

**MMWR**<sup>TM</sup>  
**MORBIDITY AND MORTALITY  
WEEKLY REPORT**

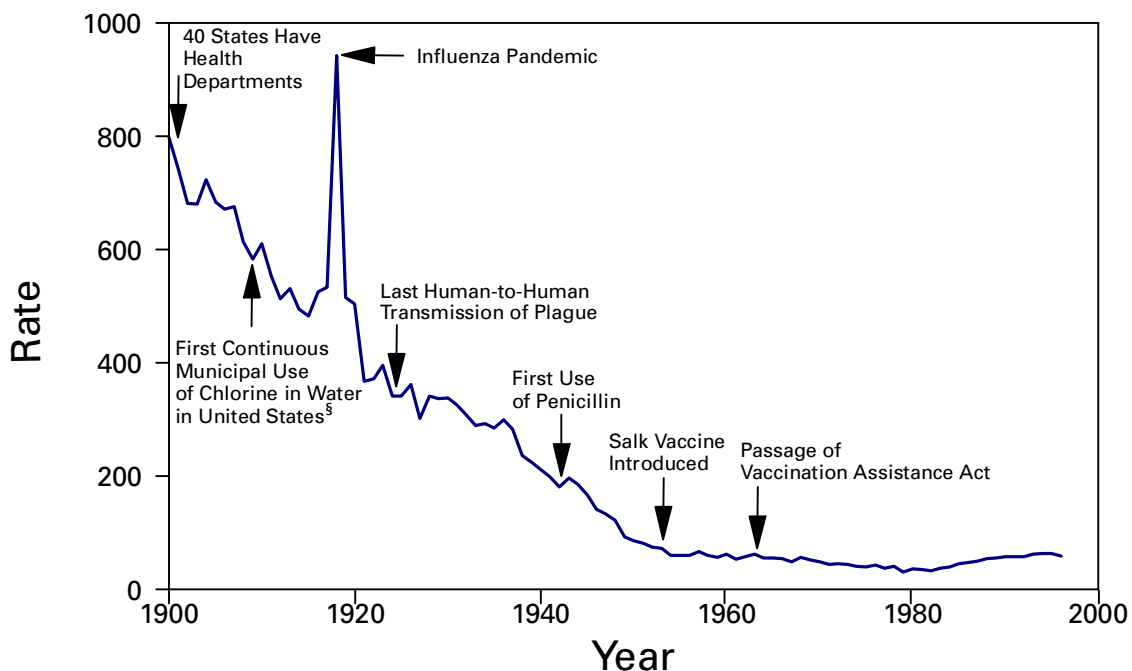
- 621 Control of Infectious Diseases
- 629 Meningococcal Disease —  
New England, 1993–1998
- 633 Progress Toward Poliomyelitis  
Eradication During Armed  
Conflict — Somalia and Southern  
Sudan, January 1998–June 1999
- 637 Notices to Readers

*Achievements in Public Health, 1900–1999*

**Control of Infectious Diseases**

Deaths from infectious diseases have declined markedly in the United States during the 20th century (Figure 1). This decline contributed to a sharp drop in infant and child mortality (1,2) and to the 29.2-year increase in life expectancy (2). In 1900, 30.4% of all deaths occurred among children aged <5 years; in 1997, that percentage was only 1.4%. In 1900, the three leading causes of death were pneumonia, tuberculosis

**FIGURE 1. Crude death rate\* for infectious diseases — United States, 1900–1996†**



\* Per 100,000 population per year.

† Adapted from Armstrong GL, Conn LA, Pinner RW. Trends in infectious disease mortality in the United States during the 20th century. *JAMA* 1999;281:61–6.

§ American Water Works Association. Water chlorination principles and practices: AWWA manual M20. Denver, Colorado: American Water Works Association, 1973.

*Control of Infectious Diseases — Continued*

(TB), and diarrhea and enteritis, which (together with diphtheria) caused one third of all deaths (Figure 2). Of these deaths, 40% were among children aged <5 years (1). In 1997, heart disease and cancers accounted for 54.7% of all deaths, with 4.5% attributable to pneumonia, influenza, and human immunodeficiency virus (HIV) infection (2). Despite this overall progress, one of the most devastating epidemics in human history occurred during the 20th century: the 1918 influenza pandemic that resulted in 20 million deaths, including 500,000 in the United States, in <1 year—more than have died in as short a time during any war or famine in the world (3). HIV infection, first recognized in 1981, has caused a pandemic that is still in progress, affecting 33 million people and causing an estimated 13.9 million deaths (4). These episodes illustrate the volatility of infectious disease death rates and the unpredictability of disease emergence.

Public health action to control infectious diseases in the 20th century is based on the 19th century discovery of microorganisms as the cause of many serious diseases (e.g., cholera and TB). Disease control resulted from improvements in sanitation and hygiene, the discovery of antibiotics, and the implementation of universal childhood vaccination programs. Scientific and technologic advances played a major role in each of these areas and are the foundation for today's disease surveillance and control systems. Scientific findings also have contributed to a new understanding of the evolving relation between humans and microbes (5).

**CONTROL OF INFECTIOUS DISEASES****Sanitation and Hygiene**

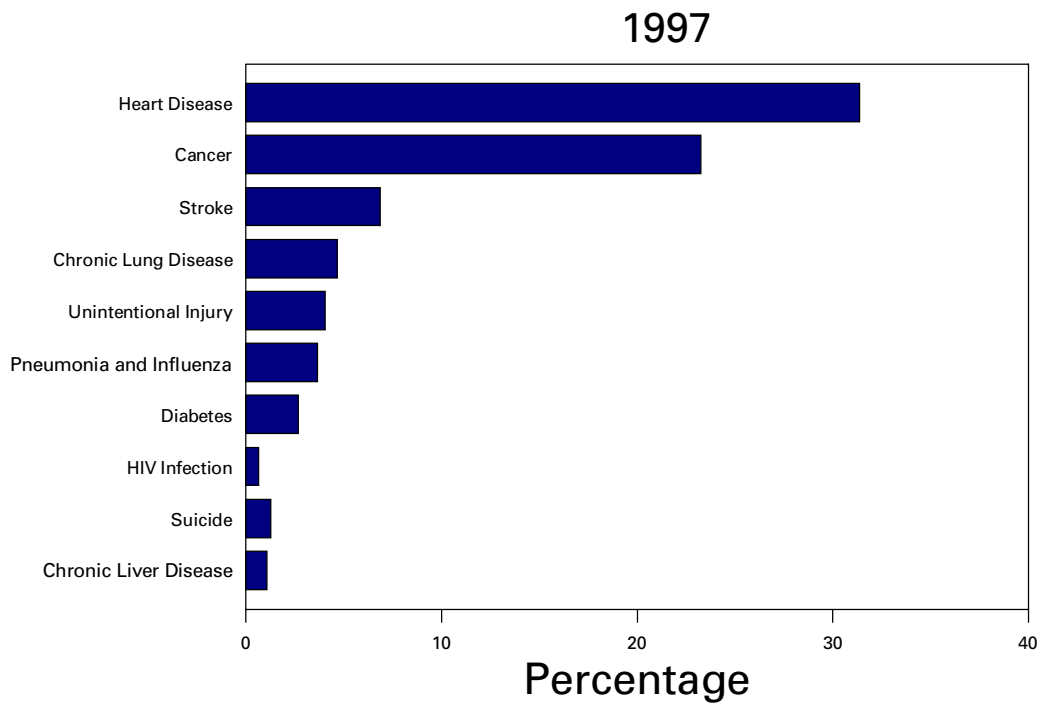
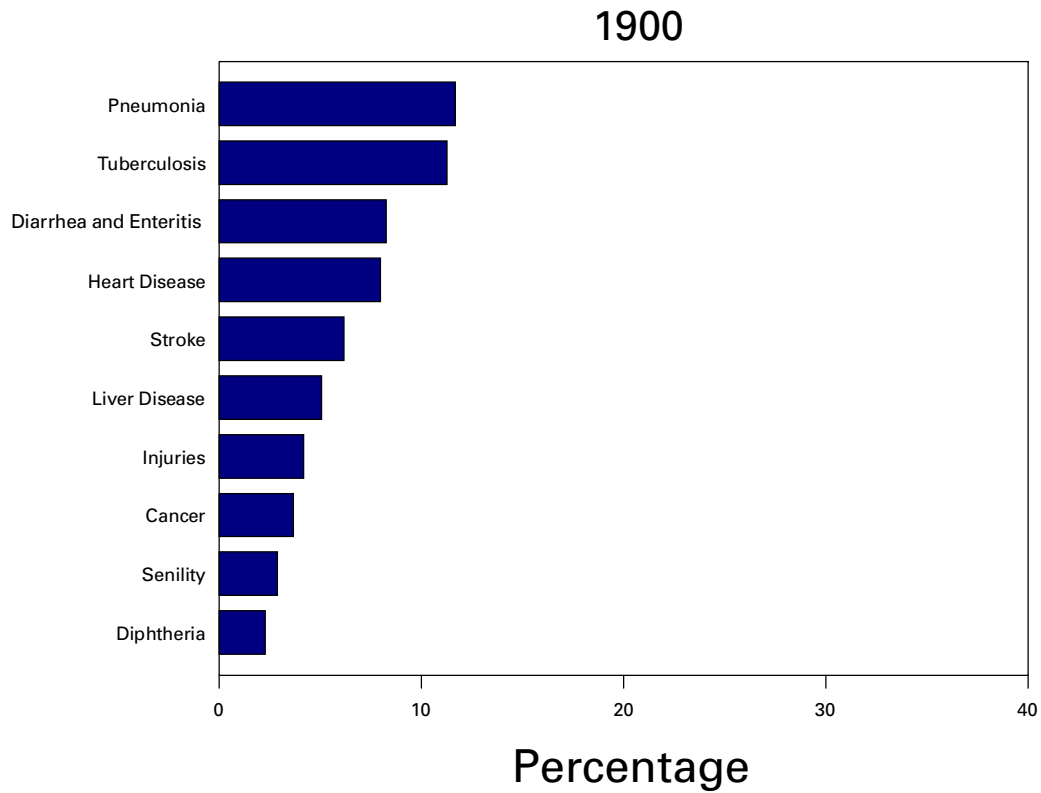
The 19th century shift in population from country to city that accompanied industrialization and immigration led to overcrowding in poor housing served by inadequate or nonexistent public water supplies and waste-disposal systems. These conditions resulted in repeated outbreaks of cholera, dysentery, TB, typhoid fever, influenza, yellow fever, and malaria.

By 1900, however, the incidence of many of these diseases had begun to decline because of public health improvements, implementation of which continued into the 20th century. Local, state, and federal efforts to improve sanitation and hygiene reinforced the concept of collective "public health" action (e.g., to prevent infection by providing clean drinking water). By 1900, 40 of the 45 states had established health departments. The first county health departments were established in 1908 (6). From the 1930s through the 1950s, state and local health departments made substantial progress in disease prevention activities, including sewage disposal, water treatment, food safety, organized solid waste disposal, and public education about hygienic practices (e.g., foodhandling and handwashing). Chlorination and other treatments of drinking water began in the early 1900s and became widespread public health practices, further decreasing the incidence of waterborne diseases. The incidence of TB also declined as improvements in housing reduced crowding and TB-control programs were initiated. In 1900, 194 of every 100,000 U.S. residents died from TB; most were residents of urban areas. In 1940 (before the introduction of antibiotic therapy), TB remained a leading cause of death, but the crude death rate had decreased to 46 per 100,000 persons (7).

Animal and pest control also contributed to disease reduction. Nationally sponsored, state-coordinated vaccination and animal-control programs eliminated

Control of Infectious Diseases — Continued

**FIGURE 2. The 10 leading causes of death as a percentage of all deaths — United States, 1900 and 1997**



*Control of Infectious Diseases — Continued*

dog-to-dog transmission of rabies. Malaria, once endemic throughout the southeastern United States, was reduced to negligible levels by the late 1940s; regional mosquito-control programs played an important role in these efforts. Plague also diminished; the U.S. Marine Hospital Service (which later became the Public Health Service) led quarantine and ship inspection activities and rodent and vector-control operations. The last major rat-associated outbreak of plague in the United States occurred during 1924–1925 in Los Angeles. This outbreak included the last identified instance of human-to-human transmission of plague (through inhalation of infectious respiratory droplets from coughing patients) in this country.

**Vaccination**

Strategic vaccination campaigns have virtually eliminated diseases that previously were common in the United States, including diphtheria, tetanus, poliomyelitis, smallpox, measles, mumps, rubella, and *Haemophilus influenzae* type b meningitis (8). With the licensure of the combined diphtheria and tetanus toxoids and pertussis vaccine in 1949, state and local health departments instituted vaccination programs, aimed primarily at poor children. In 1955, the introduction of the Salk poliovirus vaccine led to federal funding of state and local childhood vaccination programs. In 1962, a federally coordinated vaccination program was established through the passage of the Vaccination Assistance Act—landmark legislation that has been renewed continuously and now supports the purchase and administration of a full range of childhood vaccines.

The success of vaccination programs in the United States and Europe inspired the 20th-century concept of “disease eradication”—the idea that a selected disease could be eradicated from all human populations through global cooperation. In 1977, after a decade-long campaign involving 33 nations, smallpox was eradicated worldwide—approximately a decade after it had been eliminated from the United States and the rest of the Western Hemisphere. Polio and dracunculiasis may be eradicated by 2000.

**Antibiotics and Other Antimicrobial Medicines**

Penicillin was developed into a widely available medical product that provided quick and complete treatment of previously incurable bacterial illnesses, with a wider range of targets and fewer side effects than sulfa drugs. Discovered fortuitously in 1928, penicillin was not developed for medical use until the 1940s, when it was produced in substantial quantities and used by the U.S. military to treat sick and wounded soldiers.

Antibiotics have been in civilian use for 57 years (see box 1) and have saved the lives of persons with streptococcal and staphylococcal infections, gonorrhea, syphilis, and other infections. Drugs also have been developed to treat viral diseases (e.g., herpes and HIV infection); fungal diseases (e.g., candidiasis and histoplasmosis); and parasitic diseases (e.g., malaria). The microbiologist Selman Waksman led much of the early research in discovering antibiotics (see box 2). However, the emergence of drug resistance in many organisms is reversing some of the therapeutic miracles of the last 50 years and underscores the importance of disease prevention.

### **1. The First American Civilian Saved by Penicillin**

The first U.S. civilian whose life was saved by penicillin died in June 1999 at the age of 90 years. In March 1942, a 33-year-old woman was hospitalized for a month with a life-threatening streptococcal infection at a New Haven, Connecticut, hospital. She was delirious, and her temperature reached almost 107 F (41.6 C). Treatments with sulfa drugs, blood transfusions, and surgery had no effect.

As a last resort, her doctors injected her with a tiny amount of an obscure experimental drug called penicillin. Her hospital chart, now at the Smithsonian Institution, indicates a sharp overnight drop in temperature; by the next day she was no longer delirious. She survived to marry, raise a family, and meet Sir Alexander Fleming, the scientist who discovered penicillin. In 1945, Fleming was awarded the Nobel Prize in Physiology and Medicine, along with Ernst Chain and Howard Florey, who helped develop penicillin into a widely available medical product.

## **TECHNOLOGIC ADVANCES IN DETECTING AND MONITORING INFECTIOUS DISEASES**

Technologic changes that increased capacity for detecting, diagnosing, and monitoring infectious diseases included development early in the century of serologic testing and more recently the development of molecular assays based on nucleic acid and antibody probes. The use of computers and electronic forms of communication enhanced the ability to gather, analyze, and disseminate disease surveillance data.

### **Serologic Testing**

Serologic testing came into use in the 1910s and has become a basic tool to diagnose and control many infectious diseases. Syphilis and gonorrhea, for example, were widespread early in the century and were difficult to diagnose, especially during the latent stages. The advent of serologic testing for syphilis helped provide a more accurate description of this public health problem and facilitated diagnosis of infection. For example, in New York City, serologic testing in 1901 indicated that 5%–19% of all men had syphilitic infections (9).

### **Viral Isolation and Tissue Culture**

The first virus isolation techniques came into use at the turn of the century. They involved straining infected material through successively smaller sieves and inoculating test animals or plants to show the purified substance retained disease-causing activity. The first "filtered" viruses were tobacco mosaic virus (1882) and foot-and-mouth disease virus of cattle (1898). The U.S. Army Command under Walter Reed filtered yellow fever virus in 1900. The subsequent development of cell culture in the 1930s paved the way for large-scale production of live or heat-killed viral vaccines. Negative staining techniques for visualizing viruses under the electron microscope were available by the early 1960s.

### **Molecular Techniques**

During the last quarter of the 20th century, molecular biology has provided powerful new tools to detect and characterize infectious pathogens. The use of nucleic acid hybridization and sequencing techniques has made it possible to characterize the

*Control of Infectious Diseases — Continued***2. Selman Abraham Waksman, Ph.D.**

In 1943, Selman Abraham Waksman (July 22, 1888–August 16, 1973) led a team of Rutgers University researchers that isolated streptomycin, the first antibiotic effective against tuberculosis (TB) in humans. In 1952, Waksman received the Nobel Prize for this discovery.

Waksman grew up in the small Russian village of Novaya Priluka. In 1910, he settled in New Jersey, where a cousin operated a small farm. An interest in scientific farming brought him to nearby Rutgers College of Agriculture, where he earned a bachelor's degree in science in 1915 and a master's degree a year later. He completed his doctorate at the University of California, Berkeley, in 2 years, and returned to Rutgers to take a position as lecturer in soil microbiology.

Waksman preferred the term "microbiology" to the conventional "bacteriology" because "not the bacteria but the fungi and the actinomycetes formed my major interests among the microorganisms" (1). By the 1930s, he was a leading figure in microbiology, attracting talented graduate students, including René Dubos, whose work led to the discovery in 1939 of gramicidin, the first clinically useful topical antibiotic.

Dubos' success and the introduction of penicillin prompted Waksman to put his graduate students and assistants to work looking for antibiotics. In 1943, a Waksman student, Albert Schatz, isolated streptomycin. In 1944, clinical trials demonstrated the drug's effectiveness against gram-negative bacteria including *Mycobacterium tuberculosis*. Despite substantial problems with toxicity and drug resistance, streptomycin soon formed the foundation of multidrug therapies for TB.

With the introduction and use of antibiotics, mortality of TB was reduced drastically. In the United States, from 1945 to 1955, TB mortality decreased from 39.9 deaths per 100,000 population (2) to 9.1. Around the world, TB remained (and remains) a substantial health problem, but until the emergence of multidrug-resistant TB, many in the United States shared Waksman's optimism, expressed in 1964, that "the final chapter of the battle against tuberculosis appears to be at hand" (3).

*References*

1. Waksman S. My life with the microbes. New York, New York: Simon and Schuster, 1954:100.
2. Groves RD, Hetzel AM. Vital statistics rates in the United States, 1940–1960. Washington, DC: National Center for Health Statistics, 1968 (PHS publication no. 1677).
3. Waksman S. The conquest of tuberculosis. Berkeley, California: University of California Press, 1964:193.

*Selected Bibliography*

- Dowling HF. Fighting infection: conquests of the twentieth century. Cambridge, Massachusetts: Harvard University Press, 1977.
- Levy SB. The antibiotic paradox: how miracle drugs are destroying the miracle. New York, New York: Plenum Press, 1992.
- Ryan F. The forgotten plague: how the battle against tuberculosis was won—and lost. Boston, Massachusetts: Little, Brown, 1993.

*Control of Infectious Diseases — Continued*

causative agents of previously unknown diseases (e.g., hepatitis C, human ehrlichiosis, hantavirus pulmonary syndrome, acquired immunodeficiency syndrome [AIDS], and Nipah virus disease).

Molecular tools have enhanced capacity to track the transmission of new threats and find new ways to prevent and treat them. Had AIDS emerged 100 years ago, when laboratory-based diagnostic methods were in their infancy, the disease might have remained a mysterious syndrome for many decades. Moreover, the drugs used to treat HIV-infected persons and prevent perinatal transmission (e.g., replication analogs and protease inhibitors) were developed based on a modern understanding of retroviral replication at the molecular level.

**CHALLENGES FOR THE 21ST CENTURY**

Success in reducing morbidity and mortality from infectious diseases during the first three quarters of the 20th century led to complacency about the need for continued research into treatment and control of infectious microbes (10). However, the appearance of AIDS, the re-emergence of TB (including multidrug-resistant strains), and an overall increase in infectious disease mortality during the 1980s and early 1990s (Figure 1) provide additional evidence that as long as microbes can evolve, new diseases will appear. The emergence of new diseases underscores the importance of disease prevention through continual monitoring of underlying factors that may encourage the emergence or re-emergence of diseases.

Molecular genetics has provided a new appreciation of the remarkable ability of microbes to evolve, adapt, and develop drug resistance in an unpredictable and dynamic fashion (see box 3). Resistance genes are transmitted from one bacterium to another on plasmids, and viruses evolve through replication errors and reassortment of gene segments and by jumping species barriers. Recent examples of microbial evolution include the emergence of a virulent strain of avian influenza in Hong Kong (1997–98); the multidrug-resistant W strain of *M. tuberculosis* in the United States in 1991 (11); and *Staphylococcus aureus* with reduced susceptibility to vancomycin in Japan in 1996 (12) and the United States in 1997 (13,14).

For continued success in controlling infectious diseases, the U.S. public health system must prepare to address diverse challenges, including the emergence of new infectious diseases, the re-emergence of old diseases (sometimes in drug-resistant forms), large foodborne outbreaks, and acts of bioterrorism. Ongoing research on the possible role of infectious agents in causing or intensifying certain chronic diseases (including diabetes mellitus type 1, some cancers [15–17], and heart conditions [18,19]) also is imperative. Continued protection of health requires improved capacity for disease surveillance and outbreak response at the local, state, federal, and global levels; the development and dissemination of new laboratory and epidemiologic methods; continued antimicrobial and vaccine development; and ongoing research into environmental factors that facilitate disease emergence (20).

*Reported by: National Center for Environmental Health; National Center for Health Statistics; National Center for Infectious Diseases, CDC.*

*Control of Infectious Diseases — Continued***3. New Modes of Disease Transmission Created by 20th-Century Technology**

- The bacteria that cause legionnaires disease have been spread through modern ventilation systems.
- Human immunodeficiency virus and hepatitis C virus have been spread through transfusions of unscreened blood.
- Foodborne diseases, such as salmonellosis and *Escherichia coli* O157 infection, have been spread on centrally processed foods distributed simultaneously to many states or countries.
- Airplanes have replaced ships as major vehicles of international disease spread.
- More people are traveling to tropical rain forests and other wilderness habitats that are reservoirs for insects and animals that harbor unknown infectious agents. This incursion is due to economic development (e.g., mining, forestry, and agriculture) and an expanded tourist trade that caters to persons who wish to visit undeveloped areas.
- In the United States, increasing suburbanization and the reversion of agricultural land to secondary growth forest has brought people into contact with deer that carry ticks infected with *Borrelia burgdorferi*, the causative agent of Lyme disease, and has brought household pets into contact with rabies-infected raccoons.
- The increased development and use of antimicrobial agents has hastened the development of drug resistance.
- People whose immunologic and other host defenses have been impaired by modern medical treatments (e.g., bone marrow or solid organ transplants, chemotherapy, chronic corticosteroid therapy, renal dialysis, or indwelling medical devices) are more likely to acquire opportunistic infections.

*References*

1. Department of Commerce and Labor, Bureau of the Census. Mortality Statistics, 1900 to 1904. Washington, DC: US Department of Commerce and Labor, 1906.
2. Hoyert DL, Kochanek KD, Murphy SL. Deaths: final data for 1997. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, National Center for Health Statistics, 1999. (National vital statistics reports, vol 47, no. 19).
3. Crosby AW Jr. Epidemic and peace, 1918. Westport, Connecticut: Greenwood Press, 1976:311.
4. United Nations Program on HIV/AIDS and World Health Organization. AIDS epidemic update: December 1998. Geneva, Switzerland: World Health Organization, 1999. Available at <http://www.unaids.org/highband/document/epidemiowadr98e.pdf>.
5. Lederberg J, Shope RE, Oaks SC Jr, eds. Microbial threats to health in the United States. Washington, DC: National Academy Press, 1992.
6. Hinman A. 1889 to 1989: a century of health and disease. Public Health Rep 1990;105:374–80.
7. National Office of Vital Statistics. Vital statistics—special reports, death rates by age, race, and sex, United States, 1900–1953: tuberculosis, all forms; vol 43, no. 2. Washington, DC: US Department of Health, Education, and Welfare, 1956.
8. CDC. Status report on the Childhood Immunization Initiative: reported cases of selected vaccine-preventable diseases—United States, 1996. MMWR 1997;46:665–71.
9. Morrow PA. Report of the committee of seven of the Medical Society of the County of New York on the prophylaxis of venereal disease in New York City. N York M J 1901;74:1146.



*Control of Infectious Diseases — Continued*

10. Institute of Medicine. Emerging infections: microbial threats to health in the United States. Washington, DC: National Academy Press, 1994:vi.
11. Plikaytis BB, Marden JL, Crawford JT, Woodley CL, Butler WR, Shinnick TM. Multiplex PCR assay specific for the multidrug-resistant strain W of *Mycobacterium tuberculosis*. J Clin Microbiol 1994;32:1542–6.
12. CDC. Reduced susceptibility of *Staphylococcus aureus* to vancomycin—Japan, 1996. MMWR 1997;46:624–6.
13. CDC. *Staphylococcus aureus* with reduced susceptibility to vancomycin—United States, 1997. MMWR 1997;46:765–6.
14. CDC. Update: *Staphylococcus aureus* with reduced susceptibility to vancomycin—United States, 1997. MMWR 1997;46:813–5.
15. Montesano R, Hainaut P, Wild CP. Hepatocellular carcinoma: from gene to public health. J Natl Cancer Inst 1997;89:1844–51.
16. Di Bisceglie AM. Hepatitis C and hepatocellular carcinoma. Hepatology 1997;26(3 suppl 1): 34S–38S.
17. Muñoz N, Bosch FX. The causal link between HPV and cervical cancer and its implications for prevention of cervical cancer. Bull Pan Am Health Organ 1996;30:362–77.
18. Danesh J, Collins R, Peto R. Chronic infections and coronary heart disease: is there a link? Lancet 1997;350:430–6.
19. Mattila KJ, Valtonen VV, Nieminen MS, Asikainen S. Role of infection as a risk factor for atherosclerosis, myocardial infarction, and stroke. Clin Infect Dis 1998;26:719–34.
20. CDC. Preventing emerging infectious diseases: a strategy for the 21st century. Atlanta, Georgia: US Department of Health and Human Services, Public Health Service, 1998.

### **Meningococcal Disease — New England, 1993–1998**

*Neisseria meningitidis*, a leading cause of bacterial meningitis and sepsis in children and young adults in the United States, causes both sporadic disease and outbreaks (1). Preventing and controlling meningococcal disease remains a public health challenge because of the multiple serogroups and the limitations of available vaccines (1,2). Vaccination with the polysaccharide meningococcal vaccine, which protects against serogroups A, C, Y, and W135 of *N. meningitidis*, is recommended by the Advisory Committee on Immunization Practices (ACIP) for controlling outbreaks but routine vaccination is not recommended for control of sporadic cases (1). During 1998, a cluster of meningococcal disease cases occurred in Rhode Island, and although the situation did not meet ACIP criteria for an outbreak (1), the Rhode Island Department of Health recommended vaccination of all residents aged 2–22 years. This action stimulated controversy in Rhode Island and the rest of New England (Connecticut, Maine, Massachusetts, New Hampshire, and Vermont) and prompted a review of the epidemiology of meningococcal disease in the region. This report describes meningococcal disease data reported to the region's state health departments during 1993–1998 and discusses the situation in Rhode Island.

**Surveillance.** Connecticut and Massachusetts conducted prospective enhanced surveillance for meningococcal disease beginning in 1995 and 1996, respectively. In Rhode Island, additional case ascertainment was done in 1998 by reviewing hospital inpatient discharge data and hospital records for all confirmed and probable cases from 1992 through 1998. Surveillance in Maine, New Hampshire, and Vermont consisted of routine reporting for meningococcal disease. To calculate incidence, census data for 1996 were used.

*Meningococcal Disease — Continued*

**Case Definition and Detection Method.** A confirmed case of meningococcal disease was defined as isolation of *N. meningitidis* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF]) from a person with clinically compatible illness. A probable case of meningococcal disease was defined as purpura fulminans or detection of meningococcal polysaccharide antigen in CSF in the absence of a diagnostic culture from a person with clinically compatible illness.

**Case Characteristics.** During 1993–1998 in New England, 937 cases of meningococcal disease were reported. Of these, 899 (96%) met the definition for confirmed or probable meningococcal disease; 863 (96%) were confirmed by culture and 36 (4%) were probable cases. The proportion of confirmed cases varied by state from 100% (Vermont) to 84% (Rhode Island). Of the probable cases, 22 (61%) were reported as detection of meningococcal antigen in CSF, and 14 (39%) as purpura fulminans; 12 of 14 purpura fulminans cases were reported from Rhode Island. Of the 899 cases, 888 (99%) were considered primary (i.e., occurred in the absence of known close contact with another case-patient) (1). The median age of all case-patients was 17 years (range: 3 days–98 years); 455 (51%) were female, and 88 case-patients died (case fatality rate [CFR]=10%). The distributions of cases by age, sex, and serogroup were similar by state (Table 1). Rhode Island had a significantly higher CFR (21%) ( $p=0.001$ ) than the other five states (Table 1). Ten (<1%) cases were associated with outbreaks; the remainder was classified as sporadic disease.

**Serogroups.** Of the 758 (89%) cases with serogroup reported, 308 (41%) were serogroup C, 217 (29%) were serogroup Y, and 200 (26%) were serogroup B. Among case-patients with known serogroups, the proportion with serogroup Y meningococcal disease increased from 15% in 1993 to 43% in 1998 ( $p<0.005$ ).

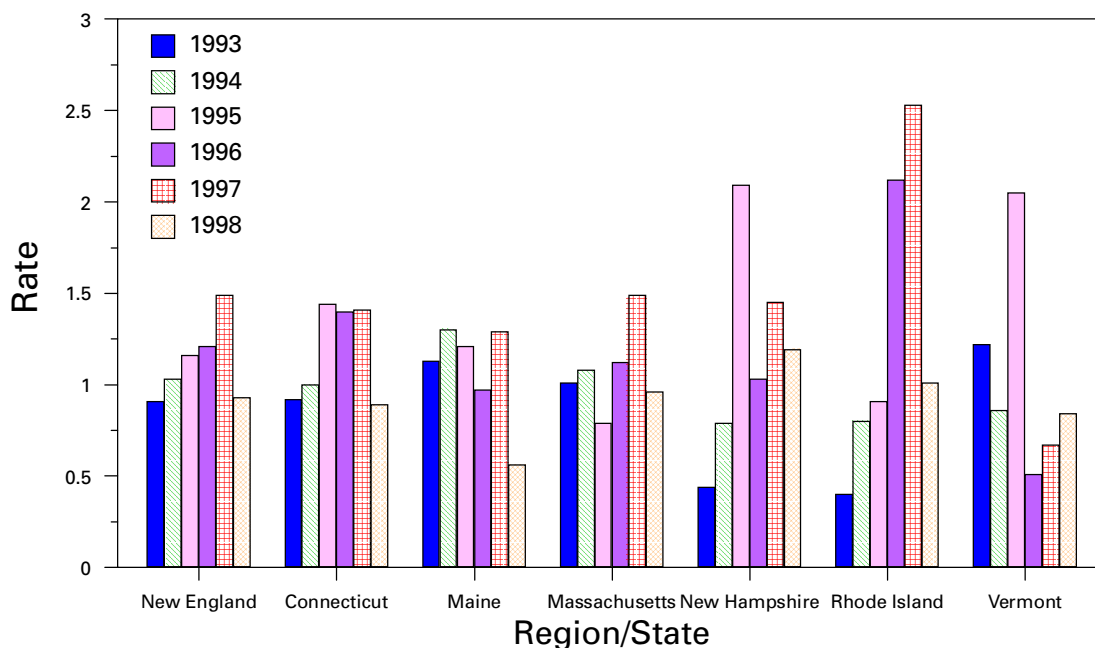
**Incidence.** During 1993–1998, the average annual reported incidence of meningococcal disease was 1.1 cases per 100,000 population. Annual incidence increased significantly from 0.9 cases per 100,000 population in 1993 to 1.4 cases per 100,000 population in 1997 (chi square for linear trend,  $p<0.001$ ) and declined from 1.4 to 0.9 cases per 100,000 population from 1997 to 1998 ( $p<0.001$ ) (Figure 1). Excluding any state did not alter this trend. The lowest disease rate reported was 0.4 cases per 100,000 population (New Hampshire and Rhode Island in 1993) and the highest rate was 2.5 cases per 100,000 population (Rhode Island in 1997). Age groups with the highest incidence were children aged  $\leq 2$  years (6.4 cases per 100,000) and young adults aged 15–19 years (3.0 cases per 100,000).

**TABLE 1. Cases of meningococcal disease, by number of cases, demographic characteristics of patients, number and percentage of deaths, and serogroup — New England, 1993–1998**

| State                      | Median age (yrs) | Male       |              | Died      |              | Serogroup* |              |            |              |            |              |
|----------------------------|------------------|------------|--------------|-----------|--------------|------------|--------------|------------|--------------|------------|--------------|
|                            |                  |            |              |           |              | B          |              | C          |              | Y          |              |
|                            |                  | No.        | (%)          | No.       | (%)          | No.        | (%)          | No.        | (%)          | No.        | (%)          |
| Connecticut (n=231)        | 18.0             | 111        | (48%)        | 19        | ( 8%)        | 37         | (18%)        | 81         | (39%)        | 76         | (37%)        |
| Maine (n=80)               | 13.0             | 39         | (49%)        | 6         | ( 8%)        | 20         | (30%)        | 32         | (49%)        | 9          | (13%)        |
| Massachusetts (n=394)      | 17.0             | 199        | (51%)        | 35        | ( 9%)        | 97         | (29%)        | 132        | (40%)        | 94         | (28%)        |
| New Hampshire (n=81)       | 18.0             | 41         | (51%)        | 9         | (11%)        | 18         | (28%)        | 29         | (45%)        | 16         | (25%)        |
| Rhode Island (n=77)        | 15.0             | 36         | (47%)        | 16        | (21%)        | 17         | (30%)        | 25         | (45%)        | 13         | (23%)        |
| Vermont (n=36)             | 17.0             | 17         | (47%)        | 3         | ( 8%)        | 11         | (32%)        | 9          | (27%)        | 9          | (27%)        |
| <b>New England (n=899)</b> | <b>17.0</b>      | <b>417</b> | <b>(49%)</b> | <b>88</b> | <b>(10%)</b> | <b>200</b> | <b>(26%)</b> | <b>308</b> | <b>(41%)</b> | <b>217</b> | <b>(29%)</b> |

\*Culture-confirmed cases. The proportion with other serogroups are included in the denominator.

## Meningococcal Disease — Continued

**FIGURE 1. Incidence\* of meningococcal disease, by region and year of onset — New England, 1993–1998**

\*Includes probable and confirmed cases per 100,000 population.

Reported by: RS Nelson, DVM, CA Morin, MPH, ML Cartter, MD, P Mshar, JL Hadler, MD, State Epidemiologist, Connecticut Dept of Public Health. G Beckett, MPH, K Gensheimer, MD, State Epidemiologist, Maine Dept of Human Services. J Isadore, MPH, P Kludt, MPH, BT Matyas, MD, A DeMaria, Jr, MD, State Epidemiologist, Massachusetts Dept of Public Health. M Johnson, J Greenblatt, MD, State Epidemiologist, New Hampshire Dept of Health and Human Services. L Mouradjian, P Nolan, MD, U Bandy, MD, State Epidemiologist, Rhode Island Dept of Health. JK Carney, MD, CJ Greene, MPH, PD Galbraith, DMD, State Epidemiologist, Vermont Dept of Health. Meningitis and Special Pathogens Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; Div of Applied Public Health Training, Epidemiology Program Office; and an EIS Officer, CDC.

**Editorial Note:** Data in this report indicate that rates of meningococcal disease in New England increased during 1993–1997, then declined in 1998. The average annual rate in Rhode Island during this period was similar to rates in neighboring states. The rates also were similar to those reported in the United States during the same period (3,4). These changes in incidence probably represent natural fluctuations in disease incidence, changes in circulating strains of *N. meningitidis*, the population's susceptibility to disease, or some combination of these variables.

Surveillance data indicated that the CFR among case-patients from Rhode Island were significantly higher than the CFR among case-patients from other states in the region. Twelve of 14 cases of purpura fulminans were reported from Rhode Island, and these case-patients had a higher CFR. However, when patients with purpura fulminans were eliminated from the analysis, the CFR in Rhode Island still remained elevated (20% versus 10%;  $p < 0.003$ ). Possible explanations for this difference in CFR include timing of antibiotic use and strain virulence. Some studies have reported that early antibiotic intervention is associated with reduced mortality (5); other studies have

*Meningococcal Disease — Continued*

suggested that the finding may be attributable to confounding by variables such as host factors and severity of illness on presentation (6,7). In Rhode Island, case investigations have found that antibiotics were appropriately given, suggesting that other factors contributed to the high CFR.

Between November 26, 1997, and February 23, 1998, Rhode Island reported nine confirmed cases (four serogroup C, three serogroup Y, and two serogroup B) and three probable cases of meningococcal disease, with three deaths. Although this cluster did not constitute an outbreak as defined by ACIP guidelines (1), a statewide vaccination program for residents aged 2–22 years was initiated. Approximately 60%–70% of the targeted population received the vaccine. The precedent of an earlier vaccination campaign in Woonsocket in 1996 and an increased reported incidence in disease and CFR generated public and medical concern and social and political pressure that influenced the decision to vaccinate (P.A. Nolan, MD, Rhode Island Department of Health, personal communication, 1998). Information on meningococcal disease in Rhode Island is available on the World-Wide Web at <http://www.health.state.ri.us/meningoc.htm>.\*

Although some cases may be prevented by this approach, its overall impact may be limited for several reasons: it will not protect children aged <2 years, in whom rates of disease are highest; it does not protect against serogroup B disease, which accounts for 26% of disease in the region; and, because the vaccine does not affect carriage, it will not affect disease among the 30%–40% of the target population who chose not to be vaccinated. Monitoring of disease in Rhode Island over the next few years will allow further evaluation of this strategy.

During 1993–1998, <1% of cases in New England were classified as outbreak associated. Most cases of meningococcal disease were sporadic and therefore not preventable with strategies that target outbreaks. For efficacious protection of meningococcal disease in infants and young children, conjugate serogroup A, C, Y, and W135 meningococcal vaccines have been developed through methods similar to those used for *Haemophilus influenzae* type b conjugate vaccines (8,9). These vaccines will be used routinely in the United Kingdom within the next year (10) and should be available in the United States within 2–4 years. Until they become available, strategies to control meningococcal disease should continue to focus on antimicrobial chemoprophylaxis of close contacts and use of meningococcal polysaccharide vaccines as recommended by ACIP (1).

*References*

1. CDC. Control and prevention of meningococcal disease and control and prevention of serogroup C meningococcal disease: evaluation and management of suspected outbreaks. *MMWR* 1997;46(no. RR-5).
2. Moore KA, Osterholm MT. Meningococcal disease and public health practice: a complicated road map [Editorial]. *JAMA* 1998;279:472–3.
3. Jackson LA, Wenger JD. Laboratory-based surveillance for meningococcal disease in selected areas—United States, 1989–1991. *MMWR* 1993;42(no. SS-2):21–30.
4. CDC. Serogroup Y meningococcal disease—Illinois, Connecticut, and selected areas, United States, 1989–1996. *MMWR* 1996;45:1010–3.
5. Cartwright K, Reilly S, White D, Stuart J. Early treatment with parenteral penicillin in meningococcal disease. *BMJ* 1992;305:143–7.

\*References to sites of nonfederal organizations on the World-Wide Web are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

*Meningococcal Disease — Continued*

6. Quagliarello VJ, Scheld WM. Treatment of bacterial meningitis. *N Engl J Med* 1997;336:708–16.
7. Sorensen HF, Nielsen GL, Schonheyder HC, et al. Outcome of pre-hospital antibiotic treatment of meningococcal disease. *J Clin Epidemiol* 1998;51:717–21.
8. Anderson EL, Bowers T, Mink CM, et al. Safety and immunogenicity of meningococcal A and C polysaccharide conjugate vaccine in adults. *Infect Immun* 1994;62:3391–5.
9. MacDonald NE, Halperin SA, Law BJ, et al. Induction of immunologic memory by conjugated vs plain meningococcal polysaccharide vaccine in toddlers. *JAMA* 1998;280:1685–9.
10. Public Health Laboratory Service. Vaccination programme for group C meningococcal infection is launched. *CDR Weekly* 1999;9:261–4.

### **Progress Toward Poliomyelitis Eradication During Armed Conflict — Somalia and Southern Sudan, January 1998–June 1999**

In 1988, the Regional Committee of the World Health Organization (WHO) for the Eastern Mediterranean Region\* adopted a resolution to eliminate poliomyelitis from the region by 2000 (1). Somalia and parts of southern Sudan have persons living in areas where there is ongoing armed conflict and poor infrastructure (e.g., health-care facilities, schools, roads, and power plants). Under these conditions, conducting National Immunization Days† (NIDs) and acute flaccid paralysis (AFP) surveillance is difficult. This report summarizes NIDs in Somalia during 1997 and 1998 and in southern Sudan‡ during 1998 and 1999 and establishment of AFP surveillance in northern Somalia and southern Sudan.

#### **SOMALIA**

##### **Health-Care Delivery and Routine Vaccination Coverage**

Health-care services to the estimated 5.8 millions persons residing in Somalia are delivered through national and international nongovernmental organizations (NGOs), supported by United Nations Children's Fund (UNICEF), WHO, and other United Nations (UN) agencies. Somalia is divided into four zones: south, central, northeast, and northwest. At the end of 1996 and in early 1997, in the northeast and northwest zones, routine vaccination coverage with three doses of oral poliovirus vaccine (OPV) among children aged 12–23 months was 27% and 28%, respectively. Estimated coverage was lower in the southern and central zones (UNICEF, unpublished data, 1999).

##### **National Immunization Days**

In 1997, the first Subnational Immunization Days¶ (SNIDs) were conducted in the two northern zones of Somalia. The first and second round of SNIDs reached an estimated 330,000 children aged 0–59 months.

\* Member countries are Djibouti, Egypt, Libya, Morocco, Somalia, Sudan, and Tunisia in northern and eastern Africa; the Arab Gulf states of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, and Yemen; Iraq, Jordan, Lebanon, Syria, and the Palestinian people in the Middle East; Afghanistan, Iran, and Pakistan in Asia; and Cyprus.

† Nationwide mass campaigns over a short period (days to weeks) in which two doses of OPV are administered to all children in the target age group (usually aged <5 years), regardless of previous vaccination history, with an interval of 4–6 weeks between doses.

‡ NIDs in Somalia and southern Sudan were implemented with the cooperation of local health authorities and the government of Sudan, and supported by national and international nongovernment organizations, Rotary International, the United Nations Foundation, the United Nations Children's Fund (UNICEF), the UNICEF national committees of the United States and the United Kingdom, WHO, and CDC.

¶ Focal mass campaigns in high-risk areas over a short period (days to weeks) in which two doses of OPV are administered to all children in the target age group, regardless of vaccination history, with an interval of 4–6 weeks between doses.

*Poliomyelitis Eradication — Continued*

In 1998, the first round of NIDs covering the entire country was planned. Partnerships were developed between local and international NGOs and Somali nationals, who were then trained to conduct NIDs in all areas of the country. This was the first nationwide activity carried out by Somali communities since civil war began in 1991.

In August and September 1998, southern Somalia held its first NIDs, followed by northern Somalia in November and December. Three thousand Somali workers administered OPV throughout Somalia and reached almost all settlements.

**AFP Surveillance**

In April 1998, AFP surveillance began in northern Somalia at 65 reporting sites selected for regular surveillance through active case detection visits. By February 1999, AFP surveillance had expanded to 117 sites. During May 1998–May 1999, 32 AFP cases were reported (Table 1); of these, 10 (31%) were confirmed\*\* as polio (Figure 1). The nonpolio AFP rate for both northern zones was 2.3 per 100,000 children aged <15 years. Adequate†† stool specimens were collected from all 10 case-patients. Eighty-six percent of case-patients had a 60-day follow-up examination. AFP surveillance is planned to begin in the southern and central zones in late 1999.

**SOUTHERN SUDAN****Health-Care Delivery and Routine Vaccination Coverage**

The regions of Bahr El Ghazal, Equatoria, and Upper Nile have experienced continuous armed conflict since 1984. Health-care services to the estimated 5.4 million persons affected are implemented through the southern sector of Operation Lifeline Sudan (OLS)<sup>§§</sup>, with the Sudanese government also providing services in some areas. Many persons do not have access to any health-care services. Reported routine vaccination coverage with three doses of OPV was <20%, although specific coverage statistics are not available for most areas (Operation Lifeline Sudan, southern sector, unpublished data, 1999).

**National Immunization Days**

In 1998, the first round of NIDs that included all of southern Sudan began in February. The second round took place in March in Equatoria and Upper Nile. NIDs occurred 1 month later in Bahr El Ghazal.

The 1999 NIDs were held in February (first round) and March (second round). Eighty-three Sudanese workers who were recruited and trained to assist in NIDs coordinated with local leaders and NGOs to develop a plan of action. Vaccine vial monitors (VVMs) were used to confirm that OPV remained potent in remote areas. Five thousand Sudanese volunteers administered OPV to persons in every county and district served by OLS.

---

\*\* A confirmed case of polio is defined as AFP and at least one of the following: 1) laboratory-confirmed wild poliovirus infection, 2) residual paralysis at 60 days, 3) death, or 4) no follow-up investigation at 60 days.

†† Two stool specimens collected at an interval of at least 24 hours within 14 days of onset of paralysis.

§§ OLS is a consortium led by UNICEF that includes several UN agencies and more than 40 nongovernmental agencies.

*Poliomyelitis Eradication — Continued***TABLE 1. Number of children aged 0–59 months\*, number receiving oral poliovirus vaccine (OPV) during National Immunization Days† (NIDs), number of reported cases of acute flaccid paralysis (AFP), and nonpolio AFP rate‡ — southern Sudan and northern Somalia, 1998–1999**

| Country/Region          | No. children aged <5 years | National Immunization Days |                  |                        |                  | AFP Surveillance       |                   |   |
|-------------------------|----------------------------|----------------------------|------------------|------------------------|------------------|------------------------|-------------------|---|
|                         |                            | 1998                       |                  | 1999                   |                  | No. reported AFP cases | Nonpolio AFP rate | % persons with AFP with adequate¶ specimens |
|                         |                            | Round 1                    | Round 2          | Round 1                | Round 2          |                        |                   |   |
| <b>Somalia</b>          |                            |                            |                  |                        |                  |                        |                   |   |
| Northwest               | 247,320                    | 217,666                    | 212,616          | Planned for            |                  | 14                     | 1.4               | 38  |
| Northeast               | 168,104                    | 120,572                    | 124,831          | November/December 1999 |                  | 18                     | 3.6               | 22  |
| Central                 | 931,245                    | 873,378                    | 989,716          | Planned for            |                  | NA                     | NA                | NA  |
| South                   | 176,462                    | 190,081                    | 206,192          | August/September 1999  |                  | NA                     | NA                | NA  |
| <b>Total</b>            | <b>1,523,131</b>           | <b>1,401,697</b>           | <b>1,533,355</b> |                        |                  | <b>NA</b>              | <b>NA</b>         | <b>NA</b>                                   |
| <b>Southern Sudan**</b> |                            |                            |                  |                        |                  |                        |                   |   |
| Bahr El Ghazal          | 378,668                    | 330,899                    | 315,023          | 441,610                | 484,922          | 10                     | 0.6               | 20  |
| Upper Nile              | 284,183                    | 207,857                    | 244,723          | 362,861                | 394,914          | 4                      | 1.1               | 25  |
| Equatoria               | 261,546                    | 177,438                    | 218,224          | 196,660                | 260,816          | 3                      | 0.6               | 0   |
| <b>Total</b>            | <b>924,397</b>             | <b>716,194</b>             | <b>777,970</b>   | <b>1,001,131</b>       | <b>1,140,652</b> | <b>17</b>              | <b>0.7</b>        | <b>18</b>                                   |

\*Population denominator data varied widely depending on the source and cannot be used to calculate coverage or total population. The numbers shown were used for planning purposes only and do not reflect an endorsement of any estimate.

†Nationwide mass campaigns over a short period (days to weeks), in which two doses of OPV are administered to all children in the target age group (usually aged <5 years), regardless of previous vaccination history, with an interval of 4–6 weeks between doses.

‡Per 100,000 children aged <15 years.

¶Two stool specimens collected 24 hours apart and <14 days after the onset of paralysis.

\*\*Does not include areas covered by the government of Sudan.

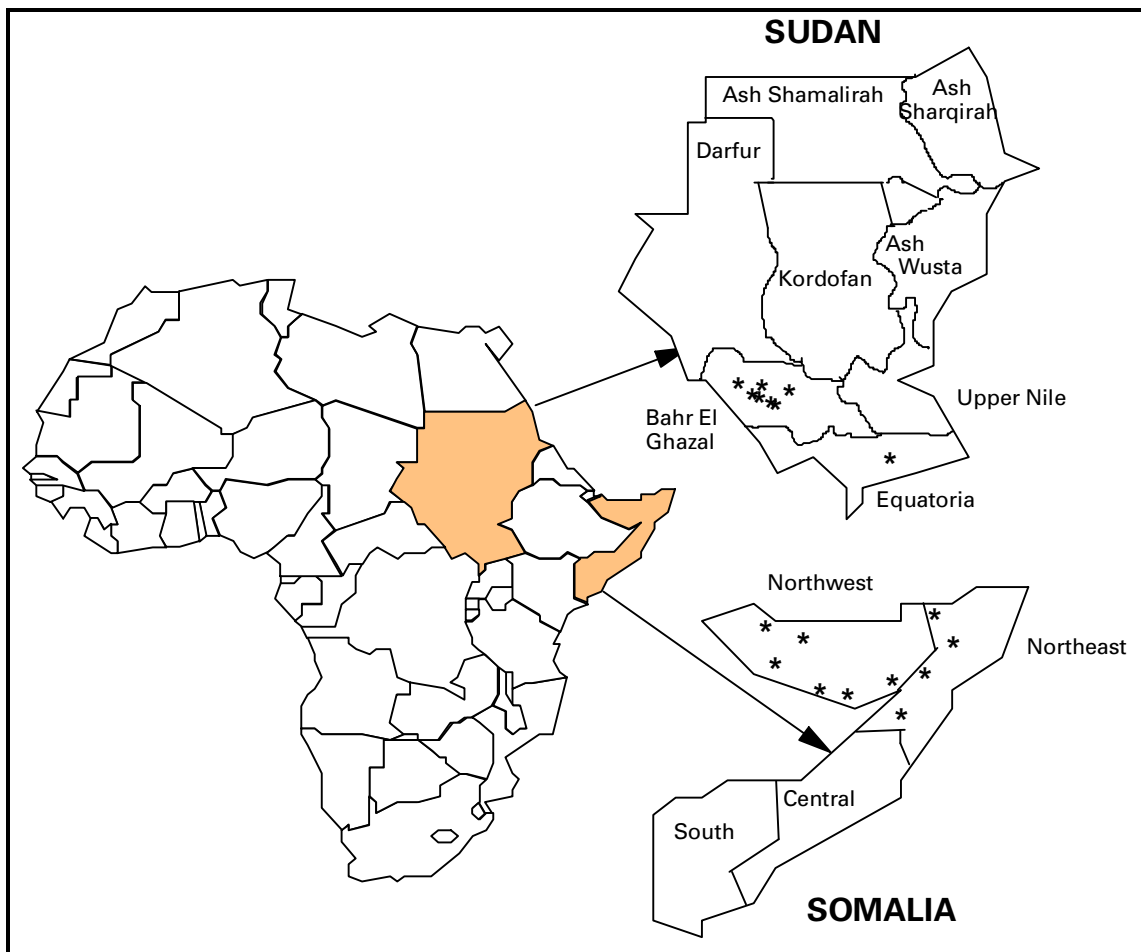
**AFP Surveillance**

UNICEF, WHO, NGOs, and local staff selected 25 sentinel sites for AFP surveillance throughout Bahr El Ghazal, Equatoria, and Upper Nile. Sites were chosen on the basis of a functioning health-care facility, a large catchment population, a health NGO, and reliable access by air or road. In November 1998, AFP surveillance began at 19 (76%) of the 25 selected sites. Implementation in the remaining sites is ongoing.

During November 1998–April 1999, 17 AFP cases were reported (Table 1); eight (47%) were confirmed as polio (Figure 1)—one by isolation of wild virus from a stool specimen and seven by clinical classification. Of the remaining nine cases, two were classified as nonpolio, and classification of seven cases is pending. Pending cases are classified as nonpolio (2), resulting in an annualized AFP nonpolio rate of 0.67 per 100,000 children aged <15 years.

Adequate stool specimens were collected for three (18%) case-patients. Wild poliovirus type 3 was isolated from a stool specimen from a patient in Mapel, Wau County, and vaccine virus was isolated from the two other stool specimens. Forty-one percent of all case-patients had a 60-day follow-up examination.

*Reported by: Operation Lifeline Sudan, southern sector; United Nations Children's Fund Country Program for Somalia, Nairobi, Kenya. Offices of the World Health Organization for the Eastern*

*Poliomyelitis Eradication — Continued***FIGURE 1. Reported cases of poliomyelitis\* — northern Somalia, April 1998–April 1999, and southern Sudan, November 1998–May 1999**

\*A confirmed case of polio is defined as AFP and at least one of the following: 1) laboratory-confirmed wild poliovirus infection, 2) residual paralysis at 60 days, 3) death, or 4) no follow-up investigation at 60 days.

*Mediterranean; Offices of the United Nations Children Fund for East and Southern Africa Region. United Nations Children's Fund, New York. Vaccines and Other Biologicals Dept, World Health Organization, Geneva, Switzerland. Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Vaccine Preventable Disease Eradication Div, National Immunization Program, CDC.*

**Editorial Note:** At the end of 1998, poliovirus was suspected or known to circulate in 10 countries in civil conflict<sup>¶¶</sup>, eight of which are on the African continent. Recognizing that these countries are essential to reaching the polio eradication goal, the UN is advocating for days of tranquility during vaccination activities. In addition, the findings in this report demonstrate that even in the absence of formally negotiated cease-fires, polio eradication activities can be conducted effectively.

In both Somalia and southern Sudan, the following factors made achieving high coverage during NIDs possible: 1) strong partnerships between UN agencies, NGOs,

<sup>¶¶</sup>Afghanistan, Angola, Democratic Republic of the Congo, Eritrea, Ethiopia, Liberia, Sierra Leone, Somalia, Sudan, and Tajikistan.



*Poliomyelitis Eradication — Continued*

and local leaders and communities; 2) involvement of Sudanese and Somali nationals in administering vaccine and widespread campaign coverage, compared with health activities limited to selected areas or agencies; and 3) commitment of funds and other resources necessary to overcome existing infrastructure limitations.

In Somalia, extensive social mobilization efforts were conducted by district and local leaders to develop a plan of action for vaccination campaigns. In southern Sudan, coordination with the Sudanese government and with Sudanese workers, local leaders, and NGOs to plan and implement NIDs also were effective. Use of VVMs minimized dependence on freezing capacity and maximized the mobility of vaccination teams.

In southern Sudan, the experience gained during NIDs of how to reach successfully those persons who were not reached previously by routine vaccination presents an opportunity for the Expanded Program on Immunization (EPI) to develop other strategies. In addition, resources (e.g., vaccine carriers, cold boxes, freezers, bicycles, and vehicles) left with the routine EPI programs also can help to improve routine coverage.

AFP surveillance was implemented in northern Somalia and southern Sudan, and these data are being used to target supplementary vaccination strategies. The late presentation of cases to sentinel sites in southern Sudan presented a challenge, and expansion beyond existing sentinel sites is needed. Establishing AFP surveillance in southern and central Somalia is a priority.

Progress toward polio eradication in countries with civil unrest, insecurity, and low routine coverage with OPV is critical for the success of the global polio eradication initiative. Reaching almost all areas and settlements in Somalia and southern Sudan during NIDs and the ability of newly established AFP surveillance systems to successfully detect and investigate AFP cases demonstrate that global polio eradication is achievable, even in adverse circumstances. These findings should encourage other countries to implement the key programs that will lead to global polio eradication.

*References*

1. CDC. Progress toward poliomyelitis eradication—Eastern Mediterranean Region, 1988–1994. *MMWR* 1995;44:809–11,817–8.
2. World Health Organization. Global eradication of poliomyelitis. Report of the third technical consultation, July 7–8. Geneva, Switzerland: World Health Organization, December 1998; report no. WHO/EPI/GEN/98.13.

*Notice to Readers***Availability of Curricular Materials  
About Vaccines, Vaccine-Preventable Diseases, and Vaccination Practices**

CDC and the Association of Teachers of Preventive Medicine (ATPM) announce the availability of curricular materials for teaching students and practitioners about vaccines, vaccine-preventable diseases, and vaccination practices. Materials for medical students, residents, and practicing physicians have been created through the *Teaching Immunization for Medical Education (TIME)* project, a collaborative initiative between ATPM, CDC, and the Department of Family Medicine, University of Pittsburgh. These materials are available in two teaching formats, multistation clinical

*Notices to Readers — Continued*

teaching scenarios (MCTS) and problem-based learning (PBL) modules. Also available are continuing medical education (CME) self-study and traditional lecture materials with accompanying slides.

Curricular materials for nurses have been developed through a collaborative initiative for nursing education between ATPM, CDC, and the American Nurses Association. *Teaching Immunization Practices (TIP): A Comprehensive Curriculum for Nurses* is a modular program designed for use in schools of nursing. A computer-based, self-study program called *Immunization: You Call the Shots* is also available. This software program has been approved for nursing continuing education credits.

Additional information is available from ATPM, telephone (800) 789-6737, World-Wide Web site, <http://www.atpm.org>.<sup>\*</sup> The CME modules are available on the University of Pittsburgh Medical Center web site, <http://www.upmc.edu/CCEHS>. Information about the computer-based program for nursing education is available from Health-Soft, Inc., telephone (800) 235-0882.

---

<sup>\*</sup>References to sites of nonfederal organizations on the World-Wide Web are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

*Notice to Readers***Epidemiology in Action**

CDC and Emory University's Rollins School of Public Health will co-sponsor a course, "Epidemiology in Action," during November 8–19, 1999, in Atlanta. The course is designed for state and local public health professionals.

The course emphasizes the practical application of epidemiology to public health problems and will consist of lectures, workshops, classroom exercises (including actual epidemiologic problems), and roundtable discussions. Topics covered include descriptive epidemiology and biostatistics, analytic epidemiology, epidemic investigations, public health surveillance, surveys and sampling, Epi Info software training, and discussions of selected prevalent diseases. There is a tuition charge.

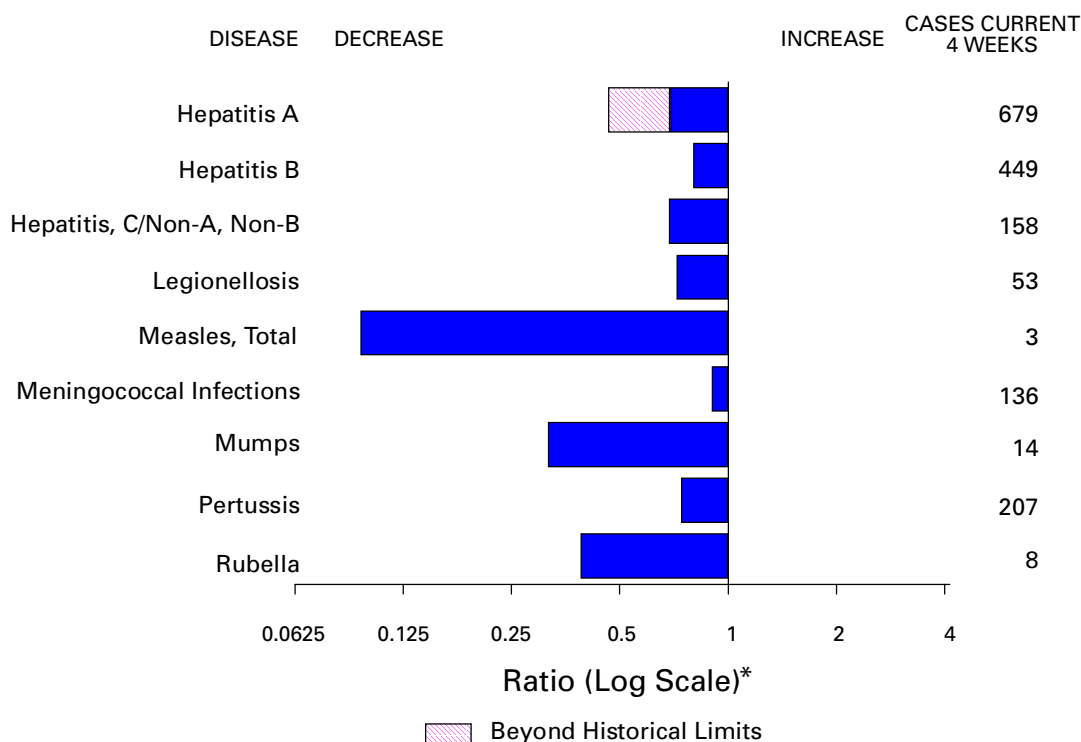
Deadline for application is October 8, 1999. Additional information and applications are available from Emory University, International Health, Dept. (PIA), 1518 Clifton Rd., N.E., Room 742, Atlanta, GA 30322; telephone (404) 727-3485; fax (404) 727-4590; or on the World-Wide Web, <http://www.sph.emory.edu/EPICOURSES/>; or e-mail [pvaleri@sph.emory.edu](mailto:pvaleri@sph.emory.edu).

**Erratum: Vol. 48, Nos. 22, 23, and 24**

In Table II, "Provisional cases of selected notifiable diseases, United States," data from two pairs of columns were transposed in issue numbers 22, 23, and 24: data from the two columns titled "Salmonellosis, PHLIS, (Cum. 1999 and Cum. 1998)" were placed in the columns titled "Shigellosis, NETSS (Cum. 1999 and Cum. 1998)," and data from the two columns titled "Shigellosis, NETSS (Cum. 1999 and Cum. 1998)" were placed in the columns titled "Salmonellosis, PHLIS, (Cum. 1999 and Cum. 1998)." Corrected versions of Table II for weeks 22, 23, and 24 are available on the

(Continued on page 647)

**FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending July 24, 1999, with historical data — United States**



\*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 — provisional cases of selected notifiable diseases, United States, cumulative, week ending July 24, 1999 (29th Week)**

|   | Cum. 1999 |   | Cum. 1999 |
|---|-----------|---|-----------|
| Anthrax                                     | -         | HIV infection, pediatric* <sup>5</sup>  | 81        |
| Brucellosis*                                | 21        | Plague                                  | 2         |
| Cholera                                     | 2         | Poliomyelitis, paralytic                | -         |
| Congenital rubella syndrome                 | 3         | Psittacosis*                            | 14        |
| Cyclosporiasis*                             | 13        | Rabies, human                           | -         |
| Diphtheria                                  | 1         | Rocky Mountain spotted fever (RMSF)     | 224       |
| Encephalitis: California*                   | 4         | Streptococcal disease, invasive Group A | 1,278     |
| eastern equine*                             | 2         | Streptococcal toxic-shock syndrome*     | 26        |
| St. Louis*                                  | -         | Syphilis, congenital <sup>¶</sup>       | 109       |
| western equine*                             | 1         | Tetanus                                 | 14        |
| Ehrlichiosis human granulocytic (HGE)*      | 68        | Toxic-shock syndrome                    | 69        |
| human monocytic (HME)*                      | 16        | Trichinosis                             | 5         |
| Hansen Disease*                             | 42        | Typhoid fever                           | 160       |
| Hantavirus pulmonary syndrome* <sup>†</sup> | 7         | Yellow fever                            | -         |
| Hemolytic uremic syndrome, post-diarrheal*  | 27        |   |           |

-:no reported cases

\*Not notifiable in all states.

<sup>†</sup> Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).

<sup>5</sup> Updated monthly from reports to the Division of HIV/AIDS Prevention—Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update June 27, 1999.

<sup>¶</sup> Updated from reports to the Division of STD Prevention, NCHSTP.

**TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending July 24, 1999, and July 25, 1998 (29th Week)**

| Reporting Area | AIDS       |           | Chlamydia |           | Cryptosporidiosis |           | <i>Escherichia coli</i> O157:H7* |           |           |           |
|----------------|------------|-----------|-----------|-----------|-------------------|-----------|----------------------------------|-----------|-----------|-----------|
|                | Cum. 1999† | Cum. 1998 | Cum. 1999 | Cum. 1998 | Cum. 1999         | Cum. 1998 | NETSS                            |           | PHLIS     |           |
|                |            |           |           |           |                   |           | Cum. 1999                        | Cum. 1998 | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 23,194     | 25,867    | 319,013   | 315,791   | 754               | 1,119     | 1,032                            | 1,149     | 595       | 989       |
| NEW ENGLAND    | 1,120      | 870       | 10,503    | 11,325    | 38                | 84        | 120                              | 155       | 96        | 139       |
| Maine          | 29         | 18        | 193       | 562       | 12                | 19        | 14                               | 20        | -         | -         |
| N.H.           | 26         | 23        | 507       | 537       | 7                 | 9         | 18                               | 21        | 15        | 25        |
| Vt.            | 6          | 14        | 264       | 224       | 6                 | 13        | 16                               | 8         | 7         | 6         |
| Mass.          | 716        | 372       | 5,132     | 4,596     | 13                | 39        | 63                               | 80        | 39        | 80        |
| R.I.           | 61         | 81        | 1,300     | 1,346     | -                 | 4         | 9                                | 5         | 6         | 1         |
| Conn.          | 282        | 362       | 3,107     | 4,060     | -                 | -         | U                                | 21        | 29        | 27        |
| MID. ATLANTIC  | 5,913      | 7,470     | 38,378    | 33,301    | 106               | 320       | 66                               | 119       | 14        | 46        |
| Upstate N.Y.   | 725        | 966       | N         | N         | 65                | 191       | 58                               | 78        | -         | -         |
| N.Y. City      | 3,003      | 4,052     | 20,416    | 14,731    | 22                | 117       | 2                                | 7         | 4         | 9         |
| N.J.           | 1,158      | 1,387     | 6,070     | 6,432     | 9                 | 12        | 6                                | 34        | 10        | 27        |
| Pa.            | 1,027      | 1,065     | 11,892    | 12,138    | 10                | -         | N                                | N         | -         | 10        |
| E.N. CENTRAL   | 1,502      | 2,029     | 46,401    | 54,832    | 73                | 139       | 187                              | 213       | 119       | 173       |
| Ohio           | 241        | 407       | 13,057    | 14,875    | 21                | 44        | 71                               | 49        | 43        | 28        |
| Ind.           | 191        | 353       | 6,367     | 5,949     | 14                | 30        | 27                               | 55        | 16        | 29        |
| Ill.           | 682        | 817       | 15,475    | 14,512    | 14                | 37        | 57                               | 60        | 18        | 37        |
| Mich.          | 308        | 350       | 11,502    | 12,004    | 24                | 18        | 32                               | 49        | 17        | 32        |
| Wis.           | 80         | 102       | U         | 7,492     | -                 | 10        | N                                | N         | 25        | 47        |
| W.N. CENTRAL   | 537        | 477       | 17,695    | 18,639    | 57                | 149       | 222                              | 148       | 96        | 161       |
| Minn.          | 82         | 64        | 3,264     | 3,860     | 14                | 46        | 82                               | 50        | 53        | 77        |
| Iowa           | 50         | 49        | 1,334     | 2,127     | 14                | 34        | 35                               | 42        | 12        | 32        |
| Mo.            | 261        | 243       | 7,811     | 6,649     | 12                | 12        | 23                               | 17        | 24        | 27        |
| N. Dak.        | 4          | 4         | 325       | 545       | 4                 | 18        | 3                                | 2         | 1         | 10        |
| S. Dak.        | 11         | 11        | 832       | 895       | 3                 | 17        | 15                               | 8         | 4         | 11        |
| Nebr.          | 39         | 38        | 1,338     | 1,552     | 9                 | 18        | 53                               | 18        | -         | -         |
| Kans.          | 90         | 68        | 2,791     | 3,011     | 1                 | 4         | 11                               | 11        | 2         | 4         |
| S. ATLANTIC    | 6,366      | 6,417     | 72,629    | 56,639    | 185               | 110       | 140                              | 81        | 65        | 85        |
| Del.           | 80         | 75        | 1,522     | 1,404     | -                 | -         | 2                                | -         | -         | 1         |
| Md.            | 720        | 824       | 6,397     | 3         | 9                 | 10        | 10                               | 14        | -         | 9         |
| D.C.           | 242        | 483       | N         | N         | 7                 | 4         | -                                | 1         | -         | -         |
| Va.            | 340        | 501       | 8,209     | 6,780     | 10                | 1         | 35                               | -         | 20        | 29        |
| W. Va.         | 31         | 57        | 1,088     | 1,318     | -                 | 1         | 5                                | 5         | 1         | 3         |
| N.C.           | 390        | 459       | 12,664    | 11,752    | 5                 | -         | 26                               | 15        | 25        | 29        |
| S.C.           | 588        | 414       | 8,635     | 10,272    | -                 | -         | 12                               | 4         | 10        | 3         |
| Ga.            | 958        | 618       | 17,615    | 13,043    | 91                | 34        | 11                               | 33        | -         | -         |
| Fla.           | 3,017      | 2,986     | 16,499    | 12,067    | 63                | 60        | 39                               | 9         | 9         | 11        |
| E.S. CENTRAL   | 1,034      | 1,055     | 21,720    | 22,014    | 11                | 15        | 63                               | 70        | 33        | 41        |
| Ky.            | 152        | 155       | 3,333     | 3,438     | 2                 | 5         | 15                               | 24        | -         | -         |
| Tenn.          | 405        | 352       | 7,554     | 7,221     | 4                 | 6         | 28                               | 28        | 17        | 25        |
| Ala.           | 257        | 329       | 6,132     | 5,640     | 3                 | -         | 16                               | 15        | 13        | 15        |
| Miss.          | 220        | 219       | 4,701     | 5,715     | 2                 | 4         | 4                                | 3         | 3         | 1         |
| W.S. CENTRAL   | 2,491      | 3,269     | 47,028    | 48,050    | 33                | 18        | 33                               | 49        | 43        | 55        |
| Ark.           | 90         | 123       | 3,331     | 2,027     | -                 | 3         | 5                                | 6         | 5         | 6         |
| La.            | 463        | 532       | 7,726     | 7,863     | 21                | 8         | 3                                | 3         | 6         | 2         |
| Okla.          | 70         | 184       | 4,531     | 5,436     | 2                 | 3         | 8                                | 10        | 5         | 4         |
| Tex.           | 1,868      | 2,430     | 31,440    | 32,724    | 10                | 4         | 17                               | 30        | 27        | 43        |
| MOUNTAIN       | 860        | 915       | 18,161    | 17,828    | 47                | 73        | 84                               | 156       | 50        | 128       |
| Mont.          | 4          | 18        | 755       | 696       | 8                 | 6         | 4                                | 8         | -         | 2         |
| Idaho          | 12         | 19        | 665       | 1,078     | 3                 | 14        | 4                                | 15        | 6         | 7         |
| Wyo.           | 3          | 1         | 408       | 364       | -                 | -         | 3                                | 47        | 5         | 51        |
| Colo.          | 172        | 186       | 3,892     | 4,477     | 4                 | 5         | 31                               | 31        | 19        | 27        |
| N. Mex.        | 46         | 153       | 2,521     | 2,083     | 19                | 31        | 6                                | 12        | 1         | 11        |
| Ariz.          | 427        | 327       | 7,241     | 6,020     | 9                 | 10        | 14                               | 17        | 9         | 13        |
| Utah           | 80         | 70        | 1,054     | 1,276     | -                 | -         | 17                               | 19        | 8         | 10        |
| Nev.           | 116        | 141       | 1,625     | 1,834     | 4                 | 7         | 5                                | 7         | 2         | 7         |
| PACIFIC        | 3,371      | 3,365     | 46,498    | 53,163    | 204               | 211       | 117                              | 158       | 79        | 161       |
| Wash.          | 188        | 231       | 6,532     | 6,167     | -                 | -         | 34                               | 28        | 26        | 47        |
| Oreg.          | 88         | 94        | 3,264     | 2,901     | 79                | 22        | 27                               | 37        | 22        | 41        |
| Calif.         | 3,036      | 2,933     | 34,085    | 41,740    | 125               | 186       | 56                               | 91        | 26        | 66        |
| Alaska         | 13         | 12        | 1,011     | 1,049     | -                 | -         | -                                | 2         | -         | -         |
| Hawaii         | 46         | 95        | 1,606     | 1,306     | -                 | 3         | -                                | -         | 5         | 7         |
| Guam           | 5          | -         | 149       | 211       | -                 | -         | N                                | N         | -         | -         |
| P.R.           | 734        | 995       | U         | U         | -                 | -         | 5                                | -         | U         | U         |
| V.I.           | 15         | 17        | N         | N         | -                 | -         | N                                | N         | U         | U         |
| Amer. Samoa    | -          | -         | U         | U         | -                 | -         | N                                | N         | U         | U         |
| C.N.M.I.       | -          | -         | N         | N         | -                 | -         | N                                | N         | U         | U         |

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

\*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Updated monthly from reports to the Division of HIV/AIDS Prevention—Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update June 27, 1999.

**TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending July 24, 1999, and July 25, 1998 (29th Week)**

| Reporting Area | Gonorrhea |           | Hepatitis C/NA,NB |           | Legionellosis |           | Lyme Disease |           |
|----------------|-----------|-----------|-------------------|-----------|---------------|-----------|--------------|-----------|
|                | Cum. 1999 | Cum. 1998 | Cum. 1999         | Cum. 1998 | Cum. 1999     | Cum. 1998 | Cum. 1999    | Cum. 1998 |
| UNITED STATES  | 172,234   | 181,662   | 2,029             | 1,758     | 508           | 661       | 3,901        | 5,961     |
| NEW ENGLAND    | 3,179     | 3,209     | 58                | 45        | 32            | 43        | 1,007        | 2,178     |
| Maine          | 15        | 36        | 2                 | -         | 4             | 1         | -            | 29        |
| N.H.           | 49        | 49        | -                 | -         | 3             | 3         | 2            | 24        |
| Vt.            | 31        | 19        | 4                 | 2         | 7             | 3         | 3            | 6         |
| Mass.          | 1,438     | 1,112     | 49                | 40        | 9             | 20        | 313          | 458       |
| R.I.           | 336       | 194       | 3                 | 3         | 3             | 8         | 178          | 143       |
| Conn.          | 1,310     | 1,799     | -                 | -         | 6             | 8         | 511          | 1,518     |
| MID. ATLANTIC  | 21,275    | 20,073    | 90                | 124       | 99            | 151       | 2,166        | 2,868     |
| Upstate N.Y.   | 3,435     | 3,664     | 55                | 63        | 29            | 40        | 1,316        | 1,380     |
| N.Y. City      | 8,696     | 6,664     | -                 | -         | 7             | 27        | 12           | 100       |
| N.J.           | 3,421     | 4,111     | -                 | -         | 5             | 7         | 124          | 561       |
| Pa.            | 5,723     | 5,634     | 35                | 61        | 58            | 77        | 714          | 827       |
| E.N. CENTRAL   | 30,622    | 36,845    | 1,061             | 410       | 135           | 230       | 68           | 346       |
| Ohio           | 7,993     | 9,258     | 1                 | 7         | 46            | 81        | 44           | 20        |
| Ind.           | 3,750     | 3,414     | 1                 | 4         | 42            | 43        | 21           | 13        |
| Ill.           | 10,820    | 11,825    | 21                | 27        | 10            | 27        | 2            | 11        |
| Mich.          | 8,059     | 9,110     | 456               | 273       | 34            | 43        | 1            | 11        |
| Wis.           | U         | 3,238     | 582               | 99        | 3             | 36        | U            | 291       |
| W.N. CENTRAL   | 7,419     | 9,249     | 77                | 24        | 29            | 34        | 54           | 50        |
| Minn.          | 1,208     | 1,408     | 3                 | 7         | 1             | 3         | 13           | 22        |
| Iowa           | 331       | 686       | -                 | 7         | 13            | 5         | 11           | 14        |
| Mo.            | 4,011     | 5,082     | 66                | 7         | 10            | 9         | 13           | 7         |
| N. Dak.        | 31        | 49        | -                 | -         | -             | -         | 1            | -         |
| S. Dak.        | 83        | 143       | -                 | -         | 2             | 2         | -            | -         |
| Nebr.          | 596       | 599       | 3                 | 2         | 3             | 13        | 6            | 3         |
| Kans.          | 1,159     | 1,282     | 5                 | 1         | -             | 2         | 10           | 4         |
| S. ATLANTIC    | 52,740    | 44,868    | 131               | 63        | 67            | 74        | 415          | 398       |
| Del.           | 930       | 762       | -                 | -         | 6             | 8         | 13           | 35        |
| Md.            | 5,625     | 10        | 30                | 8         | 12            | 21        | 293          | 285       |
| D.C.           | 1,456     | 2,502     | -                 | -         | 1             | 5         | 3            | 4         |
| Va.            | 5,520     | 3,815     | 10                | 7         | 13            | 8         | 33           | 31        |
| W. Va.         | 307       | 461       | 13                | 4         | N             | N         | 11           | 6         |
| N.C.           | 10,857    | 10,086    | 27                | 14        | 12            | 6         | 40           | 20        |
| S.C.           | 4,645     | 6,642     | 13                | 3         | 7             | 5         | 4            | 3         |
| Ga.            | 11,704    | 10,880    | 1                 | 9         | -             | 2         | -            | 2         |
| Fla.           | 11,696    | 9,710     | 37                | 18        | 16            | 18        | 18           | 12        |
| E.S. CENTRAL   | 17,299    | 20,765    | 174               | 93        | 61            | 39        | 66           | 42        |
| Ky.            | 1,494     | 1,959     | 9                 | 16        | 45            | 17        | 19           | 10        |
| Tenn.          | 6,015     | 6,153     | 77                | 75        | 14            | 11        | 28           | 21        |
| Ala.           | 5,354     | 7,118     | 1                 | 2         | 2             | 4         | 12           | 11        |
| Miss.          | 4,436     | 5,535     | 87                | -         | -             | 7         | 7            | -         |
| W.S. CENTRAL   | 25,953    | 29,038    | 138               | 296       | 3             | 13        | 16           | 9         |
| Ark.           | 1,677     | 2,231     | 7                 | 11        | -             | 1         | 1            | 6         |
| La.            | 6,054     | 6,485     | 100               | 17        | 1             | 2         | -            | -         |
| Okla.          | 2,243     | 2,984     | 12                | 7         | 2             | 8         | 4            | -         |
| Tex.           | 15,979    | 17,338    | 19                | 261       | -             | 2         | 11           | 3         |
| MOUNTAIN       | 5,105     | 4,873     | 83                | 262       | 31            | 36        | 8            | 5         |
| Mont.          | 22        | 26        | 4                 | 5         | -             | 1         | -            | -         |
| Idaho          | 32        | 98        | 4                 | 85        | -             | -         | 1            | 1         |
| Wyo.           | 12        | 17        | 28                | 62        | -             | 1         | 1            | 1         |
| Colo.          | 1,214     | 1,143     | 15                | 14        | 9             | 7         | 1            | -         |
| N. Mex.        | 503       | 500       | 4                 | 56        | 1             | 2         | 1            | 2         |
| Ariz.          | 2,567     | 2,185     | 20                | 4         | 4             | 6         | -            | -         |
| Utah           | 99        | 133       | 5                 | 19        | 11            | 16        | 2            | -         |
| Nev.           | 656       | 771       | 3                 | 17        | 6             | 3         | 2            | 1         |
| PACIFIC        | 8,642     | 12,742    | 217               | 441       | 51            | 41        | 101          | 65        |
| Wash.          | 1,146     | 1,056     | 10                | 11        | 9             | 7         | 3            | 2         |
| Oreg.          | 446       | 412       | 14                | 10        | N             | N         | 6            | 10        |
| Calif.         | 6,664     | 10,834    | 193               | 365       | 41            | 33        | 92           | 52        |
| Alaska         | 169       | 174       | -                 | 1         | 1             | -         | -            | 1         |
| Hawaii         | 217       | 266       | -                 | 54        | -             | 1         | -            | -         |
| Guam           | 22        | 26        | -                 | -         | -             | 2         | -            | -         |
| P.R.           | 153       | 222       | -                 | -         | -             | -         | -            | -         |
| V.I.           | U         | U         | U                 | U         | U             | U         | U            | U         |
| Amer. Samoa    | U         | U         | U                 | U         | U             | U         | U            | U         |
| C.N.M.I.       | -         | 22        | -                 | -         | -             | -         | -            | -         |

N: Not notifiable U: Unavailable -: no reported cases

**TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending July 24, 1999, and July 25, 1998 (29th Week)**

| Reporting Area | Malaria   |           | Rabies, Animal |           | Salmonellosis* |           |           |           |
|----------------|-----------|-----------|----------------|-----------|----------------|-----------|-----------|-----------|
|                | Cum. 1999 | Cum. 1998 | Cum. 1999      | Cum. 1998 | NETSS          |           | PHLIS     |           |
|                |           |           |                |           | Cum. 1999      | Cum. 1998 | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 615       | 693       | 3,022          | 4,158     | 15,832         | 18,705    | 12,200    | 17,078    |
| NEW ENGLAND    | 24        | 41        | 445            | 755       | 803            | 1,205     | 800       | 1,128     |
| Maine          | 2         | 3         | 82             | 136       | 72             | 91        | 39        | 35        |
| N.H.           | 2         | 3         | 27             | 42        | 65             | 89        | 62        | 119       |
| Vt.            | 1         | -         | 62             | 33        | 41             | 61        | 37        | 45        |
| Mass.          | 8         | 15        | 95             | 239       | 569            | 677       | 407       | 671       |
| R.I.           | 3         | 2         | 58             | 42        | 56             | 71        | 48        | 31        |
| Conn.          | 8         | 18        | 121            | 263       | U              | 216       | 207       | 227       |
| MID. ATLANTIC  | 136       | 193       | 577            | 893       | 1,810          | 3,257     | 1,331     | 3,099     |
| Upstate N.Y.   | 39        | 42        | 394            | 619       | 560            | 735       | 580       | 753       |
| N.Y. City      | 47        | 111       | U              | U         | 391            | 1,060     | 442       | 904       |
| N.J.           | 29        | 22        | 110            | 112       | 332            | 685       | 309       | 570       |
| Pa.            | 21        | 18        | 73             | 162       | 527            | 777       | -         | 872       |
| E.N. CENTRAL   | 61        | 71        | 47             | 74        | 2,075          | 3,248     | 1,613     | 2,381     |
| Ohio           | 12        | 3         | 17             | 41        | 539            | 750       | 365       | 676       |
| Ind.           | 9         | 7         | -              | 4         | 226            | 371       | 149       | 318       |
| Ill.           | 19        | 29        | 2              | 8         | 795            | 998       | 399       | 592       |
| Mich.          | 19        | 27        | 25             | 19        | 477            | 646       | 470       | 533       |
| Wis.           | 2         | 5         | 3              | 2         | 38             | 483       | 230       | 262       |
| W.N. CENTRAL   | 29        | 48        | 338            | 458       | 1,131          | 1,167     | 939       | 1,232     |
| Minn.          | 5         | 24        | 62             | 76        | 306            | 283       | 308       | 330       |
| Iowa           | 9         | 4         | 72             | 98        | 134            | 200       | 70        | 166       |
| Mo.            | 11        | 11        | 9              | 23        | 361            | 337       | 442       | 453       |
| N. Dak.        | -         | 2         | 88             | 89        | 15             | 36        | 4         | 47        |
| S. Dak.        | -         | -         | 44             | 105       | 52             | 41        | 26        | 62        |
| Nebr.          | -         | 1         | 2              | 3         | 111            | 98        | -         | 23        |
| Kans.          | 4         | 6         | 61             | 64        | 152            | 172       | 89        | 151       |
| S. ATLANTIC    | 184       | 144       | 1,156          | 1,376     | 3,606          | 3,249     | 2,479     | 2,616     |
| Del.           | 1         | 1         | 29             | 23        | 51             | 39        | 60        | 66        |
| Md.            | 59        | 45        | 230            | 288       | 401            | 452       | 382       | 427       |
| D.C.           | 11        | 12        | -              | -         | 51             | 45        | -         | -         |
| Va.            | 39        | 26        | 295            | 357       | 608            | 519       | 421       | 451       |
| W. Va.         | 1         | 1         | 67             | 49        | 74             | 77        | 64        | 83        |
| N.C.           | 11        | 12        | 230            | 348       | 519            | 459       | 507       | 589       |
| S.C.           | 2         | 4         | 84             | 92        | 205            | 201       | 176       | 197       |
| Ga.            | 14        | 15        | 122            | 107       | 557            | 512       | 651       | 561       |
| Fla.           | 46        | 28        | 99             | 112       | 1,140          | 945       | 218       | 242       |
| E.S. CENTRAL   | 13        | 17        | 159            | 163       | 859            | 936       | 435       | 720       |
| Ky.            | 4         | 2         | 24             | 20        | 188            | 207       | -         | 91        |
| Tenn.          | 5         | 9         | 56             | 91        | 240            | 282       | 199       | 361       |
| Ala.           | 3         | 4         | 79             | 50        | 275            | 235       | 203       | 210       |
| Miss.          | 1         | 2         | -              | 2         | 156            | 212       | 33        | 58        |
| W.S. CENTRAL   | 9         | 12        | 72             | 107       | 1,127          | 1,629     | 1,296     | 1,969     |
| Ark.           | -         | 1         | 14             | 19        | 209            | 175       | 76        | 129       |
| La.            | 6         | 4         | -              | -         | 159            | 265       | 220       | 348       |
| Okla.          | 2         | 1         | 58             | 88        | 172            | 191       | 107       | 59        |
| Tex.           | 1         | 6         | -              | -         | 587            | 998       | 893       | 1,433     |
| MOUNTAIN       | 24        | 33        | 111            | 110       | 1,553          | 1,127     | 1,041     | 1,100     |
| Mont.          | 4         | -         | 40             | 32        | 28             | 49        | 1         | 26        |
| Idaho          | 1         | 3         | -              | -         | 48             | 57        | 45        | 53        |
| Wyo.           | 1         | -         | 31             | 43        | 23             | 33        | 22        | 29        |
| Colo.          | 8         | 8         | 1              | 3         | 432            | 292       | 433       | 278       |
| N. Mex.        | 2         | 11        | 4              | 3         | 195            | 123       | 110       | 115       |
| Ariz.          | 5         | 5         | 30             | 23        | 474            | 299       | 377       | 367       |
| Utah           | 2         | 1         | 4              | 6         | 249            | 169       | -         | 119       |
| Nev.           | 1         | 5         | 1              | -         | 104            | 105       | 53        | 113       |
| PACIFIC        | 135       | 134       | 117            | 222       | 2,868          | 2,887     | 2,266     | 2,833     |
| Wash.          | 11        | 9         | -              | -         | 342            | 221       | 279       | 346       |
| Oreg.          | 14        | 11        | 1              | 1         | 262            | 154       | 309       | 188       |
| Calif.         | 103       | 111       | 109            | 201       | 2,016          | 2,372     | 1,504     | 2,157     |
| Alaska         | -         | 1         | 7              | 20        | 24             | 25        | 6         | 17        |
| Hawaii         | 7         | 2         | -              | -         | 224            | 115       | 168       | 125       |
| Guam           | -         | 1         | -              | -         | 18             | 14        | -         | -         |
| P.R.           | -         | -         | 42             | 30        | 207            | 360       | -         | -         |
| V.I.           | U         | U         | U              | U         | -              | -         | -         | -         |
| Amer. Samoa    | U         | U         | U              | U         | -              | -         | -         | -         |
| C.N.M.I.       | -         | -         | -              | -         | -              | 13        | -         | -         |

N: Not notifiable U: Unavailable -: no reported cases

\*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

**TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending July 24, 1999, and July 25, 1998 (29th Week)**

| Reporting Area | Shigellosis* |              |              |              | Syphilis<br>(Primary & Secondary) |              | Tuberculosis  |               |
|----------------|--------------|--------------|--------------|--------------|-----------------------------------|--------------|---------------|---------------|
|                | NETSS        |              | PHLIS        |              | Cum.<br>1999                      | Cum.<br>1998 | Cum.<br>1999† | Cum.<br>1998† |
|                | Cum.<br>1999 | Cum.<br>1998 | Cum.<br>1999 | Cum.<br>1998 |                                   |              |               |               |
| UNITED STATES  | 6,650        | 9,890        | 2,808        | 5,494        | 3,437                             | 3,828        | 7,304         | 8,724         |
| NEW ENGLAND    | 140          | 238          | 130          | 210          | 32                                | 39           | 222           | 232           |
| Maine          | 4            | 8            | -            | -            | -                                 | 1            | 12            | 5             |
| N.H.           | 7            | 10           | 6            | 12           | -                                 | 1            | 4             | 6             |
| Vt.            | 4            | 4            | 3            | -            | 3                                 | 4            | -             | 2             |
| Mass.          | 111          | 152          | 82           | 140          | 20                                | 23           | 129           | 119           |
| R.I.           | 14           | 18           | 9            | 12           | 1                                 | -            | 24            | 31            |
| Conn.          | U            | 46           | 30           | 46           | 8                                 | 10           | 53            | 69            |
| MID. ATLANTIC  | 415          | 1,420        | 192          | 1,167        | 142                               | 158          | 1,348         | 1,564         |
| Upstate N.Y.   | 140          | 275          | 34           | 95           | 19                                | 20           | 146           | 187           |
| N.Y. City      | 100          | 449          | 81           | 476          | 61                                | 31           | 759           | 767           |
| N.J.           | 103          | 441          | 77           | 404          | 25                                | 58           | 283           | 337           |
| Pa.            | 72           | 255          | -            | 192          | 37                                | 49           | 160           | 273           |
| E.N. CENTRAL   | 1,036        | 1,460        | 479          | 746          | 632                               | 564          | 632           | 894           |
| Ohio           | 276          | 311          | 54           | 72           | 56                                | 83           | 127           | 146           |
| Ind.           | 93           | 100          | 16           | 27           | 184                               | 101          | U             | 97            |
| Ill.           | 444          | 773          | 269          | 618          | 279                               | 232          | 312           | 397           |
| Mich.          | 175          | 141          | 99           | 4            | 113                               | 104          | 154           | 192           |
| Wis.           | 48           | 135          | 41           | 25           | U                                 | 44           | 39            | 62            |
| W.N. CENTRAL   | 592          | 507          | 359          | 223          | 75                                | 85           | 260           | 227           |
| Minn.          | 113          | 88           | 98           | 95           | 5                                 | 5            | 95            | 74            |
| Iowa           | 13           | 40           | 10           | 31           | 7                                 | -            | 26            | 9             |
| Mo.            | 399          | 61           | 229          | 48           | 54                                | 67           | 97            | 90            |
| N. Dak.        | 2            | 4            | -            | 3            | -                                 | -            | 2             | 3             |
| S. Dak.        | 9            | 22           | 4            | 19           | -                                 | 1            | 9             | 14            |
| Nebr.          | 32           | 273          | -            | 15           | 4                                 | 4            | 12            | 8             |
| Kans.          | 24           | 19           | 18           | 12           | 5                                 | 8            | 19            | 29            |
| S. ATLANTIC    | 1,286        | 2,004        | 273          | 691          | 1,134                             | 1,455        | 1,563         | 1,484         |
| Del.           | 7            | 9            | 3            | 9            | 6                                 | 15           | 12            | 20            |
| Md.            | 71           | 106          | 20           | 34           | 230                               | 409          | 146           | 161           |
| D.C.           | 34           | 12           | -            | -            | 34                                | 42           | 29            | 64            |
| Va.            | 53           | 85           | 15           | 45           | 95                                | 93           | 121           | 174           |
| W. Va.         | 6            | 8            | 2            | 7            | 2                                 | 2            | 25            | 24            |
| N.C.           | 123          | 178          | 57           | 89           | 281                               | 425          | 223           | 216           |
| S.C.           | 67           | 85           | 35           | 34           | 125                               | 170          | 124           | 183           |
| Ga.            | 120          | 534          | 37           | 153          | 194                               | 159          | 350           | 260           |
| Fla.           | 805          | 987          | 104          | 320          | 167                               | 140          | 533           | 382           |
| E.S. CENTRAL   | 705          | 471          | 351          | 287          | 608                               | 656          | 305           | 664           |
| Ky.            | 142          | 78           | -            | 36           | 46                                | 67           | 82            | 103           |
| Tenn.          | 454          | 83           | 310          | 112          | 348                               | 315          | U             | 224           |
| Ala.           | 63           | 276          | 37           | 137          | 136                               | 145          | 167           | 211           |
| Miss.          | 46           | 34           | 4            | 2            | 78                                | 129          | 56            | 126           |
| W.S. CENTRAL   | 966          | 2,000        | 721          | 615          | 524                               | 516          | 822           | 1,267         |
| Ark.           | 53           | 112          | 21           | 26           | 40                                | 71           | 89            | 64            |
| La.            | 76           | 146          | 53           | 176          | 121                               | 191          | U             | 65            |
| Okla.          | 304          | 138          | 82           | 30           | 121                               | 22           | 69            | 96            |
| Tex.           | 533          | 1,604        | 565          | 383          | 242                               | 232          | 664           | 1,042         |
| MOUNTAIN       | 403          | 597          | 192          | 359          | 133                               | 140          | 208           | 295           |
| Mont.          | 6            | 4            | -            | 3            | -                                 | -            | 5             | 12            |
| Idaho          | 9            | 12           | 5            | 8            | 1                                 | -            | -             | 7             |
| Wyo.           | 2            | 1            | 1            | -            | -                                 | 1            | 1             | 2             |
| Colo.          | 64           | 81           | 50           | 61           | 1                                 | 8            | U             | 34            |
| N. Mex.        | 50           | 153          | 17           | 68           | 6                                 | 18           | 32            | 36            |
| Ariz.          | 213          | 306          | 113          | 198          | 117                               | 98           | 124           | 110           |
| Utah           | 30           | 20           | -            | 14           | 2                                 | 3            | 27            | 33            |
| Nev.           | 29           | 20           | 6            | 7            | 6                                 | 12           | 19            | 61            |
| PACIFIC        | 1,107        | 1,193        | 111          | 1,196        | 157                               | 215          | 1,944         | 2,097         |
| Wash.          | 57           | 62           | 51           | 65           | 39                                | 12           | 87            | 141           |
| Oreg.          | 39           | 70           | 39           | 69           | 2                                 | 2            | 57            | 66            |
| Calif.         | 987          | 1,035        | -            | 1,035        | 113                               | 200          | 1,677         | 1,760         |
| Alaska         | -            | 4            | -            | 2            | 1                                 | -            | 33            | 30            |
| Hawaii         | 24           | 22           | 21           | 25           | 2                                 | 1            | 90            | 100           |
| Guam           | 3            | 21           | -            | -            | -                                 | 1            | -             | 45            |
| P.R.           | 29           | 32           | -            | -            | 87                                | 117          | 41            | 80            |
| V.I.           | -            | -            | -            | -            | U                                 | U            | U             | U             |
| Amer. Samoa    | -            | -            | -            | -            | U                                 | U            | U             | U             |
| C.N.M.I.       | -            | 13           | -            | -            | -                                 | 142          | -             | 65            |

N: Not notifiable U: Unavailable -: no reported cases

\*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Cumulative reports of provisional tuberculosis cases for 1998 and 1999 are unavailable ("U") for some areas using the Tuberculosis Information System (TIMS).

**TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 24, 1999, and July 25, 1998 (29th Week)**

| Reporting Area | <i>H. influenzae</i> , invasive |           | Hepatitis (Viral), by type |           |           |           | Measles (Rubeola) |           |           |           |           |           |
|----------------|---------------------------------|-----------|----------------------------|-----------|-----------|-----------|-------------------|-----------|-----------|-----------|-----------|-----------|
|                | Cum. 1999†                      | Cum. 1998 | A                          |           | B         |           | Indigenous        |           | Imported* |           | Total     |           |
|                |                                 |           | Cum. 1999                  | Cum. 1998 | Cum. 1999 | Cum. 1998 | 1999              | Cum. 1999 | 1999      | Cum. 1999 | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 700                             | 669       | 8,494                      | 12,463    | 3,577     | 5,318     | 2                 | 32        | -         | 16        | 48        | 44        |
| NEW ENGLAND    | 52                              | 43        | 108                        | 164       | 61        | 112       | -                 | 5         | -         | 4         | 9         | 3         |
| Maine          | 5                               | 2         | 4                          | 13        | 1         | 2         | -                 | -         | -         | -         | -         | -         |
| N.H.           | 12                              | 7         | 8                          | 8         | 8         | 10        | -                 | -         | -         | 1         | 1         | -         |
| Vt.            | 4                               | 2         | 4                          | 13        | 1         | 4         | -                 | -         | -         | -         | -         | 1         |
| Mass.          | 18                              | 30        | 31                         | 58        | 28        | 42        | -                 | 4         | -         | 2         | 6         | 2         |
| R.I.           | 1                               | 2         | 10                         | 10        | 23        | 35        | -                 | -         | -         | -         | -         | -         |
| Conn.          | 12                              | -         | 51                         | 62        | -         | 19        | -                 | 1         | -         | 1         | 2         | -         |
| MID. ATLANTIC  | 102                             | 100       | 549                        | 956       | 407       | 714       | -                 | -         | -         | 2         | 2         | 11        |
| Upstate N.Y.   | 53                              | 31        | 143                        | 188       | 115       | 138       | -                 | -         | -         | 2         | 2         | 2         |
| N.Y. City      | 18                              | 30        | 100                        | 338       | 90        | 243       | -                 | -         | -         | -         | -         | -         |
| N.J.           | 30                              | 32        | 57                         | 194       | 40        | 124       | -                 | -         | -         | -         | -         | 8         |
| Pa.            | 1                               | 7         | 249                        | 236       | 162       | 209       | U                 | -         | U         | -         | -         | 1         |
| E.N. CENTRAL   | 101                             | 111       | 1,652                      | 1,777     | 343       | 815       | -                 | 1         | -         | 1         | 2         | 15        |
| Ohio           | 39                              | 35        | 410                        | 194       | 51        | 43        | -                 | -         | -         | -         | -         | 1         |
| Ind.           | 18                              | 27        | 102                        | 93        | 27        | 65        | -                 | 1         | -         | -         | 1         | 3         |
| Ill.           | 37                              | 43        | 287                        | 439       | -         | 144       | -                 | -         | -         | -         | -         | -         |
| Mich.          | 7                               | 1         | 827                        | 917       | 264       | 245       | U                 | -         | U         | 1         | 1         | 10        |
| Wis.           | -                               | 5         | 26                         | 134       | 1         | 318       | U                 | -         | U         | -         | -         | 1         |
| W.N. CENTRAL   | 58                              | 59        | 437                        | 962       | 266       | 235       | -                 | -         | -         | -         | -         | -         |
| Minn.          | 17                              | 45        | 42                         | 78        | 25        | 21        | -                 | -         | -         | -         | -         | -         |
| Iowa           | 14                              | 1         | 82                         | 361       | 105       | 40        | -                 | -         | -         | -         | -         | -         |
| Mo.            | 20                              | 8         | 233                        | 422       | 104       | 143       | -                 | -         | -         | -         | -         | -         |
| N. Dak.        | -                               | -         | 1                          | 3         | -         | 4         | U                 | -         | U         | -         | -         | -         |
| S. Dak.        | 1                               | -         | 8                          | 17        | 1         | 1         | -                 | -         | -         | -         | -         | -         |
| Nebr.          | 3                               | -         | 38                         | 16        | 11        | 10        | -                 | -         | -         | -         | -         | -         |
| Kans.          | 3                               | 5         | 33                         | 65        | 20        | 16        | -                 | -         | -         | -         | -         | -         |
| S. ATLANTIC    | 163                             | 123       | 1,109                      | 977       | 648       | 518       | -                 | 1         | -         | 3         | 4         | 6         |
| Del.           | -                               | -         | 2                          | 3         | -         | -         | -                 | -         | -         | -         | -         | 1         |
| Md.            | 45                              | 41        | 214                        | 239       | 96        | 84        | -                 | -         | -         | -         | -         | 1         |
| D.C.           | 4                               | -         | 37                         | 30        | 14        | 6         | -                 | -         | -         | -         | -         | -         |
| Va.            | 12                              | 13        | 90                         | 137       | 51        | 56        | -                 | 1         | -         | 2         | 3         | 2         |
| W. Va.         | 4                               | 4         | 20                         | 1         | 15        | 3         | -                 | -         | -         | -         | -         | -         |
| N.C.           | 23                              | 18        | 76                         | 59        | 131       | 118       | -                 | -         | -         | -         | -         | -         |
| S.C.           | 2                               | 3         | 22                         | 18        | 39        | 22        | U                 | -         | U         | -         | -         | -         |
| Ga.            | 42                              | 24        | 288                        | 262       | 75        | 94        | -                 | -         | -         | -         | -         | 1         |
| Fla.           | 31                              | 20        | 360                        | 228       | 227       | 135       | -                 | -         | -         | 1         | 1         | 1         |
| E.S. CENTRAL   | 50                              | 42        | 249                        | 245       | 270       | 231       | -                 | -         | -         | -         | -         | 2         |
| Ky.            | 6                               | 7         | 39                         | 15        | 26        | 28        | -                 | -         | -         | -         | -         | -         |
| Tenn.          | 28                              | 23        | 130                        | 140       | 141       | 161       | -                 | -         | -         | -         | -         | 1         |
| Ala.           | 14                              | 10        | 38                         | 48        | 51        | 42        | -                 | -         | -         | -         | -         | 1         |
| Miss.          | 2                               | 2         | 42                         | 42        | 52        | -         | U                 | -         | U         | -         | -         | -         |
| W.S. CENTRAL   | 38                              | 35        | 1,509                      | 2,200     | 361       | 1,179     | 2                 | 3         | -         | 3         | 6         | -         |
| Ark.           | 2                               | -         | 30                         | 55        | 30        | 56        | -                 | -         | -         | -         | -         | -         |
| La.            | 7                               | 16        | 59                         | 46        | 72        | 57        | U                 | -         | U         | -         | -         | -         |
| Okla.          | 26                              | 17        | 295                        | 329       | 81        | 48        | -                 | -         | -         | -         | -         | -         |
| Tex.           | 3                               | 2         | 1,125                      | 1,770     | 178       | 1,018     | 2                 | 3         | -         | 3         | 6         | -         |
| MOUNTAIN       | 65                              | 81        | 808                        | 1,880     | 368       | 490       | -                 | 2         | -         | -         | 2         | -         |
| Mont.          | 1                               | -         | 12                         | 63        | 16        | 3         | -                 | -         | -         | -         | -         | -         |
| Idaho          | 1                               | -         | 27                         | 157       | 16        | 19        | U                 | -         | U         | -         | -         | -         |
| Wyo.           | 1                               | 1         | 4                          | 24        | 8         | 2         | -                 | -         | -         | -         | -         | -         |
| Colo.          | 10                              | 17        | 143                        | 146       | 51        | 61        | -                 | -         | -         | -         | -         | -         |
| N. Mex.        | 15                              | 4         | 31                         | 88        | 125       | 195       | -                 | -         | -         | -         | -         | -         |
| Ariz.          | 30                              | 39        | 484                        | 1,146     | 98        | 114       | -                 | 1         | -         | -         | 1         | -         |
| Utah           | 5                               | 3         | 30                         | 124       | 20        | 42        | -                 | 1         | -         | -         | 1         | -         |
| Nev.           | 2                               | 17        | 77                         | 132       | 34        | 54        | -                 | -         | -         | -         | -         | -         |
| PACIFIC        | 71                              | 75        | 2,073                      | 3,302     | 853       | 1,024     | -                 | 20        | -         | 3         | 23        | 7         |
| Wash.          | 2                               | 5         | 184                        | 631       | 39        | 58        | -                 | -         | -         | -         | -         | 1         |
| Oreg.          | 28                              | 31        | 149                        | 253       | 52        | 106       | -                 | 8         | -         | -         | 8         | -         |
| Calif.         | 33                              | 31        | 1,728                      | 2,372     | 743       | 845       | -                 | 11        | -         | 3         | 14        | 6         |
| Alaska         | 5                               | 1         | 3                          | 14        | 12        | 7         | -                 | -         | -         | -         | -         | -         |
| Hawaii         | 3                               | 7         | 9                          | 32        | 7         | 8         | -                 | 1         | -         | -         | 1         | -         |
| Guam           | -                               | -         | 2                          | -         | 2         | 2         | U                 | 1         | U         | -         | 1         | -         |
| P.R.           | 1                               | 2         | 100                        | 32        | 88        | 149       | U                 | -         | U         | -         | -         | -         |
| V.I.           | U                               | U         | U                          | U         | U         | U         | U                 | U         | U         | U         | U         | U         |
| Amer. Samoa    | U                               | U         | U                          | U         | U         | U         | U                 | U         | U         | U         | U         | U         |
| C.N.M.I.       | -                               | -         | -                          | 1         | -         | 41        | U                 | -         | U         | -         | -         | -         |

N: Not notifiable      U: Unavailable      -: no reported cases

\*For imported measles, cases include only those resulting from importation from other countries.

†Of 140 cases among children aged <5 years, serotype was reported for 66 and of those, 16 were type b.



**TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 24, 1999, and July 25, 1998 (29th Week)**

| Reporting Area | Meningococcal Disease |           | Mumps |           |           | Pertussis |           |           | Rubella |           |           |
|----------------|-----------------------|-----------|-------|-----------|-----------|-----------|-----------|-----------|---------|-----------|-----------|
|                | Cum. 1999             | Cum. 1998 | 1999  | Cum. 1999 | Cum. 1998 | 1999      | Cum. 1999 | Cum. 1998 | 1999    | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 1,483                 | 1,679     | 1     | 197       | 433       | 61        | 2,844     | 2,876     | 1       | 153       | 310       |
| NEW ENGLAND    | 80                    | 76        | -     | 4         | 1         | 4         | 291       | 529       | -       | 6         | 38        |
| Maine          | 5                     | 5         | -     | -         | -         | -         | -         | 5         | -       | -         | -         |
| N.H.           | 11                    | 9         | -     | 1         | -         | -         | 53        | 39        | -       | -         | -         |
| Vt.            | 4                     | 1         | -     | 1         | -         | -         | 9         | 47        | -       | -         | -         |
| Mass.          | 47                    | 33        | -     | 2         | 1         | -         | 203       | 408       | -       | 6         | 8         |
| R.I.           | 3                     | 3         | -     | -         | -         | 4         | 17        | 5         | -       | -         | 1         |
| Conn.          | 10                    | 25        | -     | -         | -         | -         | 9         | 25        | -       | -         | 29        |
| MID. ATLANTIC  | 137                   | 170       | -     | 25        | 169       | 1         | 593       | 318       | -       | 21        | 140       |
| Upstate N.Y.   | 37                    | 44        | -     | 6         | 2         | 1         | 507       | 157       | -       | 17        | 111       |
| N.Y. City      | 31                    | 21        | -     | 3         | 153       | -         | 10        | 17        | -       | -         | 15        |
| N.J.           | 36                    | 41        | -     | -         | 6         | -         | 12        | 9         | -       | 1         | 13        |
| Pa.            | 33                    | 64        | U     | 16        | 8         | U         | 64        | 135       | U       | 3         | 1         |
| E.N. CENTRAL   | 229                   | 262       | -     | 24        | 53        | 2         | 231       | 316       | -       | 2         | -         |
| Ohio           | 103                   | 91        | -     | 8         | 20        | 2         | 122       | 79        | -       | -         | -         |
| Ind.           | 37                    | 46        | -     | 3         | 5         | -         | 14        | 68        | -       | 1         | -         |
| Ill.           | 58                    | 72        | -     | 6         | 9         | -         | 42        | 30        | -       | 1         | -         |
| Mich.          | 30                    | 31        | U     | 7         | 18        | U         | 26        | 39        | U       | -         | -         |
| Wis.           | 1                     | 22        | U     | -         | 1         | U         | 27        | 100       | U       | -         | -         |
| W.N. CENTRAL   | 161                   | 145       | -     | 9         | 20        | 3         | 112       | 219       | -       | 78        | 31        |
| Minn.          | 33                    | 25        | -     | 1         | 10        | -         | 35        | 130       | -       | -         | -         |
| Iowa           | 30                    | 22        | -     | 4         | 6         | -         | 26        | 46        | -       | 28        | -         |
| Mo.            | 61                    | 56        | -     | 1         | 3         | 3         | 26        | 16        | -       | 2         | 2         |
| N. Dak.        | 3                     | 2         | U     | -         | 1         | U         | -         | 3         | U       | -         | -         |
| S. Dak.        | 9                     | 6         | -     | -         | -         | -         | 5         | 6         | -       | -         | -         |
| Nebr.          | 9                     | 10        | -     | -         | -         | -         | 1         | 7         | -       | 48        | -         |
| Kans.          | 16                    | 24        | -     | 3         | -         | -         | 19        | 11        | -       | -         | 29        |
| S. ATLANTIC    | 253                   | 280       | -     | 37        | 27        | 20        | 181       | 138       | 1       | 21        | 8         |
| Del.           | 3                     | 1         | -     | -         | -         | -         | -         | 2         | -       | -         | -         |
| Md.            | 38                    | 23        | -     | 4         | -         | 5         | 49        | 27        | -       | 1         | -         |
| D.C.           | 1                     | -         | -     | 2         | -         | -         | -         | 1         | -       | -         | -         |
| Va.            | 30                    | 24        | -     | 8         | 5         | -         | 13        | 7         | -       | -         | -         |
| W. Va.         | 4                     | 10        | -     | -         | -         | -         | 1         | 1         | -       | -         | -         |
| N.C.           | 29                    | 41        | -     | 8         | 9         | 7         | 49        | 50        | 1       | 20        | 5         |
| S.C.           | 31                    | 41        | U     | 3         | 4         | U         | 8         | 17        | U       | -         | -         |
| Ga.            | 44                    | 64        | -     | 2         | 1         | 2         | 18        | 6         | -       | -         | -         |
| Fla.           | 73                    | 76        | -     | 10        | 8         | 6         | 43        | 27        | -       | -         | 3         |
| E.S. CENTRAL   | 117                   | 117       | -     | 4         | 10        | 1         | 47        | 63        | -       | 1         | -         |
| Ky.            | 30                    | 18        | -     | -         | -         | 1         | 5         | 26        | -       | -         | -         |
| Tenn.          | 43                    | 44        | -     | -         | 1         | -         | 27        | 18        | -       | -         | -         |
| Ala.           | 26                    | 35        | -     | 4         | 5         | -         | 11        | 17        | -       | 1         | -         |
| Miss.          | 18                    | 20        | U     | -         | 4         | U         | 4         | 2         | U       | -         | -         |
| W.S. CENTRAL   | 129                   | 195       | 1     | 25        | 40        | 8         | 78        | 196       | -       | 5         | 79        |
| Ark.           | 26                    | 24        | -     | -         | -         | -         | 9         | 24        | -       | -         | -         |
| La.            | 34                    | 39        | U     | 3         | 8         | U         | 3         | 2         | U       | -         | -         |
| Okla.          | 21                    | 28        | -     | 1         | -         | -         | 7         | 20        | -       | -         | -         |
| Tex.           | 48                    | 104       | 1     | 21        | 32        | 8         | 59        | 150       | -       | 5         | 79        |
| MOUNTAIN       | 96                    | 90        | -     | 12        | 26        | 8         | 286       | 555       | -       | 15        | 5         |
| Mont.          | 2                     | 3         | -     | -         | -         | -         | 2         | 3         | -       | -         | -         |
| Idaho          | 8                     | 4         | U     | 1         | 3         | U         | 93        | 165       | U       | -         | -         |
| Wyo.           | 3                     | 4         | -     | -         | 1         | -         | 2         | 7         | -       | -         | -         |
| Colo.          | 26                    | 17        | -     | 3         | 5         | 5         | 68        | 138       | -       | -         | -         |
| N. Mex.        | 12                    | 16        | N     | N         | N         | 2         | 50        | 69        | -       | -         | 1         |
| Ariz.          | 29                    | 32        | -     | -         | 5         | -         | 29        | 125       | -       | 13        | 1         |
| Utah           | 11                    | 9         | -     | 5         | 3         | -         | 39        | 29        | -       | 1         | 2         |
| Nev.           | 5                     | 5         | -     | 3         | 9         | 1         | 3         | 19        | -       | 1         | 1         |
| PACIFIC        | 281                   | 344       | -     | 57        | 87        | 14        | 1,025     | 542       | -       | 4         | 9         |
| Wash.          | 43                    | 47        | -     | 2         | 6         | 12        | 521       | 153       | -       | -         | 5         |
| Oreg.          | 48                    | 55        | N     | N         | N         | 2         | 24        | 36        | -       | -         | -         |
| Calif.         | 181                   | 237       | -     | 47        | 63        | -         | 468       | 339       | -       | 4         | 2         |
| Alaska         | 5                     | 1         | -     | 1         | 2         | -         | 3         | 3         | -       | -         | -         |
| Hawaii         | 4                     | 4         | -     | 7         | 16        | -         | 9         | 11        | -       | -         | 2         |
| Guam           | -                     | 2         | U     | 1         | 2         | U         | 1         | -         | U       | -         | -         |
| P.R.           | 5                     | 6         | U     | -         | 2         | U         | 13        | 3         | U       | -         | -         |
| V.I.           | U                     | U         | U     | U         | U         | U         | U         | U         | U       | U         | U         |
| Amer. Samoa    | U                     | U         | U     | U         | U         | U         | U         | U         | U       | U         | U         |
| C.N.M.I.       | -                     | -         | U     | -         | 2         | U         | -         | 1         | U       | -         | -         |

N: Not notifiable

U: Unavailable

-: no reported cases

**TABLE IV. Deaths in 122 U.S. cities,\* week ending  
July 24, 1999 (29th Week)**

| Reporting Area      | All Causes, By Age (Years) |       |       |       |      |    | P&J† | Total                 | Reporting Area | All Causes, By Age (Years) |       |       |       |      |     | P&J† | Total |
|---------------------|----------------------------|-------|-------|-------|------|----|------|-----------------------|----------------|----------------------------|-------|-------|-------|------|-----|------|-------|
|                     | All Ages                   | >65   | 45-64 | 25-44 | 1-24 | <1 |      |                       |                | All Ages                   | >65   | 45-64 | 25-44 | 1-24 | <1  |      |       |
| NEW ENGLAND         | 478                        | 349   | 72    | 35    | 14   | 8  | 37   | S. ATLANTIC           | 1,009          | 663                        | 199   | 104   | 28    | 14   | 57  |      |       |
| Boston, Mass.       | 136                        | 86    | 22    | 15    | 7    | 6  | 12   | Atlanta, Ga.          | U              | U                          | U     | U     | U     | U    | U   |      |       |
| Bridgeport, Conn.   | 34                         | 24    | 4     | 4     | 1    | 1  | 2    | Baltimore, Md.        | 213            | 122                        | 47    | 36    | 5     | 2    | 20  |      |       |
| Cambridge, Mass.    | 22                         | 13    | 9     | -     | -    | -  | 1    | Charlotte, N.C.       | 97             | 63                         | 21    | 8     | 3     | 2    | 8   |      |       |
| Fall River, Mass.   | 20                         | 19    | -     | -     | 1    | -  | 1    | Jacksonville, Fla.    | 156            | 105                        | 31    | 11    | 6     | 3    | 4   |      |       |
| Hartford, Conn.     | 45                         | 32    | 9     | 4     | -    | -  | 3    | Miami, Fla.           | 94             | 66                         | 18    | 8     | 2     | -    | -   |      |       |
| Lowell, Mass.       | 34                         | 28    | 4     | 1     | 1    | -  | 5    | Norfolk, Va.          | 43             | 28                         | 5     | 5     | 3     | 2    | 1   |      |       |
| Lynn, Mass.         | 11                         | 9     | 1     | 1     | -    | -  | -    | Richmond, Va.         | U              | U                          | U     | U     | U     | U    | U   |      |       |
| New Bedford, Mass.  | 29                         | 25    | 2     | 1     | 1    | -  | 1    | Savannah, Ga.         | 54             | 33                         | 12    | 6     | 1     | 2    | 3   |      |       |
| New Haven, Conn.    | 35                         | 24    | 6     | 4     | 1    | -  | 4    | St. Petersburg, Fla.  | 70             | 62                         | 5     | 2     | 1     | -    | 7   |      |       |
| Providence, R.I.    | U                          | U     | U     | U     | U    | U  | U    | Tampa, Fla.           | 168            | 119                        | 26    | 16    | 5     | 2    | 11  |      |       |
| Somerville, Mass.   | 2                          | 1     | -     | 1     | -    | -  | -    | Washington, D.C.      | 96             | 63                         | 21    | 9     | 2     | 1    | 3   |      |       |
| Springfield, Mass.  | 47                         | 39    | 6     | 1     | -    | 1  | 1    | Wilmington, Del.      | 18             | 2                          | 13    | 3     | -     | -    | -   |      |       |
| Waterbury, Conn.    | 19                         | 16    | 2     | -     | 1    | -  | 2    | E.S. CENTRAL          | 657            | 437                        | 143   | 45    | 19    | 12   | 34  |      |       |
| Worcester, Mass.    | 44                         | 33    | 7     | 3     | 1    | -  | 5    | Birmingham, Ala.      | 153            | 109                        | 26    | 7     | 4     | 6    | 16  |      |       |
| MID. ATLANTIC       | 2,048                      | 1,419 | 407   | 146   | 40   | 36 | 81   | Chattanooga, Tenn.    | 83             | 60                         | 16    | 3     | 3     | 1    | 5   |      |       |
| Albany, N.Y.        | 38                         | 31    | 4     | 1     | 1    | 1  | 4    | Knoxville, Tenn.      | 73             | 47                         | 16    | 7     | 3     | -    | -   |      |       |
| Allentown, Pa.      | U                          | U     | U     | U     | U    | U  | U    | Lexington, Ky.        | 69             | 45                         | 15    | 6     | 2     | 1    | 5   |      |       |
| Buffalo, N.Y.       | 72                         | 50    | 15    | 4     | 2    | 1  | 3    | Memphis, Tenn.        | U              | U                          | U     | U     | U     | U    | U   |      |       |
| Camden, N.J.        | 15                         | 12    | 1     | -     | -    | 2  | 1    | Mobile, Ala.          | 91             | 61                         | 16    | 9     | 4     | 1    | 1   |      |       |
| Elizabeth, N.J.     | 14                         | 9     | 5     | -     | -    | -  | -    | Montgomery, Ala.      | 32             | 18                         | 9     | 3     | 2     | -    | -   |      |       |
| Erie, Pa.           | 39                         | 29    | 7     | 2     | -    | 1  | 1    | Nashville, Tenn.      | 156            | 97                         | 45    | 10    | 1     | 3    | 7   |      |       |
| Jersey City, N.J.   | 41                         | 26    | 8     | 6     | 1    | -  | -    | W.S. CENTRAL          | 1,103          | 699                        | 228   | 95    | 33    | 47   | 75  |      |       |
| New York City, N.Y. | 1,100                      | 741   | 239   | 87    | 15   | 18 | 30   | Austin, Tex.          | 66             | 47                         | 19    | -     | -     | -    | 5   |      |       |
| Newark, N.J.        | U                          | U     | U     | U     | U    | U  | U    | Baton Rouge, La.      | U              | U                          | U     | U     | U     | U    | U   |      |       |
| Paterson, N.J.      | 13                         | 2     | 6     | 5     | -    | -  | -    | Corpus Christi, Tex.  | 53             | 39                         | 10    | 2     | -     | 2    | 2   |      |       |
| Philadelphia, Pa.   | 346                        | 249   | 62    | 21    | 6    | 8  | 19   | Dallas, Tex.          | 197            | 114                        | 40    | 27    | 10    | 6    | 6   |      |       |
| Pittsburgh, Pa.‡    | 51                         | 35    | 13    | 3     | -    | -  | 2    | El Paso, Tex.         | 85             | 52                         | 21    | 10    | 1     | 1    | 4   |      |       |
| Reading, Pa.        | 23                         | 18    | 3     | 1     | 1    | -  | 2    | Ft. Worth, Tex.       | 128            | 73                         | 22    | 15    | 5     | 13   | 16  |      |       |
| Rochester, N.Y.     | 121                        | 95    | 15    | 3     | 5    | 3  | 12   | Houston, Tex.         | U              | U                          | U     | U     | U     | U    | U   |      |       |
| Schenectady, N.Y.   | 20                         | 13    | 4     | 1     | 2    | -  | 1    | Little Rock, Ark.     | 73             | 44                         | 20    | 2     | 4     | 3    | 5   |      |       |
| Scranton, Pa.       | 28                         | 20    | 6     | -     | 2    | -  | -    | New Orleans, La.      | 107            | 57                         | 25    | 15    | 4     | 6    | -   |      |       |
| Syracuse, N.Y.      | 68                         | 49    | 10    | 6     | 1    | 2  | 2    | San Antonio, Tex.     | 194            | 135                        | 33    | 13    | 7     | 6    | 19  |      |       |
| Trenton, N.J.       | 38                         | 27    | 5     | 3     | 3    | -  | 3    | Shreveport, La.       | 80             | 55                         | 13    | 5     | 1     | 6    | 8   |      |       |
| Utica, N.Y.         | 21                         | 13    | 4     | 3     | 1    | -  | 1    | Tulsa, Okla.          | 120            | 83                         | 25    | 6     | 1     | 4    | 10  |      |       |
| Yonkers, N.Y.       | U                          | U     | U     | U     | U    | U  | U    | MOUNTAIN              | 824            | 574                        | 142   | 74    | 20    | 14   | 45  |      |       |
| E.N. CENTRAL        | 1,915                      | 1,313 | 368   | 135   | 54   | 43 | 121  | Albuquerque, N.M.     | 111            | 75                         | 21    | 11    | 3     | 1    | 1   |      |       |
| Akron, Ohio         | 51                         | 33    | 10    | 4     | -    | 4  | -    | Boise, Idaho          | 46             | 35                         | 6     | 2     | 2     | 1    | 2   |      |       |
| Canton, Ohio        | 34                         | 26    | 6     | 1     | 1    | -  | 3    | Colo. Springs, Colo.  | 50             | 35                         | 9     | 4     | 1     | 1    | 4   |      |       |
| Chicago, Ill.       | 470                        | 292   | 99    | 47    | 18   | 12 | 29   | Denver, Colo.         | 120            | 71                         | 29    | 11    | 4     | 5    | 8   |      |       |
| Cincinnati, Ohio    | U                          | U     | U     | U     | U    | U  | U    | Las Vegas, Nev.       | 171            | 114                        | 34    | 19    | 2     | 2    | 9   |      |       |
| Cleveland, Ohio     | U                          | U     | U     | U     | U    | U  | U    | Ogden, Utah           | 30             | 25                         | 3     | 1     | 1     | -    | -   |      |       |
| Columbus, Ohio      | 189                        | 138   | 34    | 7     | 6    | 4  | 21   | Phoenix, Ariz.        | 49             | 37                         | 6     | 5     | 1     | -    | 2   |      |       |
| Dayton, Ohio        | 110                        | 88    | 19    | 1     | 1    | 1  | 8    | Pueblo, Colo.         | 25             | 17                         | 6     | 2     | -     | -    | 5   |      |       |
| Detroit, Mich.      | 209                        | 124   | 47    | 22    | 11   | 5  | 6    | Salt Lake City, Utah  | 99             | 73                         | 12    | 8     | 5     | 1    | 7   |      |       |
| Evansville, Ind.    | 38                         | 30    | 6     | 2     | -    | -  | 2    | Tucson, Ariz.         | 123            | 92                         | 16    | 11    | 1     | 3    | 7   |      |       |
| Fort Wayne, Ind.    | 52                         | 42    | 7     | 2     | -    | 1  | 1    | PACIFIC               | 1,580          | 1,133                      | 274   | 124   | 26    | 21   | 131 |      |       |
| Gary, Ind.          | 14                         | 9     | 5     | -     | -    | -  | -    | Berkeley, Calif.      | 12             | 8                          | 4     | -     | -     | -    | 1   |      |       |
| Grand Rapids, Mich. | 55                         | 36    | 9     | 7     | 1    | 2  | 6    | Fresno, Calif.        | 56             | 36                         | 13    | 5     | 1     | 1    | 3   |      |       |
| Indianapolis, Ind.  | 163                        | 111   | 30    | 10    | 8    | 4  | 10   | Glendale, Calif.      | 21             | 17                         | 3     | 1     | -     | -    | 4   |      |       |
| Lansing, Mich.      | 54                         | 38    | 10    | 5     | -    | 1  | 3    | Honolulu, Hawaii      | 67             | 49                         | 11    | 4     | 2     | 1    | 4   |      |       |
| Milwaukee, Wis.     | 133                        | 92    | 24    | 11    | 2    | 4  | 14   | Long Beach, Calif.    | 71             | 55                         | 10    | 4     | 1     | 1    | 18  |      |       |
| Peoria, Ill.        | 54                         | 37    | 11    | 3     | 1    | 2  | 3    | Los Angeles, Calif.   | 413            | 291                        | 78    | 30    | 10    | 4    | 19  |      |       |
| Rockford, Ill.      | 54                         | 39    | 8     | 5     | 1    | 1  | 3    | Pasadena, Calif.      | 20             | 17                         | 2     | 1     | -     | -    | 2   |      |       |
| South Bend, Ind.    | 50                         | 41    | 5     | 4     | -    | -  | 3    | Portland, Oreg.       | 114            | 80                         | 17    | 14    | 2     | 1    | 8   |      |       |
| Toledo, Ohio        | 121                        | 86    | 26    | 4     | 3    | 2  | 5    | Sacramento, Calif.    | 179            | 120                        | 38    | 17    | 2     | 2    | 25  |      |       |
| Youngstown, Ohio    | 64                         | 51    | 12    | -     | 1    | -  | 4    | San Diego, Calif.     | 144            | 98                         | 22    | 15    | 4     | 3    | 17  |      |       |
| W.N. CENTRAL        | 665                        | 472   | 124   | 42    | 15   | 11 | 43   | San Francisco, Calif. | U              | U                          | U     | U     | U     | U    | U   |      |       |
| Des Moines, Iowa    | 100                        | 75    | 20    | 5     | -    | -  | 11   | San Jose, Calif.      | 203            | 150                        | 31    | 16    | 1     | 5    | 17  |      |       |
| Duluth, Minn.       | 22                         | 18    | 4     | -     | -    | -  | 2    | Santa Cruz, Calif.    | 23             | 20                         | 2     | 1     | -     | -    | 1   |      |       |
| Kansas City, Kans.  | U                          | U     | U     | U     | U    | U  | U    | Seattle, Wash.        | 110            | 85                         | 15    | 7     | 2     | 1    | 1   |      |       |
| Kansas City, Mo.    | 93                         | 67    | 16    | 7     | 2    | 1  | 3    | Spokane, Wash.        | 56             | 42                         | 9     | 2     | 1     | 2    | 7   |      |       |
| Lincoln, Nebr.      | 31                         | 23    | 4     | 2     | 1    | 1  | -    | Tacoma, Wash.         | 91             | 65                         | 19    | 7     | -     | -    | 4   |      |       |
| Minneapolis, Minn.  | 179                        | 138   | 20    | 10    | 4    | 6  | 16   | TOTAL                 | 10,279‡        | 7,059                      | 1,957 | 800   | 249   | 206  | 624 |      |       |
| Omaha, Nebr.        | 91                         | 61    | 20    | 5     | 5    | -  | 4    |                       |                |                            |       |       |       |      |     |      |       |
| St. Louis, Mo.      | 94                         | 50    | 31    | 8     | 2    | 3  | 5    |                       |                |                            |       |       |       |      |     |      |       |
| St. Paul, Minn.     | 55                         | 40    | 9     | 5     | 1    | -  | 2    |                       |                |                            |       |       |       |      |     |      |       |
| Wichita, Kans.      | U                          | U     | U     | U     | U    | U  | U    |                       |                |                            |       |       |       |      |     |      |       |

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 or more. 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.

*Erratum — Continued*

World-Wide Web as part of the interactive *MMWR* tables (Morbidity) Table II (Part 3) and Table II (Part 4), <http://wonder.cdc.gov/mmwr/mmwr morb.htm>. Paper copies of the corrected tables are available from the Surveillance Systems Branch, Division of Public Health Surveillance and Informatics, Epidemiology Program Office, CDC, Mail-stop K-74, 4770 Buford Highway, Atlanta, GA 30341.

**Contributors to the Production of the *MMWR* (Weekly)  
Weekly Notifiable Disease Morbidity Data and 122 Cities Mortality Data**

Samuel L. Groseclose, D.V.M., M.P.H.

***State Support Team***

Robert Fagan  
Jose Aponte  
Gerald Jones  
David Nitschke  
Carol A. Worsham

***CDC Operations Team***

Carol M. Knowles  
Deborah A. Adams  
Willie J. Anderson  
Patsy A. Hall  
Kathryn Snavelly

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 and on a paid subscription basis for paper copy. To receive an electronic copy on Friday of each week, send an e-mail message to [listserv@listserv.cdc.gov](mailto:listserv@listserv.cdc.gov). The body content should read *SUBscribe mmwr-toc*. Electronic copy also is available from CDC's World-Wide Web server at <http://www.cdc.gov/> or from CDC's file transfer protocol server at <ftp.cdc.gov>. To subscribe for paper copy, contact 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. Address inquiries about the *MMWR* Series, including material to be considered for publication, to: Editor, *MMWR* Series, Mailstop C-08, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30333; telephone (888) 232-3228.

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

Director, Centers for Disease Control  
and Prevention  
Jeffrey P. Koplan, M.D., M.P.H.

Director, Epidemiology Program Office  
Stephen B. Thacker, M.D., M.Sc.

Editor, *MMWR* Series  
John W. Ward, M.D.

Managing Editor,  
*MMWR* (weekly)  
Karen L. Foster, M.A.

Writers-Editors,  
*MMWR* (weekly)  
Jill Crane  
David C. Johnson  
Teresa F. Rutledge  
Caran R. Wilbanks

Desktop Publishing  
Morie M. Higgins  
Peter M. Jenkins