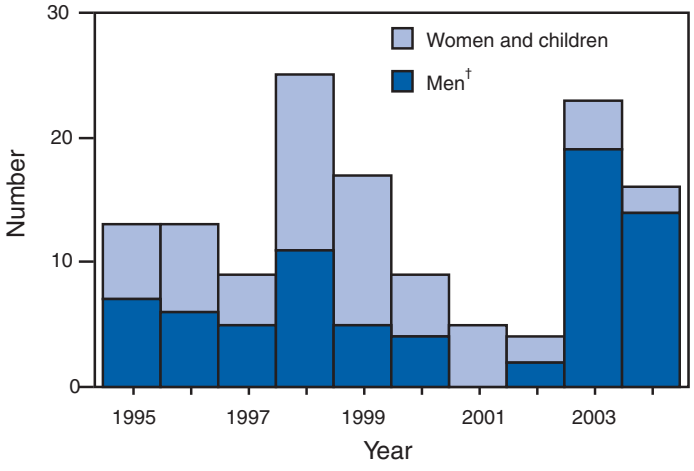
Shigella flexneri Serotype 3 Infections Among Men Who Have Sex with Men — Chicago, Illinois, 2003–2004

During 2003–2004, the Chicago Department of Public Health (CDPH) investigated an increase in reported *Shigella flexneri* serotype 3 infections among adult males. This report summarizes the investigation into those cases and underscores the potential for sexual transmission of enteric infections among men who have sex with men (MSM).

Shigellosis is a reportable disease in Illinois. During 1995–2002, a total of 95 cases of *S. flexneri* serotype 3 infection in Chicago residents were reported to CDPH (mean: 11.9 cases per year); 40 (42%) of these cases occurred in males aged ≥18 years (Figure 1). In contrast, 33 (85%) of 39 reported cases (mean: 19.5 cases per year) occurred in adult males during 2003–2004. The mean annual number of case reports among adult males increased from 5.0 to 16.5, whereas case reports among women and children decreased from 6.9 to 3.0 during this period. CDPH conducted an investigation to characterize these infections.

For this investigation, a case of *S. flexneri* serotype 3 infection was defined as one with onset of diarrhea during 2003–2004 in a male Chicago resident aged ≥18 years, with accompanying isolation of *S. flexneri* serotype 3 from stool culture. Health-care providers were asked to report all *Shigella* infections among Chicago residents to CDPH and to send *Shigella* isolates to the state public health laboratory for speciation. Persons whose illness was consistent with the case definition were interviewed with a standard case-investigation

FIGURE 1. Number* of *Shigella flexneri* serotype 3 cases, by demographic group — Chicago, Illinois, 1995–2004



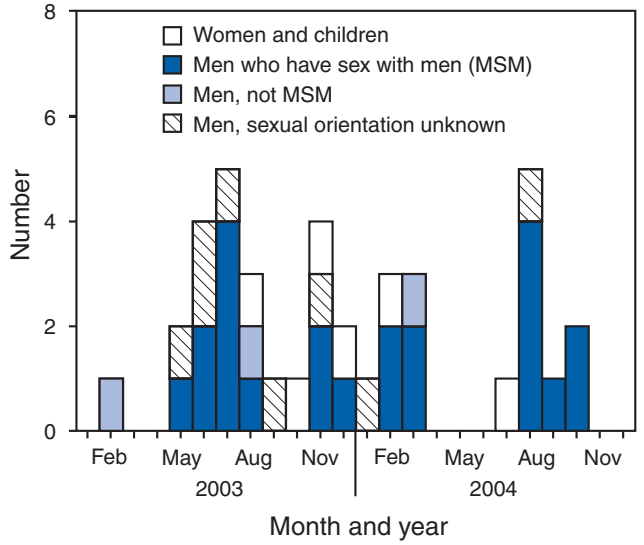
*N = 134.
†Aged ≥18 years.

questionnaire, which included the following questions: "With regard to sexual orientation, would you describe yourself as 1) heterosexual, 2) homosexual, 3) bisexual, 4) don't know, or 5) refused?" and "In the week prior to the onset of this illness, do you remember engaging in a same-sex relationship?" Responses were "yes", "no", or "don't know." Information about sexual activities and human immunodeficiency virus (HIV) status was not collected systematically. Serotyping, antimicrobial-susceptibility testing, and pulsed-field gel electrophoresis (PFGE) of available isolates were performed at the Illinois Department of Public Health and CDC.

Illness onsets for 33 identified patients occurred throughout both years (Figure 2). In all patients, clinical illness was limited to gastroenteritis; 16 (48%) patients were hospitalized for treatment, and all recovered without sequelae. Patients ranged in age from 20 to 56 years (median: 35 years); 24 (83%) of 29 patients for whom race was ascertained were non-Hispanic white. Twenty-two (88%) of 25 patients asked to characterize their sexual orientation described themselves as MSM. No other common food, water, daycare, or travel exposures or risk factors for shigellosis were found.

Fourteen isolates obtained from MSM were available for additional testing. Twelve (86%) were identified as *S. flexneri* subtype 3a; the remaining two isolates were *S. flexneri* subtype 3b. Seven closely related PFGE patterns were identified among the 11 *S. flexneri* subtype 3a isolates subtyped by PFGE. Eleven isolates were tested for antimicrobial susceptibility; all were susceptible to ciprofloxacin and resistant to ampicillin, and nine (82%) were resistant to trimethoprim-sulfamethoxazole.

FIGURE 2. Number* of *Shigella flexneri* serotype 3 cases, by sex, sexual orientation, and month of onset — Chicago, Illinois, 2003–2004



* N = 39.

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Editorial Note: *Shigella* is the third most common cause of bacterial gastroenteritis in the United States (*1*). The majority of *Shigella* infections in the United States are caused by *S. sonnei* and affect young children and their caretakers. *S. flexneri* causes approximately 18% of U.S. *Shigella* infections (*1*). The national incidence of *S. flexneri* infections decreased 64% from 1989 to 2002 (*1*). However, a recent analysis indicated an increase in *Shigella* infection among adult males (*2*). This increase is likely attributable to outbreaks of shigellosis among MSM; since the 1970s, outbreaks of shigellosis attributable to *S. flexneri* and more recently *S. sonnei* have been reported among MSM in major cities in North America (*3–5*), Europe (*6*), and Australia (*7*).

The low inoculum required for *Shigella* infection (as few as 10–200 organisms) facilitates person-to-person transmission. Risk factors for sexual transmission of *Shigella* have not been well characterized but likely involve exposure to fecal material. In outbreaks among MSM, 50%–90% of participants reported oral-genital or oral-anal contact during the week before diagnosis with *Shigella* infection (*3,5*). A case-control study of shigellosis among MSM in Sydney, Australia, implicated exposure to a commercial sex venue as the sole risk factor for illness (*7*). Although the effect of HIV infection on risk for sexual transmission of *Shigella* is not well understood, it might be associated with elevated risk for acquiring shigellosis and with more severe disease (*8*).

Other enteric illnesses, such as those caused by hepatitis A, *Entamoeba histolytica*, *Giardia lamblia, Campylobacter,* and *Salmonella,* also can be transmitted sexually (*4,9,10*). Because feces can contain multiple pathogens, polymicrobial infections can result from a single sexual exposure (*3,4*). Outbreaks of sexually transmitted shigellosis might be observed more frequently than outbreaks of other sexually transmissible enteric organisms because the infectious dose is lower, the illness produces symptoms that are more likely to bring patients to medical attention, and laboratory diagnosis is simpler. More routine molecular subtyping of *Shigella* by PFGE might also facilitate recognition of epidemiologically related shigellosis clusters.

To reduce the risk for sexually transmitted enteric infections, persons with diarrhea should refrain from oral-anal, oral-genital, and anal-genital contact while they are symptomatic. Because *Shigella* and other enteric pathogens can be carried asymptomatically, persons who engage in sexual contact

that could expose them or their sex partners to fecal material should wash their hands and anal-genital regions thoroughly with soap and water before and after sexual activity. The use of condoms during oral-genital or anal-genital contact, dental dams during oral-anal contact, and gloves during digital-anal contact will help reduce the opportunities for sexual transmission of *Shigella* and other pathogens. Clinicians should request appropriate laboratory examinations, including stool culture for patients with diarrhea who are MSM, and counsel patients about the risk for infection with enteric pathogens during sexual activity that could expose them to feces. *Shigella* isolates should be routinely serotyped and molecularly subtyped by PFGE to assist in detection of outbreaks. Investigations of shigellosis outbreaks and outbreaks of other enteric diseases among MSM are needed to better characterize specific high-risk behaviors for transmission, identify effective prevention measures, and clarify the role of HIV infection and antiretroviral therapy in the sexual transmission of *Shigella*.

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Progress in Improving State and Local Disease Surveillance — United States, 2000–2005

In September 2000, states began receiving federal funding to plan and implement integrated electronic systems for disease surveillance. CDC and state and local health departments had recognized the importance of such systems and of uniform standards to improve the usefulness of public health surveillance and the timeliness of response to outbreaks of disease. Previously, state health departments received most case-report forms by mail and then entered the data into computer systems, sometimes weeks after the cases of notifiable disease had occurred, including cases that warranted immediate public health investigation or intervention. In addition, depending on the disease, only 10%–85% of cases were reported, and more than 100 different systems were used to transmit these reports from the states to CDC (CDC, unpublished data, 2005). This report summarizes progress since the initial funding in 2000 in improving state and local disease surveillance through secure, Internet-based data entry and automated electronic laboratory results (ELR) reporting. Both are components of the National Electronic Disease Surveillance System (NEDSS),* the surveillance and monitoring component of the broader Public Health Information Network (PHIN) initiative.† Local, state, and national public health officials should continue to improve the timeliness and completeness of disease surveillance.

To ensure that information can be collected, exchanged, and interpreted at all levels (i.e., local, state, and national), CDC has worked with state and local health departments and clinical partners to identify data and information system standards to incorporate into NEDSS. By facilitating the identification, adoption, and implementation of standards for data content, format, transport, and security, the NEDSS project seeks to strengthen the ability of public health agencies to exchange pertinent information needed for surveillance and intervention between clinicians and public health agencies and among public health partners. State health departments have pursued these goals by developing, modifying, or commissioning their own NEDSS-compatible systems or by implementing and configuring the NEDSS Base System§ to meet their specific needs.

As of April 2005, a total of 27 state health departments and two municipal health departments (New York City and Los

* Available at http://www.cdc.gov/nedss.
† Available at http://www.cdc.gov/phin.
§ The NEDSS Base System was developed by CDC and partners to meet state and program area disease surveillance and analysis needs, while providing a secure, accurate, and efficient means for collecting and processing data.

Angeles) were entering at least some notifiable disease data by using a secure, Internet-based system (Figure 1). Twenty-three other states were actively planning, developing, and implementing Internet-based systems. Although Internet-based data entry is frequently performed by workers in local and state health departments, in at least 13 states, data entry is also performed by private health-care providers, infection-control practitioners, and/or clinical laboratory workers, expediting availability of the data to health departments.

In addition to secure, Internet-based reporting, NEDSS supports ELR. When a test result indicates a notifiable condition, clinical diagnostic and public health laboratories with ELR transmit data from their computer systems directly to state and local health department systems. As of April 2005, a total of 26 state health departments (excluding those receiving only blood lead level results) received laboratory test results via ELR (Figure 1), and the remaining 24 states were in various stages of preparing for ELR.

The experiences of three state health departments illustrate capabilities provided through NEDSS and PHIN that have improved the practice of public health.

New Jersey

In late 2001, the New Jersey Department of Health and Senior Services (NJDHSS) implemented the secure, Internet-based, Communicable Disease Reporting System (CDRS). Since implementation of CDRS, the number of reported cases of notifiable diseases doubled from 14,608 in 2002 to 29,967 in 2004, and the percentage of cases entered by NJDHSS staff decreased from 67% in 2002 (and from 100% in 2001) to approximately 16% in 2004 (Figure 2). In addition, the percentage of cases entered by local health departments, hospitals, and Local Information Network and Surveillance Systems (i.e., regional public health networks) increased from approximately 11% in 2002 (and from zero in 2001) to 50% in 2004 (Figure 2), including 30% entered by health-care providers at hospitals or medical centers. During 2004, approximately 34% of the cases were reported via ELR by Laboratory Corporation of America (Burlington, North Carolina).

Before CDRS, cases of notifiable diseases might have required several months for entry of data in the NJDHSS system because of delays in reporting, postal service, and data entry. However, timeliness has improved substantially. In 2003, NJDHSS determined that cases were entered into CDRS an average of 28 days after illness onset. In 2004, that average had been reduced to 3–4 days. In addition, cases can now be updated in minutes and are available statewide to authorized persons in seconds.

Oklahoma

In June 2004, Oklahoma implemented its secure, Internet-based disease surveillance and reporting system, Public Health Information and Disease Detection of Oklahoma. Once a case is verified by health department staff and assigned to the

FIGURE 1. Disease surveillance, by state and method — National Electronic Disease Surveillance System, United States, April 2005

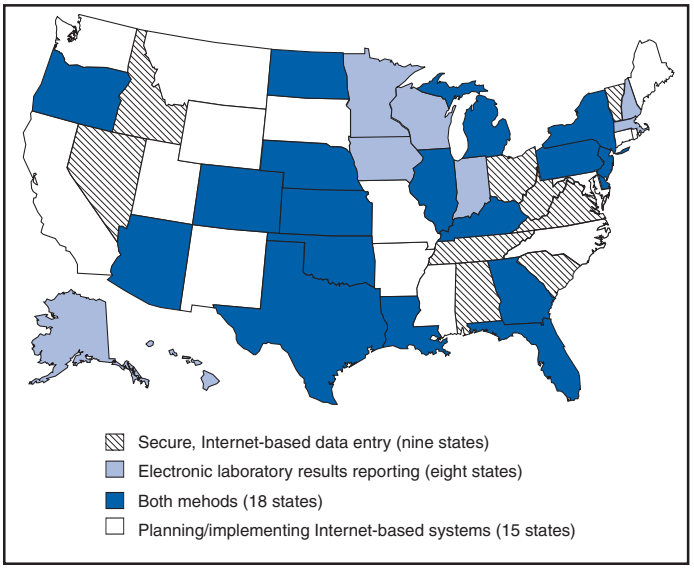
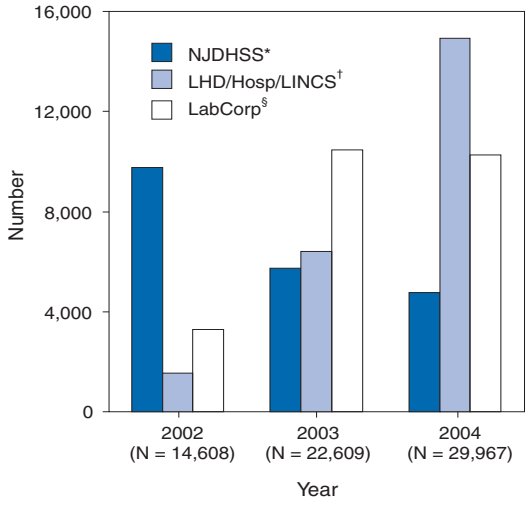


FIGURE 2. Number of notifiable disease case reports, by reporting site and year — New Jersey Department of Health and Senior Services (NJDHSS), 2002–2004



* Data entered by NJDHSS staff into the secure, Internet-based Communicable Disease Reporting System (CDRS).
† Data entered into CDRS by staff members of local health departments, hospitals, and Local Information Network and Communication Systems (i.e., regional public health networks).
§ Data submitted via electronic laboratory results reporting by Laboratory Corporation of America (Burlington, North Carolina).

appropriate jurisdiction, the system supports online follow-up by local public health nurses representing all Oklahoma counties. As of June 1, 2005, a total of 164 infection-control practitioners and 210 laboratorians representing all Oklahoma hospitals and 32 physicians had registered to use the system.

Upon entry of a disease deemed urgently notifiable by state administrative law,[¶] the Oklahoma system automatically sends a page, text message, and e-mail message with key details to the state epidemiologist on call. The system also informs persons reporting cases that they will be contacted within 15 minutes by that epidemiologist. Regardless of the hour, the epidemiologist can then log on to the system from any location and initiate a rapid public health response when warranted. During June 2004–May 2005, epidemiologists launched case investigations within the targeted response time of 15 minutes on 111 urgently notifiable disease reports, including 10 cases of invasive meningococcal disease, 12 cases of tularemia (endemic in Oklahoma), and one outbreak of unknown infectious disease.

Pennsylvania

In January 2003, the Pennsylvania Department of Health implemented a secure, Internet-based disease reporting system, PA-NEDSS, that incorporates online reporting[**] by laboratories, hospitals, and clinicians; fully integrated ELR; case management; and analysis capabilities. Submitted reports are immediately accessible by state and local health department staff.

As of February 2005, a total of 549 public health staff members, 381 hospitals and clinics, 223 laboratories, and 564 physicians were registered with the system. In addition, 42 high-volume laboratories were submitting reports through ELR. Approximately 20,000 reports are submitted each month through PA-NEDSS; 67% of reports are received via ELR, 24% via online laboratory reporting, 8% via online hospital reporting, and 1% via other sources.

During a hepatitis A outbreak with 601 cases in 2003, all public health workers in the affected region of the state were needed to staff clinics and administer immune globulin to exposed persons to prevent further transmission of disease. Investigation of cases newly reported by PA-NEDSS were assigned to public health staff in unaffected regions, allowing local staff to focus on prevention of cases while ensuring that new cases were investigated promptly. Since the outbreak, certain areas of the state have extended that use of PA-NEDSS to balance the routine workload among counties.

Reported by: *State health departments. CDC.*

Editorial Note: The transition to integrated electronic systems from paper-based systems for disease surveillance has made substantial strides in recent years. As of April 2005, a total of 27 states were using secure, Internet-based systems for entry of notifiable disease reports, and 26 received laboratory test results automatically through ELR. When clinicians, laboratories, or local health department investigators enter data securely over the Internet, that information can be available to state or local health departments immediately, avoiding delays caused by mailing forms or backlogs in data-entry processing at health departments.

Surveillance of communicable diseases focuses on ELR because a large proportion of cases can be identified from laboratory test results; diagnostic laboratories are also key surveillance partners for chronic and environmentally related disease surveillance (e.g., for blood lead level testing). ELR facilitated by NEDSS provides faster and more complete reporting of laboratory test results. Use of ELR has increased the number of cases reported to health departments by two- to threefold and has improved the timeliness of reporting by at least 3.8 days (*1*). ELR infrastructure also can be used to integrate public health laboratory and epidemiologic investigations. Ongoing efforts to ensure availability of PHIN-compliant laboratory information systems will equip state and local public health laboratories for standards-based exchange of information and further strengthen public health surveillance and response.

Although many states are using the Internet for ELR, challenges remain to achieving national proficiency at standards-based, secure information exchange. In its "business case" for a nationwide health information network, the Center for Information Technology Leadership (CITL) (Partners HealthCare System, Boston, Massachusetts) has defined a four-level taxonomy for health information exchange (*2*). The highest level, Level 4 (machine integrable information exchange), requires adherence to the structured messages and standardized data content provided by NEDSS and PHIN. However, multiple states still use different electronic formats and nonstandard content for ELR, corresponding to CITL Level 3 (machine organizable data systems). According to the CITL model, although implementation of Level 3 systems can enhance information exchange, cost savings occur only with implementation of Level 4 systems (*2*).

This first phase of ELR is providing state health departments with results from large multijurisdictional laboratories and from certain state public health laboratories. The next phase will require broadening of reporting from the large

[¶] Oklahoma Administrative Code 310:515-1-3.

[**] Online laboratory reporting means laboratory staff members enter data into an Internet form, in contrast to ELR, in which the laboratory computer system automatically sends an electronic message to the state health department system.

multijurisdictional laboratories and enabling exchange of results with other laboratories, including large hospital and local laboratories. However, many of these facilities use proprietary information systems and local (i.e., nonstandard) coding systems that would require multiple custom interfaces to enable automated exchange of results. CDC is working with national partners to identify possible solutions.

Using standards and systems to enhance the exchange of information between the clinical sector and public health is a principal goal of NEDSS and PHIN. The ELR enhancements have required detailed specifications for the format, data elements, and standard codes for ELR messages by using the Health Level Seven (version 2.3)[††] standard message format and standard, controlled vocabularies for test names (LOINC®[§§]) and test results (SNOMED®[¶¶]). In addition, PHIN specifies the standards for secure transmission of these messages over the Internet; to meet these standards, CDC has provided the PHIN Messaging System[***] for use by public and private partners. Successful ELR reporting provides experience with secure, standards-based, interoperable data exchange, relevant for public health agencies and also for their partners in clinical medicine.

The examples in this report demonstrate the impact NEDSS has had on disease surveillance and deployment of public health staff and resources. Use of secure, Internet-based systems enables public health response 24 hours a day, 7 days a week. State health departments have used these systems to manage workloads and increase capacity during outbreaks and to help improve the nation's ability to detect and respond to disease threats.

[††] Health Level Seven is one of several health-care standards developing organizations accredited by the American National Standards Institute. Available at http://www.hl7.org.

[§§] Logical Observation Identifiers Names and Codes. The database and supporting documentation are maintained by The Regenstrief Institute (Indianapolis, Indiana). Available at http://www.regenstrief.org/loinc.

[¶¶] Systematized Nomenclature of Medicine of the College of American Pathologists. Available at http://www.snomed.org.

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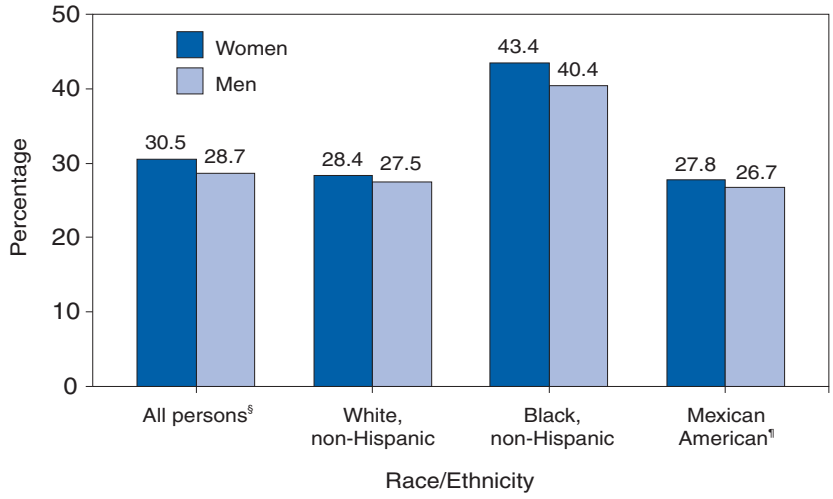
[***] Available at http://www.cdc.gov/phin/software-solutions/phinms.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage* of Persons Aged ≥20 Years with Hypertension,† by Race/Ethnicity — United States, 1999–2002



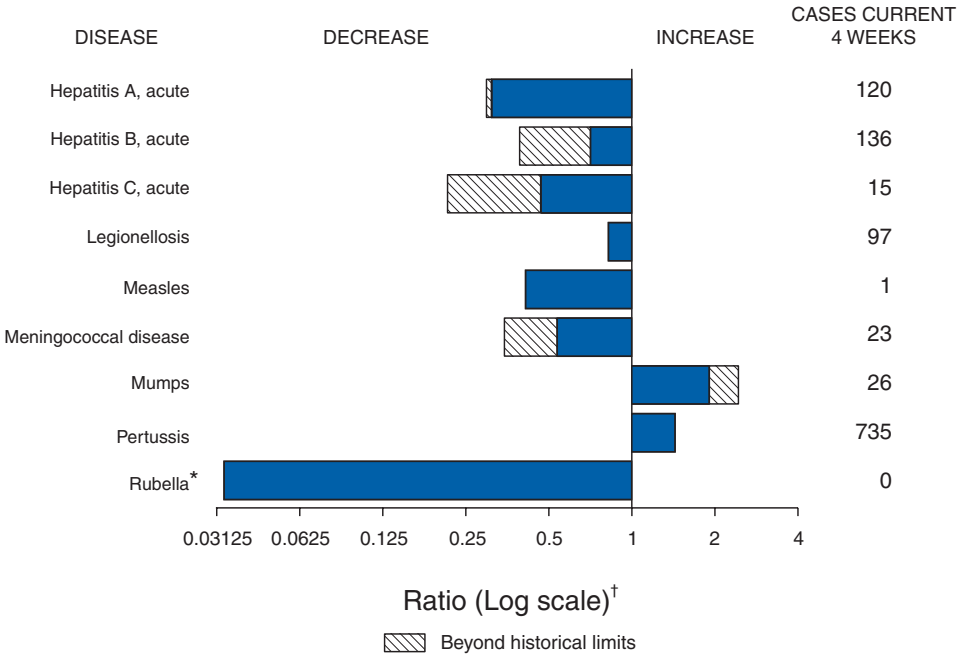
* Percentages are age-adjusted to the 2000 U.S. standard population by using five age groups: 20–34, 35–44, 45–54, 55–64, and ≥65 years.
† Defined as either having elevated blood pressure (systolic pressure of ≥140 mmHg or diastolic pressure of ≥90 mmHg) or taking antihypertensive medication.
§ Includes persons of all races/ethnicities (including all Hispanic origins), not just non-Hispanic whites, non-Hispanic blacks, and Mexican Americans.
¶ Persons in this subpopulation might be of any race.

During 1999–2002, approximately 30% of persons aged ≥20 years had hypertension. Among those racial/ethnic populations and subpopulations evaluated, the percentage with hypertension was highest among non-Hispanic blacks. Men and women were approximately equally likely to have hypertension.

SOURCES: National Center for Health Statistics. Health, United States, 2004: with chartbook on trends in the health of Americans. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2004. Available at http://www.cdc.gov/nchs/hus.htm.

National Health and Nutrition Examination Survey, 1999–2002. Available at http://www.cdc.gov/nchs/nhanes.htm.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals August 20, 2005, with historical data



* No rubella cases were reported for the current 4-week period yielding a ratio for week 33 of zero (0).
† Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending August 20, 2005 (33rd Week)*

Disease	Cum. 2005	Cum. 2004	Disease	Cum. 2005	Cum. 2004
Anthrax	—	—	Hemolytic uremic syndrome, postdiarrheal†	89	105
Botulism:			HIV infection, pediatric†¶	181	260
foodborne	7	6	Influenza-associated pediatric mortality†**	43	—
infant	43	49	Measles	56††	25§§
other (wound & unspecified)	17	8	Mumps	179	130
Brucellosis	65	58	Plague	3	—
Chancroid	17	17	Poliomyelitis, paralytic	—	—
Cholera	2	4	Psittacosis†	13	8
Cyclosporiasis†	663	175	Q fever†	68	41
Diphtheria	—	—	Rabies, human	1	4
Domestic arboviral diseases			Rubella	8	9
(neuroinvasive & non-neuroinvasive):	—	—	Rubella, congenital syndrome	1	—
California serogroup†§	6	68	SARS†**	—	—
eastern equine†§	5	1	Smallpox†	—	—
Powassan†§	—	1	*Staphylococcus aureus*:		
St. Louis†§	1	7	Vancomycin-intermediate (VISA)†	—	—
western equine†§	—	—	Vancomycin-resistant (VRSA)†	—	1
Ehrlichiosis:	—	—	Streptococcal toxic-shock syndrome†	90	100
human granulocytic (HGE)†	250	243	Tetanus	14	12
human monocytic (HME)†	187	166	Toxic-shock syndrome	62	58
human, other and unspecified †	36	44	Trichinellosis¶¶	12	1
Hansen disease†	48	64	Tularemia†	79	62
Hantavirus pulmonary syndrome†	16	16	Yellow fever	—	—

—: No reported cases.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).
† Not notifiable in all states.
§ Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).
¶ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention. Last update June 26, 2005.
** Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases.
†† Of 56 cases reported, 46 were indigenous and 10 were imported from another country.
§§ Of 25 cases reported, eight were indigenous and 17 were imported from another country.
¶¶ Formerly Trichinosis.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	AIDS		Chlamydia†		Coccidioidomycosis		Cryptosporidiosis	
	Cum. 2005§	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	20,405	25,103	567,157	580,794	2,767	3,510	1,610	1,980
NEW ENGLAND	778	842	20,253	19,066	—	—	94	110
Maine	11	14	1,272	1,248	N	N	12	15
N.H.	20	29	1,144	1,060	—	—	14	20
Vt.¶	4	13	614	726	—	—	20	16
Mass.	368	283	9,008	8,418	—	—	33	43
R.I.	68	82	2,063	2,163	—	—	3	4
Conn.	307	421	6,152	5,451	N	N	12	12
MID. ATLANTIC	4,352	5,527	69,789	71,800	—	—	219	290
Upstate N.Y.	800	665	14,137	14,230	N	N	81	63
N.Y. City	2,327	3,053	22,817	22,273	—	—	42	80
N.J.	574	977	10,585	11,430	N	N	10	28
Pa.	651	832	22,250	23,867	N	N	86	119
E.N. CENTRAL	1,938	2,098	86,835	102,529	5	9	338	615
Ohio	312	423	21,403	25,316	N	N	113	121
Ind.	236	247	12,495	11,430	N	N	24	48
Ill.	983	943	26,018	29,951	—	—	34	110
Mich.	322	380	15,282	23,965	5	9	49	99
Wis.	85	105	11,637	11,867	N	N	118	237
W.N. CENTRAL	463	501	35,193	35,216	6	5	306	243
Minn.	123	141	6,508	7,417	3	N	64	82
Iowa	50	36	4,314	4,294	N	N	59	50
Mo.	198	202	14,081	12,959	2	3	146	42
N. Dak.	5	15	715	1,156	N	N	—	9
S. Dak.	10	7	1,769	1,535	—	—	13	23
Nebr.¶	18	21	3,494	3,251	1	2	4	18
Kans.	59	79	4,312	4,604	N	N	20	19
S. ATLANTIC	6,473	7,869	111,795	108,492	1	—	300	310
Del.	100	105	2,086	1,813	N	N	—	—
Md.	812	983	11,795	11,987	1	—	20	12
D.C.	467	496	2,349	2,252	—	—	5	10
Va.¶	307	465	12,928	13,909	—	—	22	31
W. Va.	36	55	1,655	1,787	N	N	6	4
N.C.	531	393	21,163	18,206	N	N	35	52
S.C.¶	386	493	14,230	11,226	—	—	9	13
Ga.	1,103	1,015	18,487	20,438	—	—	61	105
Fla.	2,731	3,864	27,102	26,874	N	N	142	83
E.S. CENTRAL	1,093	1,183	41,450	37,684	—	4	60	77
Ky.	135	129	6,017	3,590	N	N	22	26
Tenn.¶	434	462	14,957	14,355	N	N	21	22
Ala.¶	295	304	7,235	8,623	—	—	15	13
Miss.	229	288	13,241	11,116	—	4	2	16
W.S. CENTRAL	2,206	3,137	68,729	73,292	1	2	55	66
Ark.	72	132	4,672	5,164	—	1	2	13
La.	436	638	12,572	14,954	1	1	3	2
Okla.	167	120	6,896	7,200	N	N	30	15
Tex.¶	1,531	2,247	44,589	45,974	N	N	20	36
MOUNTAIN	789	851	33,639	34,945	1,950	2,182	74	101
Mont.	4	4	1,166	1,569	N	N	12	28
Idaho¶	9	11	1,554	1,809	N	N	6	10
Wyo.	2	6	698	679	2	1	2	2
Colo.	163	162	8,615	8,531	N	N	23	34
N. Mex.	72	138	3,272	5,668	6	16	3	9
Ariz.	329	310	11,604	10,570	1,907	2,114	9	14
Utah	33	41	2,696	2,369	4	11	11	2
Nev.¶	177	179	4,034	3,750	31	40	8	2
PACIFIC	2,313	3,095	99,474	97,770	804	1,308	164	168
Wash.	229	214	11,887	11,064	N	N	25	14
Oreg.¶	136	155	5,294	5,137	—	—	31	24
Calif.	1,874	2,648	77,061	75,610	804	1,308	107	128
Alaska	14	21	2,523	2,406	—	—	—	—
Hawaii	60	57	2,709	3,553	—	—	1	2
Guam	1	1	—	736	—	—	—	—
P.R.	537	395	2,341	2,430	N	N	N	N
V.I.	10	6	119	243	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	—	U	—	U	—	U

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

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

† Chlamydia refers to genital infections caused by *C. trachomatis*.

§ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention. Last update June 26, 2005.

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

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	*Escherichia coli*, Enterohemorrhagic (EHEC)						Giardiasis		Gonorrhea	
	O157:H7		Shiga toxin positive, serogroup non-O157		Shiga toxin positive, not serogrouped					
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,127	1,390	171	165	140	104	9,738	11,113	192,493	202,837
NEW ENGLAND	91	102	33	36	23	9	886	999	3,840	4,438
Maine	11	8	6	—	—	—	117	80	78	149
N.H.	10	14	2	5	—	—	35	24	105	75
Vt.	10	9	3	—	—	—	103	92	34	56
Mass.	34	45	6	13	23	9	356	468	1,663	1,995
R.I.	3	6	—	1	—	—	62	68	292	548
Conn.	23	20	16	17	—	—	213	267	1,668	1,615
MID. ATLANTIC	136	162	15	25	20	23	1,779	2,387	19,775	23,067
Upstate N.Y.	64	67	10	11	7	10	632	757	4,008	4,610
N.Y. City	7	32	—	—	—	—	478	696	5,974	7,185
N.J.	21	31	1	5	3	6	208	307	3,242	4,358
Pa.	44	32	4	9	10	7	461	627	6,551	6,914
E.N. CENTRAL	229	273	15	34	7	17	1,510	1,757	34,891	42,453
Ohio	65	59	2	7	3	10	426	492	10,039	12,965
Ind.	29	29	—	—	—	—	N	N	4,987	4,045
Ill.	45	57	1	5	1	6	307	511	10,755	12,877
Mich.	50	49	—	6	3	1	422	403	5,851	9,544
Wis.	40	79	12	16	—	—	355	351	3,259	3,022
W.N. CENTRAL	184	298	25	23	22	18	1,175	1,209	11,206	10,580
Minn.	43	72	7	9	10	3	556	414	1,839	1,846
Iowa	40	80	—	—	—	—	140	178	959	766
Mo.	56	50	11	11	5	6	259	334	5,751	5,485
N. Dak.	1	9	—	—	—	5	5	18	41	77
S. Dak.	10	22	4	—	—	—	52	40	236	165
Nebr.	13	43	3	3	4	—	56	89	814	674
Kans.	21	22	—	—	3	4	107	136	1,566	1,567
S. ATLANTIC	114	102	41	17	48	21	1,457	1,746	47,920	48,758
Del.	3	2	N	N	N	N	31	30	515	572
Md.	20	20	15	2	3	2	103	70	4,345	5,146
D.C.	—	1	—	—	—	—	29	44	1,288	1,619
Va.	19	20	16	7	12	—	323	270	4,601	5,593
W. Va.	1	2	—	—	1	—	26	23	450	569
N.C.	—	—	—	—	24	14	N	N	9,937	9,689
S.C.	4	9	—	—	—	—	66	67	6,250	5,498
Ga.	16	15	6	6	—	—	296	553	8,376	8,797
Fla.	51	33	4	2	8	5	583	689	12,158	11,275
E.S. CENTRAL	77	65	1	3	13	12	247	223	15,775	16,382
Ky.	20	16	—	1	10	7	N	N	1,992	1,564
Tenn.	33	28	1	—	3	5	129	123	5,326	5,275
Ala.	19	12	—	—	—	—	118	100	4,245	5,217
Miss.	5	9	—	2	—	—	—	—	4,212	4,326
W.S. CENTRAL	30	56	4	3	3	4	153	187	27,880	27,902
Ark.	6	10	—	—	—	—	45	73	2,420	2,615
La.	3	2	3	1	2	—	27	33	6,950	6,901
Okla.	13	13	—	—	—	—	81	81	2,832	3,054
Tex.	8	31	1	2	1	4	N	N	15,678	15,332
MOUNTAIN	104	133	31	23	4	—	755	890	7,159	7,237
Mont.	10	12	—	—	—	—	31	35	62	51
Idaho	10	28	8	4	2	—	53	104	63	52
Wyo.	1	4	2	1	—	—	12	15	46	36
Colo.	21	38	1	1	1	—	281	321	1,859	1,853
N. Mex.	5	10	4	4	—	—	35	49	628	729
Ariz.	24	11	N	N	N	N	88	116	2,549	2,416
Utah	24	21	16	12	—	—	214	179	414	360
Nev.	9	9	—	1	1	—	41	71	1,538	1,740
PACIFIC	162	199	6	1	—	—	1,776	1,715	24,047	22,020
Wash.	38	71	—	—	—	—	211	197	2,287	1,651
Oreg.	40	38	6	1	—	—	202	270	937	665
Calif.	63	84	—	—	—	—	1,267	1,146	19,982	18,475
Alaska	12	1	—	—	—	—	57	49	347	394
Hawaii	9	5	—	—	—	—	39	53	494	835
Guam	N	N	—	—	—	—	—	2	—	118
P.R.	—	1	—	—	—	—	33	153	216	178
V.I.	—	—	—	—	—	—	—	—	35	73
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	*Haemophilus influenzae*, invasive							
	All ages		Age <5 years					
	All serotypes		Serotype b		Non-serotype b		Unknown serotype	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,421	1,333	3	9	74	74	138	129
NEW ENGLAND	110	119	—	1	10	7	4	1
Maine	5	9	—	—	—	—	1	—
N.H.	5	14	—	—	—	2	—	—
Vt.	6	5	—	—	—	—	2	1
Mass.	50	58	—	1	3	2	1	—
R.I.	7	3	—	—	2	—	—	—
Conn.	37	30	—	—	5	3	—	—
MID. ATLANTIC	271	278	—	1	—	4	35	32
Upstate N.Y.	79	94	—	1	—	4	7	5
N.Y. City	49	64	—	—	—	—	10	12
N.J.	49	51	—	—	—	—	8	2
Pa.	94	69	—	—	—	—	10	13
E.N. CENTRAL	211	248	1	—	3	8	13	38
Ohio	91	72	—	—	—	2	9	12
Ind.	51	37	—	—	3	4	—	1
Ill.	35	86	—	—	—	—	3	20
Mich.	13	15	1	—	—	2	—	3
Wis.	21	38	—	—	—	—	1	2
W.N. CENTRAL	84	72	—	2	3	3	10	6
Minn.	32	33	—	1	3	3	1	—
Iowa	1	1	—	1	—	—	—	—
Mo.	35	25	—	—	—	—	7	4
N. Dak.	1	3	—	—	—	—	1	—
S. Dak.	—	—	—	—	—	—	—	—
Nebr.	7	4	—	—	—	—	1	1
Kans.	8	6	—	—	—	—	—	1
S. ATLANTIC	344	301	1	—	21	20	19	22
Del.	—	—	—	—	—	—	—	—
Md.	49	47	—	—	5	5	—	—
D.C.	—	2	—	—	—	—	—	1
Va.	34	27	—	—	—	—	1	3
W. Va.	22	11	—	—	1	3	4	—
N.C.	60	40	1	—	7	5	—	1
S.C.	20	9	—	—	—	—	1	1
Ga.	68	86	—	—	—	—	9	16
Fla.	91	79	—	—	8	7	4	—
E.S. CENTRAL	83	54	—	1	1	—	14	7
Ky.	8	5	—	—	1	—	2	—
Tenn.	58	35	—	—	—	—	8	5
Ala.	17	12	—	1	—	—	4	2
Miss.	—	2	—	—	—	—	—	—
W.S. CENTRAL	77	52	1	1	5	6	6	1
Ark.	4	1	—	—	1	—	—	—
La.	28	10	1	—	2	—	6	1
Okla.	44	40	—	—	2	6	—	—
Tex.	1	1	—	1	—	—	—	—
MOUNTAIN	167	142	—	3	13	17	29	16
Mont.	—	—	—	—	—	—	—	—
Idaho	3	5	—	—	—	—	1	2
Wyo.	4	—	—	—	—	—	1	—
Colo.	34	33	—	—	—	—	9	3
N. Mex.	15	30	—	—	4	5	1	6
Ariz.	84	51	—	—	7	7	8	2
Utah	14	12	—	2	—	2	7	2
Nev.	13	11	—	1	2	3	2	1
PACIFIC	74	67	—	—	18	9	8	6
Wash.	1	1	—	—	—	—	1	1
Oreg.	28	30	—	—	—	—	5	2
Calif.	33	24	—	—	18	9	1	1
Alaska	4	5	—	—	—	—	1	1
Hawaii	8	7	—	—	—	—	—	1
Guam	—	—	—	—	—	—	—	—
P.R.	1	2	—	—	—	—	—	2
V.I.	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	Hepatitis (viral, acute), by type					
	A		B		C	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	2,290	3,670	3,482	3,686	515	475
NEW ENGLAND	303	608	177	231	8	10
Maine	1	9	9	1	—	—
N.H.	63	14	13	25	—	—
Vt.	4	8	2	5	8	3
Mass.	197	505	125	115	—	7
R.I.	6	17	1	3	—	—
Conn.	32	55	27	82	U	—
MID. ATLANTIC	390	466	723	478	62	80
Upstate N.Y.	65	53	56	46	13	4
N.Y. City	188	194	65	96	—	—
N.J.	72	105	471	138	—	—
Pa.	65	114	131	198	49	76
E.N. CENTRAL	215	297	301	346	85	63
Ohio	33	34	95	71	3	4
Ind.	25	31	25	31	16	4
Ill.	53	99	70	50	—	13
Mich.	87	99	111	164	66	42
Wis.	17	34	—	30	—	—
W.N. CENTRAL	65	108	186	219	34	14
Minn.	3	28	17	29	5	11
Iowa	16	33	14	14	—	—
Mo.	32	23	115	135	27	3
N. Dak.	—	1	—	4	1	—
S. Dak.	—	2	3	1	—	—
Nebr.	4	10	19	23	1	—
Kans.	10	11	18	13	—	—
S. ATLANTIC	387	661	893	1,154	161	112
Del.	4	5	38	29	82	4
Md.	39	79	100	104	16	3
D.C.	2	4	8	13	—	2
Va.	53	55	99	139	10	12
W. Va.	3	3	26	26	11	17
N.C.	57	62	98	116	9	8
S.C.	22	34	92	92	2	13
Ga.	63	234	104	314	4	9
Fla.	144	185	328	321	27	44
E.S. CENTRAL	164	112	227	322	67	64
Ky.	18	24	43	40	12	23
Tenn.	113	72	87	160	12	20
Ala.	17	6	51	48	8	3
Miss.	16	10	46	74	35	18
W.S. CENTRAL	119	457	247	216	39	68
Ark.	5	57	26	77	—	2
La.	44	32	31	39	9	3
Okla.	4	18	22	43	—	3
Tex.	66	350	168	57	30	60
MOUNTAIN	214	285	356	286	31	29
Mont.	7	4	3	1	1	2
Idaho	15	13	7	8	1	1
Wyo.	—	4	1	7	—	—
Colo.	26	32	32	37	15	8
N. Mex.	15	16	6	12	—	U
Ariz.	130	176	253	147	—	4
Utah	14	28	32	24	7	2
Nev.	7	12	22	50	7	12
PACIFIC	433	676	372	434	28	35
Wash.	28	39	49	34	U	U
Oreg.	31	47	60	74	13	13
Calif.	357	568	252	309	15	21
Alaska	3	4	7	10	—	—
Hawaii	14	18	4	7	—	1
Guam	—	1	—	12	—	9
P.R.	17	29	12	56	—	—
V.I.	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	Legionellosis		Listeriosis		Lyme disease		Malaria	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	990	1,139	396	417	10,319	11,635	725	878
NEW ENGLAND	64	38	29	24	1,176	2,081	45	65
Maine	3	—	1	5	55	29	4	6
N.H.	6	1	4	2	108	135	4	1
Vt.	3	3	1	1	18	31	1	3
Mass.	24	19	8	9	593	1,167	24	40
R.I.	9	2	2	1	25	152	2	2
Conn.	19	13	13	6	377	567	10	13
MID. ATLANTIC	326	306	97	100	7,077	7,290	195	236
Upstate N.Y.	86	54	33	28	2,001	2,294	29	25
N.Y. City	31	39	20	17	—	254	92	119
N.J.	77	50	16	23	2,406	1,971	52	55
Pa.	132	163	28	32	2,670	2,771	22	37
E.N. CENTRAL	169	267	41	77	403	969	55	79
Ohio	83	113	17	24	54	34	15	20
Ind.	12	28	1	15	17	15	—	7
Ill.	12	31	1	17	—	73	19	27
Mich.	49	79	16	19	23	12	15	15
Wis.	13	16	6	2	309	835	6	10
W.N. CENTRAL	45	32	19	7	308	237	30	48
Minn.	11	3	4	2	233	173	11	18
Iowa	3	3	7	1	50	31	4	3
Mo.	18	15	4	3	21	23	12	15
N. Dak.	1	1	2	—	—	—	—	3
S. Dak.	9	3	—	—	—	—	—	1
Nebr.	1	2	—	1	—	7	—	2
Kans.	2	5	2	—	4	3	3	6
S. ATLANTIC	219	240	82	62	1,218	941	178	196
Del.	12	8	N	N	406	151	3	6
Md.	62	46	14	9	601	575	65	40
D.C.	4	7	—	—	7	6	6	9
Va.	30	27	7	12	113	66	17	16
W. Va.	9	6	2	2	6	14	1	—
N.C.	17	24	15	14	35	73	21	12
S.C.	9	7	3	4	10	15	5	7
Ga.	14	35	16	10	2	12	27	45
Fla.	62	80	25	11	38	29	33	61
E.S. CENTRAL	46	60	18	19	27	28	17	25
Ky.	13	20	3	4	3	12	4	4
Tenn.	22	26	7	10	24	13	9	6
Ala.	9	12	6	3	—	3	4	11
Miss.	2	2	2	2	—	—	—	4
W.S. CENTRAL	18	98	20	29	38	25	48	97
Ark.	3	—	—	3	3	4	4	7
La.	4	7	7	2	4	2	2	4
Okla.	3	3	2	—	—	—	3	4
Tex.	8	88	11	24	31	19	39	82
MOUNTAIN	63	55	7	15	10	13	32	32
Mont.	4	1	—	—	—	—	—	—
Idaho	3	6	—	1	1	5	—	1
Wyo.	3	5	—	—	2	3	1	—
Colo.	16	12	2	6	2	—	18	12
N. Mex.	2	3	3	—	1	—	1	2
Ariz.	18	10	—	—	1	5	6	8
Utah	10	15	—	1	2	—	4	5
Nev.	7	3	2	7	1	—	2	4
PACIFIC	40	43	83	84	62	51	125	100
Wash.	—	8	7	8	3	6	10	10
Oreg.	N	N	5	5	14	19	6	12
Calif.	39	35	71	68	42	25	93	75
Alaska	—	—	—	—	3	1	3	—
Hawaii	1	—	—	3	N	N	13	3
Guam	—	—	—	—	—	—	—	—
P.R.	—	—	—	—	N	N	1	—
V.I.	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	Meningococcal disease									
	All serogroups		Serogroup A, C, Y, and W-135		Serogroup B		Other serogroup		Serogroup unknown	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	813	834	59	65	42	35	—	1	712	733
NEW ENGLAND	58	51	1	5	—	6	—	1	57	39
Maine	2	9	—	—	—	1	—	—	2	8
N.H.	9	3	—	—	—	—	—	—	9	3
Vt.	6	2	—	—	—	—	—	—	6	2
Mass.	27	30	—	5	—	5	—	—	27	20
R.I.	2	1	—	—	—	—	—	—	2	1
Conn.	12	6	1	—	—	—	—	1	11	5
MID. ATLANTIC	106	117	29	33	4	5	—	—	73	79
Upstate N.Y.	28	33	4	5	3	3	—	—	21	25
N.Y. City	14	20	—	—	—	—	—	—	14	20
N.J.	29	24	—	—	—	—	—	—	29	24
Pa.	35	40	25	28	1	2	—	—	9	10
E.N. CENTRAL	81	90	16	19	9	6	—	—	56	65
Ohio	28	46	—	3	5	5	—	—	23	38
Ind.	15	15	—	1	4	1	—	—	11	13
Ill.	12	1	—	—	—	—	—	—	12	1
Mich.	16	15	16	15	—	—	—	—	—	—
Wis.	10	13	—	—	—	—	—	—	10	13
W.N. CENTRAL	55	58	2	—	1	4	—	—	52	54
Minn.	9	17	1	—	—	—	—	—	8	17
Iowa	12	13	—	—	1	2	—	—	11	11
Mo.	20	16	1	—	—	1	—	—	19	15
N. Dak.	—	2	—	—	—	—	—	—	—	2
S. Dak.	2	2	—	—	—	1	—	—	2	1
Nebr.	4	3	—	—	—	—	—	—	4	3
Kans.	8	5	—	—	—	—	—	—	8	5
S. ATLANTIC	155	156	4	2	8	2	—	—	143	152
Del.	3	2	—	—	—	—	—	—	3	2
Md.	15	8	2	—	2	—	—	—	11	8
D.C.	—	5	—	2	—	—	—	—	—	3
Va.	21	11	—	—	—	—	—	—	21	11
W. Va.	5	5	1	—	—	—	—	—	4	5
N.C.	24	24	1	—	6	2	—	—	17	22
S.C.	14	13	—	—	—	—	—	—	14	13
Ga.	13	9	—	—	—	—	—	—	13	9
Fla.	60	79	—	—	—	—	—	—	60	79
E.S. CENTRAL	40	41	1	1	3	1	—	—	36	39
Ky.	14	8	—	1	3	1	—	—	11	6
Tenn.	17	13	—	—	—	—	—	—	17	13
Ala.	5	10	1	—	—	—	—	—	4	10
Miss.	4	10	—	—	—	—	—	—	4	10
W.S. CENTRAL	63	49	1	1	5	1	—	—	57	47
Ark.	11	12	—	—	—	—	—	—	11	12
La.	25	27	—	1	2	—	—	—	23	26
Okla.	12	7	1	—	3	1	—	—	8	6
Tex.	15	3	—	—	—	—	—	—	15	3
MOUNTAIN	66	50	4	1	5	5	—	—	57	44
Mont.	—	3	—	—	—	—	—	—	—	3
Idaho	2	6	—	—	—	—	—	—	2	6
Wyo.	—	3	—	—	—	—	—	—	—	3
Colo.	14	12	3	—	—	—	—	—	11	12
N. Mex.	2	6	—	1	—	3	—	—	2	2
Ariz.	34	9	—	—	2	1	—	—	32	8
Utah	9	4	1	—	2	—	—	—	6	4
Nev.	5	7	—	—	1	1	—	—	4	6
PACIFIC	189	222	1	3	7	5	—	—	181	214
Wash.	36	21	1	3	4	5	—	—	31	13
Oreg.	26	43	—	—	—	—	—	—	26	43
Calif.	115	150	—	—	—	—	—	—	115	150
Alaska	1	3	—	—	—	—	—	—	1	3
Hawaii	11	5	—	—	3	—	—	—	8	5
Guam	—	—	—	—	—	—	—	—	—	—
P.R.	4	13	—	—	—	—	—	—	4	13
V.I.	—	—	—	—	—	—	—	—	—	—
Amer. Samoa	1	1	—	—	—	—	—	—	1	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	Pertussis		Rabies, animal		Rocky Mountain spotted fever		Salmonellosis		Shigellosis	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	11,683	9,878	3,193	4,104	932	825	22,451	24,719	7,392	7,971
NEW ENGLAND	645	1,087	464	379	3	12	1,326	1,328	174	172
Maine	16	4	36	36	N	N	94	73	8	5
N.H.	36	35	10	15	1	—	107	96	5	6
Vt.	73	55	39	16	—	—	73	37	13	2
Mass.	479	935	255	155	1	10	693	776	108	105
R.I.	15	16	13	27	1	1	66	75	10	13
Conn.	26	42	111	130	—	1	293	271	30	41
MID. ATLANTIC	842	1,684	383	575	48	56	2,672	3,731	695	799
Upstate N.Y.	326	1,179	323	306	3	1	708	725	178	329
N.Y. City	47	120	17	10	4	19	626	865	237	240
N.J.	153	123	N	N	18	10	405	702	193	156
Pa.	316	262	43	259	23	26	933	1,439	87	74
E.N. CENTRAL	2,252	3,070	118	104	29	27	3,100	3,318	474	700
Ohio	782	315	45	42	24	8	830	804	61	102
Ind.	192	59	16	7	1	5	297	315	41	131
Ill.	438	603	17	32	1	11	924	1,060	116	283
Mich.	138	96	23	20	3	1	533	536	150	72
Wis.	702	1,997	17	3	—	2	516	603	106	112
W.N. CENTRAL	1,804	1,052	282	418	148	85	1,518	1,521	909	265
Minn.	734	154	48	51	1	—	352	369	53	37
Iowa	357	70	65	58	2	1	229	316	52	54
Mo.	296	242	52	34	136	69	501	403	627	107
N. Dak.	77	528	17	47	—	—	17	29	2	2
S. Dak.	1	14	43	77	3	4	94	69	22	8
Nebr.	147	8	—	74	2	11	96	97	42	13
Kans.	192	36	57	77	4	—	229	238	111	44
S. ATLANTIC	859	425	1,003	1,521	438	380	6,069	6,224	1,189	1,892
Del.	5	—	—	9	2	4	56	65	8	6
Md.	112	80	187	207	52	42	483	534	50	84
D.C.	4	6	—	—	2	—	33	31	8	26
Va.	237	107	317	314	35	12	615	697	75	96
W. Va.	36	13	28	43	3	4	92	152	—	4
N.C.	64	49	326	411	259	200	804	736	111	179
S.C.	251	74	5	109	27	42	702	612	56	358
Ga.	26	17	135	223	45	63	875	1,134	278	426
Fla.	124	79	5	205	13	13	2,409	2,263	603	713
E.S. CENTRAL	347	198	90	93	184	125	1,538	1,533	883	506
Ky.	90	35	7	17	15	1	250	213	205	46
Tenn.	164	130	29	32	134	74	460	427	439	254
Ala.	59	20	52	35	31	30	416	380	186	168
Miss.	34	13	2	9	4	20	412	513	53	38
W.S. CENTRAL	690	411	613	774	50	121	1,948	2,335	1,717	2,161
Ark.	164	37	26	35	31	77	440	307	39	46
La.	30	12	—	—	5	5	458	535	83	211
Okla.	—	17	60	86	5	38	216	241	454	308
Tex.	496	345	527	653	9	1	834	1,252	1,141	1,596
MOUNTAIN	2,605	777	138	112	25	15	1,376	1,432	398	481
Mont.	470	30	7	19	1	3	55	99	5	4
Idaho	94	24	—	1	1	3	70	107	2	9
Wyo.	26	12	14	2	2	4	57	36	2	3
Colo.	862	386	13	23	4	2	375	354	68	95
N. Mex.	99	109	4	3	—	2	119	166	46	83
Ariz.	724	146	91	60	13	1	409	421	219	238
Utah	302	58	4	3	4	—	215	144	30	26
Nev.	28	12	5	1	—	—	76	105	26	23
PACIFIC	1,639	1,174	102	128	7	4	2,904	3,297	953	995
Wash.	494	426	U	U	—	—	327	311	58	71
Oreg.	496	297	3	5	1	2	232	293	73	48
Calif.	519	426	98	112	6	2	2,134	2,430	798	840
Alaska	36	11	1	11	—	—	37	36	7	6
Hawaii	94	14	—	—	—	—	174	227	17	30
Guam	—	—	—	—	—	—	—	48	—	38
P.R.	1	2	39	39	N	N	129	254	1	18
V.I.	—	—	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

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* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	Streptococcal disease, invasive, group A		*Streptococcus pneumoniae*, invasive disease				Syphilis			
			Drug resistant, all ages		Age <5 years		Primary & secondary		Congenital	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	2,968	3,174	1,571	1,510	551	518	4,911	4,896	159	253
NEW ENGLAND	115	214	79	97	44	74	132	130	—	1
Maine	8	7	N	N	—	4	1	2	—	—
N.H.	12	15	—	—	3	N	9	3	—	—
Vt.	9	8	10	6	4	1	—	—	—	—
Mass.	79	98	56	24	37	40	87	80	—	—
R.I.	7	17	13	14	—	6	7	18	—	1
Conn.	—	69	U	53	U	23	28	27	—	—
MID. ATLANTIC	648	547	148	108	105	78	626	639	18	27
Upstate N.Y.	202	181	58	47	48	53	54	58	3	1
N.Y. City	113	83	U	U	19	U	393	386	5	12
N.J.	130	119	N	N	17	7	86	105	10	13
Pa.	203	164	90	61	21	18	93	90	—	1
E.N. CENTRAL	599	738	416	345	152	124	507	570	24	31
Ohio	146	171	261	240	60	59	141	150	2	2
Ind.	78	76	145	105	38	26	42	40	1	2
Ill.	115	203	10	—	47	1	248	236	8	5
Mich.	231	221	—	N	—	N	54	123	11	22
Wis.	29	67	N	N	7	38	22	21	2	—
W.N. CENTRAL	200	220	35	16	63	65	152	112	1	3
Minn.	72	111	—	—	39	43	41	17	—	1
Iowa	N	N	N	N	—	N	2	5	—	—
Mo.	57	46	29	12	5	9	92	66	1	1
N. Dak.	7	10	1	—	2	2	—	—	—	—
S. Dak.	18	9	3	4	—	—	—	—	—	—
Nebr.	14	15	2	—	6	6	3	6	—	—
Kans.	32	29	N	N	11	5	14	18	—	1
S. ATLANTIC	624	630	626	777	63	36	1,268	1,221	27	41
Del.	1	3	1	4	—	N	8	6	—	1
Md.	141	100	—	—	41	24	219	231	9	6
D.C.	7	5	15	7	2	4	70	37	—	1
Va.	60	55	N	N	—	N	81	68	3	2
W. Va.	19	18	92	85	20	8	3	3	—	—
N.C.	89	85	N	N	U	U	173	114	8	6
S.C.	24	48	—	78	—	N	38	80	2	10
Ga.	114	155	109	187	—	N	214	214	—	2
Fla.	169	161	409	416	—	N	462	468	5	13
E.S. CENTRAL	127	167	124	104	7	11	269	267	16	19
Ky.	27	51	23	22	N	N	26	27	—	1
Tenn.	100	116	101	80	—	N	130	88	12	7
Ala.	—	—	—	—	—	N	88	120	3	9
Miss.	—	—	—	2	7	11	25	32	1	2
W.S. CENTRAL	141	251	94	44	72	101	797	763	44	51
Ark.	13	15	12	6	13	7	29	33	—	3
La.	6	2	82	38	22	22	176	185	6	3
Okla.	81	48	N	N	18	29	26	19	1	2
Tex.	41	186	N	N	19	43	566	526	37	43
MOUNTAIN	445	343	49	18	37	29	248	252	15	32
Mont.	—	—	—	—	—	—	5	1	—	—
Idaho	1	8	N	N	—	N	20	13	1	2
Wyo.	3	6	21	6	—	—	—	1	—	—
Colo.	167	69	N	N	36	29	29	46	—	—
N. Mex.	32	74	—	N	—	—	32	62	2	2
Ariz.	183	156	N	N	—	N	90	103	12	27
Utah	58	28	27	10	1	—	4	7	—	1
Nev.	1	2	1	2	—	—	68	19	—	—
PACIFIC	69	64	—	1	8	—	912	942	14	48
Wash.	N	N	N	N	N	N	87	73	—	—
Oreg.	N	N	N	N	6	N	17	21	—	—
Calif.	—	—	N	N	N	N	799	844	14	48
Alaska	—	—	—	—	—	N	5	—	—	—
Hawaii	69	64	—	1	2	—	4	4	—	—
Guam	—	—	—	—	—	—	—	1	—	—
P.R.	N	N	N	N	—	N	116	84	8	3
V.I.	—	—	—	—	—	—	—	4	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	—	U	—	U	—	U	—	U	—	U

N: Not notifiable. U: Unavailable. —: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending August 20, 2005, and August 21, 2004 (33rd Week)*

Reporting area	Tuberculosis		Typhoid fever		Varicella (chickenpox)		West Nile virus disease†		
							Neuroinvasive		Non-neuroinvasive§
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005
UNITED STATES	6,564	8,326	144	192	15,198	19,028	131	749	—
NEW ENGLAND	199	261	16	17	985	1,992	—	—	—
Maine	9	13	1	—	210	180	—	—	—
N.H.	4	10	—	—	201	—	—	—	—
Vt.	4	2	—	—	36	413	—	—	—
Mass.	131	147	9	14	538	129	—	—	—
R.I.	18	33	1	1	—	—	—	—	—
Conn.	33	56	5	2	U	1,270	—	—	—
MID. ATLANTIC	1,239	1,275	31	43	3,049	72	2	4	—
Upstate N.Y.	163	179	5	6	—	—	—	1	—
N.Y. City	602	637	9	15	—	—	—	2	—
N.J.	293	272	9	12	—	—	—	—	—
Pa.	181	187	8	10	3,049	72	2	1	—
E.N. CENTRAL	815	738	10	22	3,959	8,318	12	30	—
Ohio	159	127	1	4	977	1,027	2	4	—
Ind.	81	76	—	—	1	N	1	2	—
Ill.	387	331	2	10	50	4,254	9	15	—
Mich.	134	144	3	6	2,635	2,537	—	5	—
Wis.	54	60	4	2	296	500	—	4	—
W.N. CENTRAL	277	290	3	7	274	134	17	38	—
Minn.	121	109	2	3	—	—	2	9	—
Iowa	26	23	—	—	N	N	—	4	—
Mo.	62	80	1	2	186	5	1	13	—
N. Dak.	2	3	—	—	12	74	2	1	—
S. Dak.	9	5	—	—	76	55	7	5	—
Nebr.	19	21	—	2	—	—	4	—	—
Kans.	38	49	—	—	—	—	1	6	—
S. ATLANTIC	1,508	1,720	23	28	1,375	1,647	4	39	—
Del.	7	17	—	—	21	4	—	—	—
Md.	175	162	7	10	—	—	—	5	—
D.C.	33	60	—	—	23	19	—	1	—
Va.	184	141	5	4	284	392	—	2	—
W. Va.	17	14	—	—	697	932	—	—	N
N.C.	160	180	2	3	—	N	1	1	—
S.C.	137	118	—	—	350	300	—	—	—
Ga.	236	379	2	3	—	—	—	7	—
Fla.	559	649	7	8	—	—	3	23	—
E.S. CENTRAL	340	395	5	6	—	5	5	36	—
Ky.	66	66	2	2	N	N	—	—	—
Tenn.	161	129	—	4	—	—	—	6	—
Ala.	113	121	1	—	—	5	1	14	—
Miss.	—	79	2	—	—	—	4	16	—
W.S. CENTRAL	615	1,273	10	18	3,822	5,301	35	120	—
Ark.	65	76	—	—	—	—	—	8	—
La.	—	—	—	—	107	48	26	46	—
Okla.	89	103	—	1	—	—	—	10	—
Tex.	461	1,094	10	17	3,715	5,253	9	56	—
MOUNTAIN	220	320	7	6	1,734	1,559	8	267	—
Mont.	8	4	—	—	—	—	—	1	—
Idaho	—	3	—	—	—	—	—	—	—
Wyo.	—	2	—	—	43	25	—	1	—
Colo.	47	78	2	1	1,224	1,232	—	31	—
N. Mex.	8	20	—	—	121	U	2	18	—
Ariz.	128	126	3	2	—	—	5	191	—
Utah	18	26	1	1	346	302	—	4	—
Nev.	11	61	1	2	—	—	1	21	—
PACIFIC	1,351	2,054	39	45	—	—	48	215	—
Wash.	153	141	4	4	N	N	—	—	—
Oreg.	54	64	2	1	—	—	—	—	—
Calif.	1,056	1,751	27	34	—	—	48	215	—
Alaska	16	23	—	—	—	—	—	—	—
Hawaii	72	75	6	6	—	—	—	—	—
Guam	—	40	—	—	—	105	—	—	—
P.R.	—	62	—	—	123	278	—	—	—
V.I.	—	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U	—
C.N.M.I.	—	U	—	U	—	U	—	U	—

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

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).

§ Not previously notifiable.

TABLE III. Deaths in 122 U.S. cities,* week ending August 20, 2005 (33rd Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45–64	25–44	1–24	<1	
NEW ENGLAND	430	303	91	24	8	4	36
Boston, Mass.	119	70	35	10	3	1	12
Bridgeport, Conn.	27	19	5	2	—	1	1
Cambridge, Mass.	22	16	3	3	—	—	2
Fall River, Mass.	22	18	4	—	—	—	2
Hartford, Conn.	53	37	10	4	1	1	4
Lowell, Mass.	23	20	1	1	1	—	3
Lynn, Mass.	10	7	2	1	—	—	1
New Bedford, Mass.	31	23	6	—	2	—	3
New Haven, Conn.	U	U	U	U	U	U	U
Providence, R.I.	U	U	U	U	U	U	U
Somerville, Mass.	5	4	1	—	—	—	—
Springfield, Mass.	34	23	9	1	1	—	1
Waterbury, Conn.	23	22	1	—	—	—	2
Worcester, Mass.	61	44	14	2	—	1	5
MID. ATLANTIC	1,649	1,127	357	102	37	25	93
Albany, N.Y.	49	37	7	2	1	2	3
Allentown, Pa.	18	12	3	3	—	—	—
Buffalo, N.Y.	76	50	17	6	2	1	5
Camden, N.J.	21	12	4	4	1	—	—
Elizabeth, N.J.	18	13	5	—	—	—	1
Erie, Pa.	47	30	11	2	1	3	5
Jersey City, N.J.	15	10	5	—	—	—	—
New York City, N.Y.	1,043	714	228	64	23	13	47
Newark, N.J.	46	20	18	1	5	2	2
Paterson, N.J.	7	3	3	1	—	—	3
Philadelphia, Pa.	U	U	U	U	U	U	U
Pittsburgh, Pa.§	12	7	3	2	—	—	—
Reading, Pa.	25	21	4	—	—	—	2
Rochester, N.Y.	125	95	20	7	1	2	17
Schenectady, N.Y.	13	9	2	1	1	—	2
Scranton, Pa.	28	24	4	—	—	—	1
Syracuse, N.Y.	67	46	14	5	—	2	4
Trenton, N.J.	25	14	6	3	2	—	—
Utica, N.Y.	10	7	2	1	—	—	1
Yonkers, N.Y.	4	3	1	—	—	—	—
E.N. CENTRAL	1,768	1,128	409	126	50	54	97
Akron, Ohio	42	25	11	3	2	1	5
Canton, Ohio	33	21	9	2	1	—	3
Chicago, Ill.	301	150	77	34	19	20	17
Cincinnati, Ohio	51	36	7	3	2	3	3
Cleveland, Ohio	209	148	43	10	3	5	6
Columbus, Ohio	204	124	54	17	4	5	12
Dayton, Ohio	118	80	30	5	2	1	9
Detroit, Mich.	159	88	52	15	3	1	8
Evansville, Ind.	31	26	5	—	—	—	3
Fort Wayne, Ind.	64	47	9	4	1	3	3
Gary, Ind.	15	8	4	2	—	1	1
Grand Rapids, Mich.	65	48	11	4	1	1	6
Indianapolis, Ind.	63	46	14	1	—	2	3
Lansing, Mich.	31	24	5	1	1	—	1
Milwaukee, Wis.	97	65	20	6	1	5	6
Peoria, Ill.	43	30	10	—	3	—	2
Rockford, Ill.	47	36	10	1	—	—	2
South Bend, Ind.	24	14	4	2	3	1	2
Toledo, Ohio	117	81	22	10	1	3	2
Youngstown, Ohio	54	31	12	6	3	2	3
W.N. CENTRAL	413	269	101	24	7	12	19
Des Moines, Iowa	—	—	—	—	—	—	—
Duluth, Minn.	29	20	7	2	—	—	2
Kansas City, Kans.	35	20	12	1	1	1	2
Kansas City, Mo.	76	44	16	6	2	7	4
Lincoln, Nebr.	29	22	6	1	—	—	2
Minneapolis, Minn.	44	23	15	4	1	1	2
Omaha, Nebr.	U	U	U	U	U	U	U
St. Louis, Mo.	64	37	19	4	2	2	4
St. Paul, Minn.	61	50	8	3	—	—	—
Wichita, Kans.	75	52	18	3	1	1	3
S. ATLANTIC	1,331	820	323	127	37	23	55
Atlanta, Ga.	217	120	58	26	9	4	4
Baltimore, Md.	172	98	44	19	7	4	15
Charlotte, N.C.	108	68	26	9	3	2	3
Jacksonville, Fla.	190	120	48	19	1	2	9
Miami, Fla.	144	92	34	12	3	3	5
Norfolk, Va.	56	31	13	7	3	2	1
Richmond, Va.	45	27	12	5	—	1	2
Savannah, Ga.	61	41	14	4	1	1	2
St. Petersburg, Fla.	40	26	8	6	—	—	2
Tampa, Fla.	186	132	36	7	8	3	12
Washington, D.C.	100	57	27	12	2	1	—
Wilmington, Del.	12	8	3	1	—	—	—
E.S. CENTRAL	849	547	210	52	23	17	52
Birmingham, Ala.	186	109	51	17	7	2	13
Chattanooga, Tenn.	72	54	16	1	—	1	6
Knoxville, Tenn.	116	81	24	7	2	2	3
Lexington, Ky.	74	50	21	1	—	2	9
Memphis, Tenn.	143	101	32	5	4	1	9
Mobile, Ala.	82	45	21	5	5	6	—
Montgomery, Ala.	28	23	4	1	—	—	2
Nashville, Tenn.	148	84	41	15	5	3	10
W.S. CENTRAL	1,370	823	353	91	64	39	51
Austin, Tex.	95	55	28	7	—	5	4
Baton Rouge, La.	46	22	9	5	4	6	—
Corpus Christi, Tex.	55	31	18	3	2	1	3
Dallas, Tex.	174	102	44	12	10	6	10
El Paso, Tex.	134	88	33	11	1	1	3
Ft. Worth, Tex.	137	81	37	4	8	7	6
Houston, Tex.	364	218	99	25	15	7	17
Little Rock, Ark.	65	37	18	3	5	2	2
New Orleans, La.	101	47	27	10	13	4	1
San Antonio, Tex.	U	U	U	U	U	U	U
Shreveport, La.	73	55	15	3	—	—	3
Tulsa, Okla.	126	87	25	8	6	—	2
MOUNTAIN	689	435	170	54	13	17	36
Albuquerque, N.M.	107	74	22	8	1	2	2
Boise, Idaho	41	30	9	1	—	1	2
Colo. Springs, Colo.	52	32	15	2	2	1	—
Denver, Colo.	100	56	24	10	6	4	6
Las Vegas, Nev.	237	146	68	18	3	2	17
Ogden, Utah	33	27	4	2	—	—	2
Phoenix, Ariz.	U	U	U	U	U	U	U
Pueblo, Colo.	26	20	3	2	1	—	3
Salt Lake City, Utah	93	50	25	11	—	7	4
Tucson, Ariz.	U	U	U	U	U	U	U
PACIFIC	1,251	873	261	57	33	27	310
Berkeley, Calif.	13	11	1	—	—	1	—
Fresno, Calif.	92	60	25	2	5	—	5
Glendale, Calif.	7	6	—	1	—	—	1
Honolulu, Hawaii	66	54	8	2	—	2	6
Long Beach, Calif.	58	44	11	2	1	—	2
Los Angeles, Calif.	120	72	27	11	6	4	16
Pasadena, Calif.	36	30	4	1	1	—	3
Portland, Oreg.	99	69	21	5	3	1	4
Sacramento, Calif.	236	163	53	12	7	1	236
San Diego, Calif.	160	105	30	13	5	7	16
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	165	118	37	6	2	2	15
Santa Cruz, Calif.	31	21	9	—	—	1	—
Seattle, Wash.	105	73	23	2	2	5	4
Spokane, Wash.	63	47	12	—	1	3	2
Tacoma, Wash.	U	U	U	U	U	U	U
TOTAL	9,750¶	6,325	2,275	657	272	218	749

U: Unavailable. —: No reported cases.

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

† Pneumonia and influenza.

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

¶ Total includes unknown ages.

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