CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

November 22, 1996 / Vol. 45 / No. 46

MMWR™
MORBIDITY AND MORTALITY WEEKLY REPORT

World AIDS Day — December 1, 1996

"One World, One Hope" is the theme designated by the Joint United Nations Programme on HIV/AIDS (UNAIDS) for this year's World AIDS Day, December 1, 1996. Worldwide, 190 countries observe World AIDS Day to focus attention on the human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) pandemic, which has resulted in an estimated 27.9 million HIV infections and 5.8 million deaths, including 1.3 million deaths in children (*1,2*). In the United States, activities for World AIDS Day are coordinated by the American Association for World Health in collaboration with UNAIDS, the Pan American Heath Organization, and the U.S. Department of Health and Human Services.

Additional information about HIV infection, AIDS, and World AIDS Day is available from the CDC National AIDS Hotline, telephone (800) 342-2437, (919) 361-8400, (800) 344-7432 (Spanish), and (800) 243-7889 (TTY/TDD); the CDC National AIDS Clearinghouse, telephone (800) 458-5231 or (301) 217-0023; and the CDC Home Page on the World Wide Web, http://www.cdc.gov/nchstp/hiv_aids/worldaid/worldaid.htm.

References

1. Joint United Nations Programme on HIV/AIDS. The HIV/AIDS situation in mid 1996: global and regional highlights. Fact Sheet. Geneva, Switzerland: World Health Organization, July 1996.
2. American Association for World Health. Resource Booklet. World AIDS Day—1 December 1996, One World One Hope. Washington DC: American Association for World Health, 1996.

AIDS Among Children — United States, 1996

As of September 30, 1996, a total of 566,002 acquired immunodeficiency syndrome (AIDS) cases, including 7472 cases among children aged <13 years (1%), had been reported to CDC by state and territorial health departments. Most children reported with AIDS acquired human immunodeficiency virus (HIV) infection perinatally from their mothers (*1*). During 1988–1993, an estimated 6000–7000 children were born each year to HIV-infected women; an estimated 1000–2000 of these children were infected annually (*2*). In 1994, results of clinical trials demonstrating effective therapy for reducing perinatal HIV transmission indicated a two-thirds decrease in such transmis-

AIDS Among Children — Continued

sion associated with zidovudine (ZDV) therapy for HIV-infected pregnant women and their newborns. The Public Health Service (PHS) issued recommendations in 1994 for ZDV treatment to reduce perinatal HIV transmission, and in 1995 for routine HIV counseling and voluntary testing for all pregnant women in the United States (*3,4*). This report summarizes the epidemiology of AIDS in children in the United States reported cumulatively from 1982 through September 1996, presents rates for 1995 (the most recent year for which census estimates are available), and describes a recent decrease in the rate of perinatally acquired AIDS.*

AIDS Among Children

Of the 7472 children reported with AIDS, 58% were non-Hispanic black, 23% were Hispanic, 18% were non-Hispanic white, and 1% were of other racial/ethnic groups. During 1995, the rates of reported AIDS cases per 100,000 children were 6.4 for non-Hispanic blacks, 2.3 for Hispanics, 0.4 for non-Hispanic whites, 0.4 for American Indians/Alaskan Natives, and 0.3 for Asians/Pacific Islanders. Among all U.S. children with AIDS, 6750 (90%) acquired HIV perinatally, 370 (5%) through receipt of contaminated blood transfusions, and 231 (3%) through receipt of contaminated blood products for coagulation disorders; 121 (2%) had no reported risk factor. Among children with perinatally acquired AIDS, the median age at diagnosis was 18 months. Approximately 80% of all children with AIDS had AIDS diagnosed before age 5 years. The highest numbers of cases were reported from New York (1901), Florida (1199), New Jersey (661), California (524), Puerto Rico (347), and Texas (296); combined, these cases accounted for 66% of all AIDS cases reported among children.

Risk exposures for HIV infection among the mothers of the 6750 children with perinatally acquired AIDS included injecting-drug use (IDU) (41%), sexual contact with a partner with or at risk for HIV/AIDS (34%), and receipt of contaminated blood or blood products (2%); for 13%, no risk was specified.

Trends in Perinatally Acquired AIDS

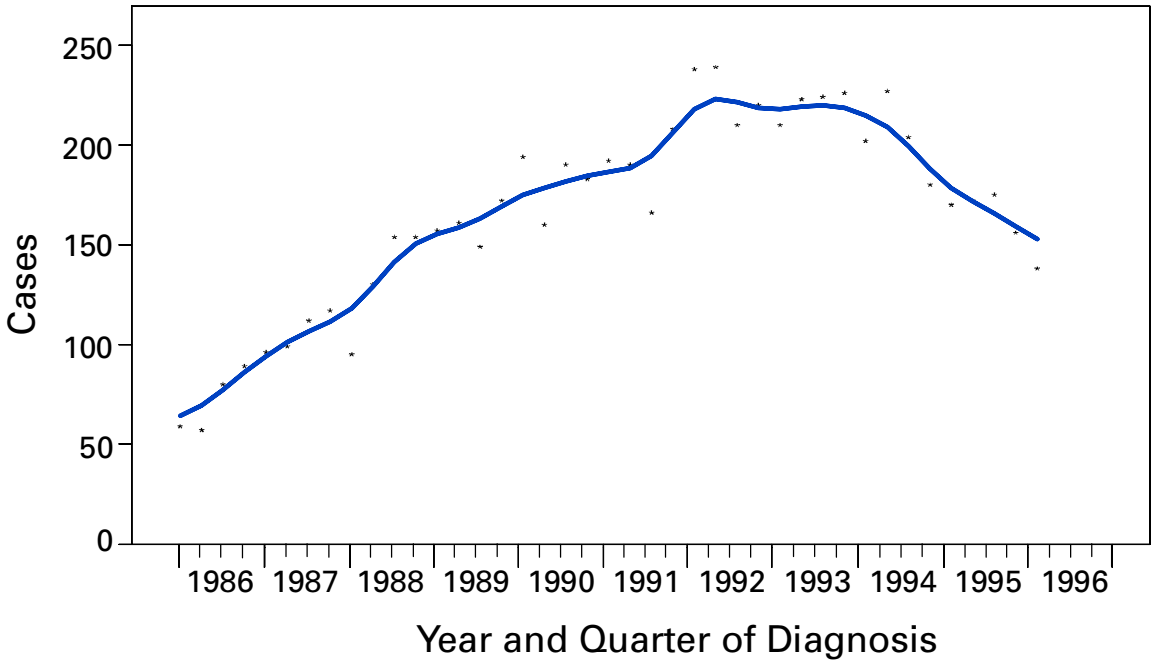
To examine trends in the incidence of AIDS among children born to HIV-infected mothers, the number of perinatally acquired AIDS cases diagnosed each quarter from 1986 through March 1996 was estimated using standard statistical adjustments that account for delays in reporting cases to CDC and estimates of behavioral risk among persons reported without a risk (*1*). The estimated number of children with perinatally acquired AIDS peaked at 905 during 1992, followed by a decline in incidence (Figure 1).

From 1992 through 1995, the estimated annual number of perinatally acquired AIDS cases declined 27%, from 905 to 663. During this time, the estimated annual number of cases declined 39% among non-Hispanic white, 26% among non-Hispanic black, and 25% among Hispanic children. The proportionate decrease in the number of children with perinatally acquired AIDS from the six areas reporting the highest number of cases was greater than the decrease for all remaining areas and for all areas combined (Table 1).

*Single copies of this report will be available until November 22, 1997, from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 217-0023.

AIDS Among Children — Continued

FIGURE 1. Number of perinatally acquired AIDS cases among children aged <13 years,* by quarter of diagnosis — United States, 1986–March 1996



*Estimates were based on cases reported through September 1996, adjusted for reporting delays and unreported risk but not for incomplete reporting of diagnosed AIDS cases. Points represent estimated quarterly incidence, and the line represents "smoothed" incidence.

TABLE 1. Estimated number of children diagnosed with perinatally acquired AIDS*, by area of residence, year of diagnosis, and percentage change, 1992 to 1995 — United States and territories

Area of residence	No.				% Change 1992 to 1995
	1992	1993	1994	1995	
Top six areas†	583	562	509	398	–32%
All others	322	306	291	265	–18%
Total	**905**	**868**	**800**	**663**	**–27%**

*Cases diagnosed through 1995 using data reported to CDC through September 1996, adjusted for reporting delays and unreported risk. Estimates are not adjusted for incomplete reporting of diagnosed AIDS cases.
† Six areas reporting the highest number of cases: California, Florida, New Jersey, New York, Puerto Rico, and Texas.

HIV Infection Among Children

To enhance the usefulness of surveillance systems to characterize affected populations and to improve the targeting of resources for prevention and care, 28 states require confidential reporting of children with HIV infection without a diagnosis of AIDS as well as those with AIDS (*1*). Through September 1996, these states reported

AIDS Among Children — Continued

TABLE 2. Number of children aged <13 years reported with HIV infection* and AIDS — United States and territories, 1995†

Area	HIV	AIDS	Area	HIV	AIDS
Alabama	8	4	Nebraska	2	1
Alaska	—	0	Nevada	1	4
Arizona	6	1	New Hampshire	—	0
Arkansas	8	3	New Jersey	48	61
California	—	89	New Mexico	—	0
Colorado	4	1	New York	—	166
Connecticut	12	18	North Carolina	25	12
Delaware	—	1	North Dakota	0	0
District of Columbia	—	13	Ohio	14	14
Florida	—	111	Oklahoma	3	0
Georgia	—	28	Oregon	—	2
Hawaii	—	0	Pennsylvania	—	19
Idaho	0	0	Puerto Rico	—	46
Illinois	—	26	Rhode Island	—	0
Indiana	4	3	South Carolina	24	7
Iowa	—	0	South Dakota	1	0
Kansas	—	2	Tennessee	12	10
Kentucky	—	1	Texas	51	31
Louisiana	23	12	Utah	0	0
Maine	—	1	Vermont	—	0
Maryland	—	37	Virginia	10	19
Massachusetts	—	19	Virgin Islands	—	5
Michigan	19	9	Washington	—	3
Minnesota	3	3	West Virginia	0	2
Mississippi	7	8	Wisconsin	7	0
Missouri	10	5	Wyoming	0	0
Montana	—	0	**Total**	**302**	**797**

*Twenty-eight states reported children with HIV infection without a diagnosis of AIDS in addition to children with AIDS.
†Data reported to CDC through September 1996.

29% (2155) of all children with AIDS and 1447 children with HIV infection. During 1995, these states reported 228 AIDS cases among children and 302 children with documented HIV infection who had not developed AIDS (Table 2). During 1995, these states received 1464 additional reports of children who were born to HIV-infected mothers but who require follow-up with providers to determine their HIV-infection status. Among the six reporting areas with the highest cumulative number of children with AIDS, only New Jersey and Texas require reports of HIV infection among children.

Reported by state, territorial, and local health departments. Div of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, CDC.

Editorial Note: The findings in this report document a decline in the incidence of perinatally acquired AIDS before and after the release of PHS recommendations for HIV counseling and voluntary testing for pregnant women and for ZDV therapy to prevent perinatal transmission (*3,4*). The recommendations were issued to promote the adoption of these HIV-prevention strategies as standard medical practice in the United States. Because the number of HIV-infected women who gave birth each year was stable during 1989–1994 (*5*), this decline suggests that the decrease in perinatal HIV

AIDS Among Children — Continued

transmission rates probably reflected the effect of perinatal ZDV therapy. Increasing proportions of women may be accepting voluntary prenatal HIV testing and using ZDV to prevent perinatal transmission (*6,7*).

Because the incidence of perinatally acquired AIDS declined slightly before the PHS recommendations on ZDV therapy were issued in 1994, other factors may have contributed to the decrease in perinatally acquired AIDS cases during this period. For example, the proportion of HIV-infected childbearing women who received ZDV therapy before and during pregnancy for treatment of their HIV disease was increasing (*8*). Among children, increased use of prophylaxis to prevent AIDS opportunistic infections may have delayed the development of these conditions. However, the incidence of *Pneumocystis carinii* pneumonia, the most common AIDS-defining condition among children, has not decreased substantially among young children (*9,10*).

AIDS surveillance conducted in all reporting areas provides a standardized means to monitor AIDS incidence in children as a measure of the effectiveness of perinatal prevention efforts. To further characterize implementation of counseling, testing, and treatment for HIV-infected mothers and their children, CDC and other federal agencies are initiating facility-based program evaluations in selected high-incidence areas. These studies also will examine factors that may contribute to a change in perinatal HIV transmission rates (e.g., changing obstetrical practices and womens' attitudes toward and adherence to ZDV and other preventive therapy). In states that conduct confidential HIV reporting for children, timely assessment of HIV-prevention measures in mother-infant pairs (e.g., prenatal care and prenatal and neonatal ZDV therapy) will measure changes in perinatal HIV transmission rates statewide and permit refinement and redirection of prevention efforts. The Council of State and Territorial Epidemiologists has recommended that all states implement HIV infection reporting for children and consider reporting of all children of indeterminate HIV status who were born to infected mothers.

In the United States, HIV and AIDS disproportionately affect non-Hispanic black and Hispanic women and their children. This disparity probably reflects socioeconomic factors, access to and use of medical services, or differences in behaviors associated with HIV transmission risks among women. Health-care providers in the public and private sectors should implement comprehensive integrated-service delivery programs to ensure that all women have access to HIV counseling and voluntary testing and to services for related health needs (e.g., antiretroviral therapy, substance-abuse treatment, and social and support services).

The ZDV regimen recommended in the United States is not an affordable prevention strategy in many countries where HIV prevalence rates among women are highest. Worldwide, an estimated 8.8 million women and 800,000 children have HIV/AIDS; most of these persons reside in sub-Saharan Africa where resources for health services infrastructure are limited (World Health Organization, unpublished data, 1996). CDC and other organizations are collaborating with ministries of health in Africa and Asia to evaluate the effectiveness of shorter and simplified ZDV regimens, other antiretroviral medications, and other interventions for reducing perinatal HIV transmission. However, because ZDV treatment or other potential interventions are not universally effective in preventing perinatal transmission, primary prevention of HIV infection among children will continue to require preventing new HIV infections among women in the United States and other countries.

AIDS Among Children — Continued

References

1. CDC. HIV/AIDS surveillance report. Atlanta: US Department of Health and Human Services, Public Health Service, 1996:3–4, 30–3. (Vol 8, no. 1).
2. Davis SF, Byers RH, Jr, Lindegren ML, Caldwell MB, Karon JM, Gwinn M. Prevalence and incidence of vertically acquired HIV infection in the United States. JAMA 1995;274:952–5.
3. CDC. Recommendations of the U.S. Public Health Service Task Force on the use of zidovudine to reduce perinatal transmission of human immunodeficiency virus. MMWR 1994;43(no. RR-11).
4. CDC. U.S. Public Health Service recommendations for human immunodeficiency virus counseling and voluntary testing for pregnant women. MMWR 1995;44(no. RR-7).
5. Davis SF, Steinberg S, Jean-Simon M, Rosen D, Gwinn M. HIV prevalence among U.S. childbearing women, 1989–1994 [Abstract]. Vancouver, British Columbia: XI International Conference on AIDS, 1996.
6. Lindsay MK, Peterson HB, Feng TI, Slade BA, Willis S, Klein L. Routine antepartum human immunodeficiency virus infection screening in an inner-city population. Obstet Gynecol 1989;74:289–94.
7. Thomas P, Singh T, Lindegren ML, Saletan S, Brooks A, Forlenza S. Patterns of zidovudine (ZDV) use in pregnant HIV-infected women in New York City (NYC) [Abstract]. Vancouver, British Columbia: XI International Conference on AIDS, 1996.
8. Simonds RJ, Nesheim S, Matheson P, et al. Declining mother-to-child HIV transmission following perinatal zidovudine recommendations, United States [Abstract]. Vancouver, British Columbia: XI International Conference on AIDS, 1996.
9. Lindegren ML, Byers R, Fleming P, et al. A decline in the incidence of perinatally acquired (PA) AIDS in the United States [Abstract]. Vancouver, British Columbia: XI International Conference on AIDS, 1996.
10. CDC. 1995 Revised guidelines for prophylaxis against *Pneumocystis carinii* pneumonia for children infected with or perinatally exposed to human immunodeficiency virus. MMWR 1995;44(no. RR-4).

Serogroup Y Meningococcal Disease — Illinois, Connecticut, and Selected Areas, United States, 1989–1996

Neisseria meningitidis is a leading cause of bacterial meningitis and sepsis in the United States. *N. meningitidis* is classified into serogroups based on the antigenic characteristics of its capsular polysaccharide. During 1989–1991 in the United States, serogroups B and C accounted for most (91%) of invasive meningococcal disease while serogroup Y caused <5% (*1*); however, during 1992–1995, serogroup Y accounted for an increasing proportion of meningococcal disease. This report describes the epidemiology of serogroup Y meningococcal disease (SYMD) during 1991–1996 in Illinois and Connecticut, which conducted enhanced surveillance through active reviews of clinical records, and in areas participating in active laboratory-based surveillance during 1989–1995. The findings indicate a substantial increase in the proportion of meningococcal disease caused by *N. meningitidis* serogroup Y since 1989.

Illinois

In Illinois (1990 population: 11,430,602), 589 cases of invasive disease attributed to *N. meningitidis* were reported from January 1991 through March 1996, representing an annual incidence ranging from 0.9 to 1.0 per 100,000 population. Serogrouping was conducted for 371 (83%) of 447 culture-confirmed cases. The proportion of SYMD increased from 6% in 1991 to 29% in 1995; the proportion of disease attributed to serogroups B and C decreased from 85% to 59%.

Meningococcal Disease — Continued

From January 1991 through March 1996, the Chicago Department of Public Health received 145 reports of suspected meningococcal disease among persons residing in Chicago (1990 population: 2,783,726), and *N. meningitidis* was isolated from a normally sterile site in 133 (92%) case-patients. The overall annual incidence of culture-confirmed disease ranged from 0.7 to 1.3 cases per 100,000 population. Of the 105 culture-confirmed isolates for which serogroup was known, 42 (40%) were serogroup Y; 29 (28%), serogroup B; 27 (26%), serogroup C; and two (2%), serogroup W-135. Among case-patients with known serogroups, the proportion of SYMD increased from 6% in 1991 to 71% in 1995. In comparison, the proportion of serogroups B and C decreased from 94% to 25%. Of 42 patients in Chicago with culture-confirmed SYMD, 22 (52%) were female; two (5%) died. The median age of patients with SYMD was 16 years compared with 2 years for patients with disease caused by non-serogroup Y meningococci. Although patients with SYMD were more likely to present with purulent sputum (six [14%] versus one [2%]) and chest pain (eight [19%] versus one [2%]), they were not more likely to have an infiltrate on chest radiograph (seven [23%] versus 10 [20%]). Case-fatality rates were similar among patients with SYMD (two [5%] of 42), compared with case-patients with disease caused by other known serogroups (six [10%] of 63).

Connecticut

From January 1991 through June 1996, a total of 190 culture-confirmed cases of invasive *N. meningitidis* infection among residents of Connecticut (1990 population: 3,287,116) were reported to the Connecticut Department of Public Health. The overall annual incidence of culture-confirmed cases ranged from 0.7 to 1.4 per 100,000 population. Of the 144 isolates for which serogroup was known, 69 (48%) were serogroup C; 38 (26%), serogroup Y; 35 (24%), serogroup B; and two (1%), serogroup W-135. The proportion of SYMD increased from 1991 (6%) to 1995 (35%). Of the 33 case-patients with SYMD identified since 1994, 18 (55%) were female; two (6%) died. The median age for patients with SYMD was 29 years, compared with 13 years for patients with disease caused by non-SYMD.

Active Laboratory-Based Surveillance

During 1989–1995, active laboratory-based surveillance was conducted in three counties in the San Francisco metropolitan area, eight counties in the Atlanta metropolitan area, and four counties in Tennessee, and during 1992–1995, in Maryland, representing an aggregate population of approximately 12 million. A case was defined as *N. meningitidis* isolated from a normally sterile site in a resident of a surveillance area. In the three active surveillance areas for which continuous data were available, the rate of SYMD per 100,000 persons increased from 1989 (0) to 1995 (0.4). Among the case-patients for whom serogroup was known, the proportion of SYMD increased from 1989 (0) to 1995 (32.5%). During the same period, the overall rate of meningococcal disease remained stable at 1.0–1.4.

During 1992–1995, in the four active surveillance areas, SYMD patients were older than patients with non-serogroup Y (median age: 21.8 years versus 14.2 years). Pneumonia was four times more likely to be diagnosed in persons with SYMD (12%) than in persons with other serogroups (3%), even after adjusting for age.

Meningococcal Disease — Continued

Laboratory Investigation

Multilocus enzyme electrophoresis (MEE) (*2*) using 24 enzymes was used to characterize genetic relatedness of serogroup Y isolates systematically sampled from 1995 Illinois surveillance (n=40), 1995 Connecticut surveillance (n=17), 1992–1995 U.S. active laboratory-based surveillance (n=40), 1972–1975 U.S. active laboratory-based surveillance (when SYMD accounted for 18% of the isolates submitted to CDC) (n=27) (*3*), and 1970–1974 surveillance of U.S. military personnel (n=12). Two major enzyme type complexes could be distinguished by a difference in peptidase mobility. One group of enzyme types accounted for 54% (33 of 97) of the isolates tested during 1992–1995, one of the 1972–1975 surveillance strains, and none of the strains from U.S. military personnel. The other group accounted for 34% (33 of 97) of 1992–1995 isolates and 62% (24 of 39) of the 1972–1975 isolates.

Reported by: J Racoosin, MD, PS Diaz, MD, U Samala, MPH, B Clark, D Freedman, MD, W Paul, MD, Chicago Dept of Public Health; M Swartz, K Kelly, C Langkop, MSPH, Illinois Dept of Public Health. R Nelson, DVM, M Cartter, MD, P Mshar, JL Hadler, MD, State Epidemiologist, Connecticut Dept of Public Health. W Baughman, MSPH, M Farley, MD, E Houpt, MD, D Stephens, MD, Veterans Administration Medical Svcs and Emory Univ School of Medicine, Atlanta. L Billman, MPH, L Harrison, MD, Johns Hopkins Univ, Baltimore; D Dwyer, MD, Maryland Dept of Health and Mental Hygiene. B Barnes, L Lefkowitz, MD, Vanderbilt Medical Center, Nashville, Tennessee. G Rothrock, MPH, A Reingold, MD, Emerging Infections Program, San Francisco. W Zollinger, MD, Walter Reed Army Research Institute, Bethesda, Maryland. Childhood and Respiratory Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; Div of Applied Public Health Training (proposed), Epidemiology Program Office, CDC.

Editorial Note: During the 1970s, SYMD was recognized as a common cause of endemic disease in some U.S. populations (*3,4*) and was associated with several outbreaks in military personnel (*5–7*). During 1978–1981, SYMD caused 7% of meningococcal cases reported through a nationwide surveillance system in which 27 states participated (*8*). Although SYMD accounted for only 2% of endemic disease in U.S. active surveillance during 1989–1991 (*1*), by 1995 the proportion of infections caused by SYMD had increased in Illinois and Connecticut and in the active surveillance areas. In 1995, among the 30 states reporting supplemental data on culture-confirmed cases of meningococcal disease through the National Electronic Telecommunications System for Surveillance (NETSS) (*9*), serogroup information was recorded for 527 (54%) of 973 cases reported, and serogroup Y accounted for 21% of cases. This pattern is consistent with the findings in this report and underscores the need to both determine and report serogroup information for all cases of meningococcal disease.

The finding in this report that patients with SYMD in Chicago, Connecticut, and the active laboratory-based surveillance areas were older than patients with disease caused by non-serogroup Y meningococci is consistent with cases reported to CDC through NETSS. One possible explanation for this and the increase in SYMD is waning population immunity against SYMD. However, the increase in SYMD also may reflect, in part, the emergence of a distinct clone that differs in peptidase motility, as characterized by MEE. Although the association between epidemic meningococcal disease and clonality has been clearly established, the possible relation between shifts in endemic disease serogroup distribution and emergence of particular clones requires further assessment.

The clinical illness associated with SYMD differs from that of the other serogroups; in particular, findings from the active laboratory-based surveillance system indicated

Meningococcal Disease — Continued

that pneumonia was more common among patients with SYMD, consistent with studies in some military populations (*5,6*) in which serogroup Y was more likely than other serogroups to be associated with pneumonia and other forms of nonmeningitic disease. Meningococcal pneumonia may not be diagnosed because isolation of the organism from the sputum cannot distinguish persons who are meningococcal carriers from those with pneumonia caused by this organism, and because physicians may not consider *N. meningitidis* as a possible cause of pneumonia. As a result, infections that occur in the absence of meningitis or bacteremia may be underreported in current surveillance.

The current meningococcal vaccine (Connaught Laboratories, Swiftwater, Pennsylvania), which contains the purified polysaccharide capsules of serogroups A, C, W-135 and Y, has been effective in controlling serogroup C outbreaks and may be useful in controlling an SYMD outbreak. However, this vaccine has not been used to control endemic disease because its immunogenicity is low in young children and immunity is of limited duration. Conjugated vaccines for serogroup C, which are similar to those now available for preventing *Haemophilus influenzae* type b, are being evaluated in safety and immunogenicity trials (*10*). Because of the increased proportion of SYMD, manufacturers should consider developing a serogroup Y conjugate component for controlling endemic meningococcal disease.

References

1. Jackson LA, Wenger JD. Laboratory-based surveillance for meningococcal disease in selected areas, United States, 1989–1991. In: CDC surveillance summaries (June). MMWR 1993;42(no. SS-2):21–30.
2. Selander SK, Caugant DA, Ochman H, Musser JM, Gilmour MN, Whittam TS. Methods of multilocus enzyme electrophoresis for bacterial population genetics and systematics. Appl Environ Microbiol 1986;51:873–84.
3. Anonymous. Analysis of endemic meningococcal disease by serogroup and evaluation of chemoprophylaxis. J Infect Dis 1976;134:201–4.
4. Galaid EI, Cherubin CE, Marr JS, Schaefler S, Barone J, Lee W. Meningococcal disease in New York City, 1973 to 1978: recognition of groups Y and W-135 as frequent pathogens. JAMA 1980;244:2167–71.
5. Koppes GM, Ellenbogen C, Gebhart RJ. Group Y meningococcal disease in United States Air Force recruits. Amer J Med 1977;62:661–6.
6. Smilack JD. Group Y meningococcal disease: twelve cases at an army training center. Ann Intern Med 1974;81:740–5.
7. Risko JA, Hodges GR. *Neisseria meningitidis* serogroup Y: incidence and description of clinical illness. Amer J Med Sci 1974;267:345–52.
8. Schlech WF III, Ward JI, Band JD, Hightower A, Fraser DW, Broome CV. Bacterial meningitis in the United States, 1978 through 1981: the National Bacterial Meningitis Surveillance Study. JAMA 1985;253:1749–54.
9. CDC. National Electronic Telecommunications System for Surveillance—United States, 1990–1991. MMWR 1991;40:502–3.
10. Lieberman JM, Chiu SS, Wong VK, et al. Safety and immunogenicity of a serogroups A/C *Neisseria meningitidis* oligosaccharide-protein conjugate vaccine in young children: a randomized controlled trial. JAMA 1996;275:1499–503.

Update: Influenza Activity — United States, 1996–97 Season

In collaboration with the World Health Organization (WHO), its collaborating laboratories, and state and local health departments, CDC conducts surveillance to monitor influenza activity and to detect antigenic changes in the circulating strains of influenza viruses. This report summarizes influenza surveillance in the United States from September through early November 1996, which indicates that influenza activity is at typical levels for this time of year.

From September 4 through November 9, influenza A virus isolates were reported from 10 states (Alaska, California, Colorado, Iowa, Maryland, Montana, New York, North Carolina, Washington, and Wisconsin), and influenza B isolates were reported from seven states (Alaska, Illinois, Kentucky, Missouri, Ohio, Texas, and Wisconsin) (Figure 1). Most isolates were associated with sporadic cases. Of the five influenza type A isolates confirmed at CDC, all were identified as influenza type A(H3N2) and, when further characterized, were closely related to the influenza type A(H3N2) strain included in the 1996–97 influenza vaccine. Of the seven states reporting influenza B, Alaska and Illinois reported isolates obtained from patients who probably became infected while traveling outside the United States (Hong Kong and China, respectively).

For the week ending November 9, most state and territorial epidemiologists reported no influenza activity or sporadic* activity; Alaska and Montana reported regional activity.

Reported by: Participating state and territorial epidemiologists and state public health laboratory directors. World Health Organization collaborating laboratories. Epidemiology Div, Public Health Laboratory Svcs Communicable Diseases Surveillance Center, United Kingdom. Influenza Br and WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

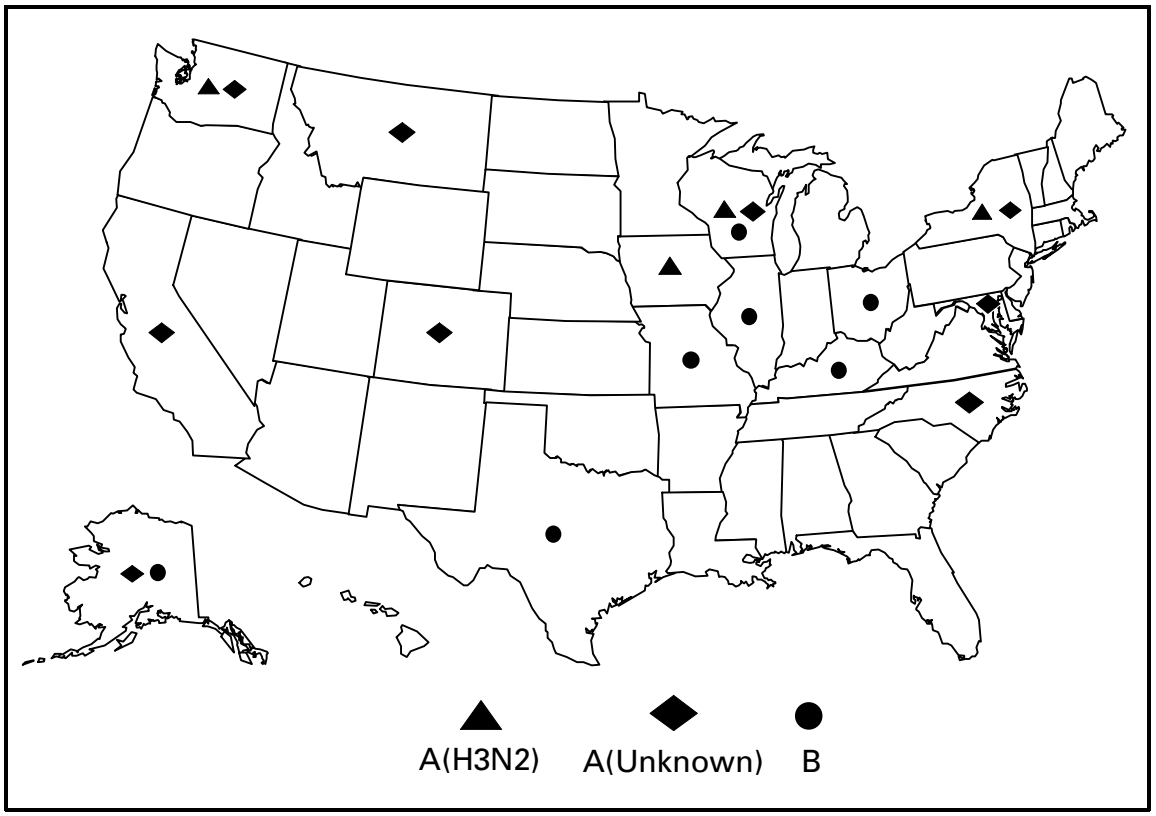
Editorial Note: Levels of activity described in this report are typical for September and October. Although the timing and intensity of influenza activity vary by season, sporadic influenza activity can begin in September, and isolated outbreaks can occur during October and November; widespread influenza activity usually does not begin before December. Although the optimal time for vaccination programs is October through mid-November, health-care providers should continue to offer vaccine to high-risk persons after mid-November and even after influenza activity has been documented in a community. Influenza vaccine contains influenza type A(H1N1), type A(H3N2), and type B strains representing the influenza virus strains that are expected to circulate during the 1996–97 influenza season. The 1996–97 vaccine contains A/Texas/36/91-like (H1N1), A/Wuhan/359/95-like (H3N2), and B/Beijing/184/93-like antigens. For both A/Wuhan/359/95-like and B/Beijing/184-like antigens, U.S. manufacturers used the antigenically equivalent strains A/Nanchang/933/95(H3N2) and B/Harbin/07/94 because of their growth properties.

When influenza vaccine is administered after local outbreaks of influenza type A have been reported, short-term prophylaxis with amantadine or rimantadine can be considered. These drugs can be used as treatment or prophylaxis for influenza type A

*Levels of activity are 1) *no activity*; 2) *sporadic*—sporadically occurring influenza-like illness (ILI) or culture-confirmed influenza with no outbreaks detected; 3) *regional*—outbreaks of ILI or culture-confirmed influenza in counties with a combined population of <50% of the state's total population; and 4) *widespread*—outbreaks of ILI or culture-confirmed influenza in counties with a combined population of ≥50% of the state's total population.

Influenza Activity — Continued

FIGURE 1. Laboratory-confirmed influenza, by state and type of isolate — United States, September 4–November 9, 1996



infection, but they are not effective against influenza type B. Because early virologic surveillance has indicated circulation of influenza type A and type B viruses, use of viral culture and rapid antigen-detection testing throughout the season is particularly important (*1*).

Throughout the influenza season, surveillance data collected by CDC will be updated weekly and made available through the CDC voice information system (telephone ([404] 332-4551) and fax information system ([404] 332-4565 and requesting document number 361100). Information about local influenza activity is available from county and state health departments.

Reference

1. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1996;45(no. RR-5).

Salmonellosis Associated with a Thanksgiving Dinner — Nevada, 1995

On November 28, 1995, the county coroner's office notified the Clark County Health District in Las Vegas, Nevada, about a death suspected to have resulted from a foodborne disease. This report summarizes the investigation of the outbreak of gastroenteritis among persons who attended a Thanksgiving dinner. The investigation documented *Salmonella* serotype Enteritidis (SE) infection associated with eating improperly prepared turkey and stuffing containing eggs and emphasizes the need to use a meat thermometer to ensure complete cooking of turkey and stuffing.

During November 25–28, 1995, all six persons who attended a Thanksgiving dinner at a private home on November 23 and a seventh person who on November 25 ate food remaining from the dinner had onset of abdominal cramps, vomiting, and diarrhea. Two persons were hospitalized because of dehydration; a third person was found comatose at home and died from severe dehydration and sepsis. Stool cultures obtained from three persons, including the decedent, yielded SE phage type 13a. Turkey and stuffing were the only foods eaten by all seven ill persons. No leftover food was available for culture.

The Clark County Health District interviewed the ill persons (including the cook) to obtain details about the preparation and cooking of the turkey and stuffing. On November 22, a 13-pound frozen turkey was thawed for 6 hours in a sink filled with cold water. After thawing, the packet of giblets (heart, liver, and gizzard) was removed, and the turkey was stored in a refrigerator overnight. However, on November 23, parts of the turkey were noted to be frozen. The turkey was filled with a stuffing made from bread, the giblets, and three raw eggs, and then placed for 1 hour in an oven set at 350 F (177 C). The setting was lowered to 300 F (149 C) while the turkey cooked for an estimated additional 4 hours. The turkey was removed from the oven when the exterior had browned. A meat thermometer was not used. The stuffing was removed immediately and was served with the turkey. After the outbreak, health officials tested the oven set at 300 F (149 C) and found the temperature to be 350 F (176 C).

Reported by: O Ravenholt, MD, CA Schmutz, LC Empey, DJ Maxson, PL Klouse, AJ Bryant, Clark County Health District, Las Vegas; R Todd, DrPH, State Epidemiologist, Nevada State Health Div. Foodborne and Diarrheal Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: An estimated 2–4 million cases of salmonellosis occur each year in the United States, resulting in at least 500 deaths (*1*). Approximately 40,000 of these infections are culture-confirmed, serotyped, and reported to CDC through the National *Salmonella* Surveillance System. In 1995, SE was the most common serotype reported, accounting for 25% of the 40,720 serotyped culture-confirmed cases.

Salmonellosis is frequently associated with eating undercooked eggs and poultry. Undercooked eggs are a particularly common source of SE infections. During 1988–1992, among foodborne disease outbreaks of salmonellosis reported to CDC in which a single food item was implicated, consumption of turkey and eggs accounted for 4% and 14% of cases, respectively. In addition, eggs or foods containing eggs as a principal ingredient caused 64% of the SE outbreaks (*2*).

Factors probably associated with the outbreak described in this report included inadequate thawing, use of raw eggs in the stuffing, and undercooking; in addition, the browned color of the turkey may have caused the cook to believe that the turkey and

Salmonellosis — Continued

stuffing were thoroughly cooked. Although the original source of the *Salmonella* is unknown, the raw eggs used in the stuffing probably contained SE, and these eggs probably were incompletely cooked; undercooking may occur more commonly in turkeys that contain stuffing (J. Carpenter, Ph.D., University of Georgia, personal communication, 1996).

Each year, an estimated 45 million turkeys are eaten in the United States at Thanksgiving (J. DeYoung, National Turkey Federation, personnel communication, 1996). *Salmonella* infection may result from eating improperly cooked turkey and stuffing (*3,4*). This risk for infection can be reduced by cooking stuffing outside the turkey. Guidelines prepared by the U.S. Department of Agriculture (USDA) for persons who choose to cook stuffing inside the turkey recommend preparing the stuffing immediately before it is placed inside the turkey, stuffing the turkey loosely, inserting a meat thermometer into the center of the stuffing, and ensuring that the thermometer attains a temperature of at least 165 F (74 C). Additional recommendations for safely preparing and cooking a turkey include thawing the turkey completely before cooking, cooking in an oven set no lower than 325 F (163 C), and using a meat thermometer to ensure that the innermost part of the thigh attains a temperature of 180 F (82 C). Although the set temperature and cooking time can be used as guides to determine whether food is completely cooked, inaccuracies in the actual temperature and incomplete thawing before cooking can lead to undercooking. Use of a meat thermometer provides a more accurate determination of thorough cooking. Further advice on cooking turkeys and stuffing is available from USDA's Meat and Poultry Hotline, telephone (800) 535-4555.

References

1. Cohen ML, Tauxe RV. Drug-resistant *Salmonella* in the United States: an epidemiologic perspective. Science 1986;234:964–9.
2. Bean NH, Goulding JS, Loa C, Angulo FJ. Surveillance for foodborne-disease outbreaks—United States, 1988–1992. In: CDC surveillance summaries (October). MMWR 1996;45(no. SS-5).
3. CDC. Foodborne nosocomial outbreak of *Salmonella reading*—Connecticut. MMWR 1991;40: 804–6.
4. CDC. Restaurant outbreak of salmonellosis due to undercooked turkey—Washington. MMWR 1978;27:514,519.

Unintentional Administration of Varicella Virus Vaccine — United States, 1996

Since June 1995, seven separate cases of unintentional administration of varicella virus vaccine (Varivax®*) to pregnant women have been reported in the United States to the Varivax® Pregnancy Registry†. All seven women had household exposure to varicella, and varicella zoster immune globulin (VZIG) prophylaxis was indicated.

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

†This registry is maintained jointly by Merck and Company and by CDC; Merck and Company is responsible for daily management and operation of the registry. The registry was established to determine the risk for congenital varicella syndrome or other birth defects following vaccination with Varivax® 3 months before or at any time during pregnancy.

Varicella Vaccine — Continued

However, Varivax® was administered unintentionally instead of VZIG to these women. One of the women received five times the recommended dose of vaccine. All had negative histories for varicella, and the status of their immunity to varicella before receiving the vaccine was not reported to the registry. Gestational age at vaccination ranged from 6 to 31 weeks; four of the seven pregnancies were <20 weeks' gestation. Two of these women have since delivered healthy infants; pregnancy outcomes are pending for five women.

Reported by: JM Manson, PhD, RG Sharrar, MD, Merck Research Laboratories, Worldwide Product Safety and Epidemiology Div, West Point, Pennsylvania. Vaccine Safety and Development Activity, Child Vaccine Preventable Diseases Br, Epidemiology and Surveillance Div, National Immunization Program, CDC.

Editorial Note: The use of Varivax® is contraindicated during pregnancy (*1*) because its effects on the fetus are unknown and because infection with wild varicella zoster virus during the first half of pregnancy may result in congenital varicella syndrome (*2*). The Advisory Committee on Immunization Practices recommends that VZIG be used for postexposure prophylaxis in susceptible persons at high risk for varicella complications, including women exposed to varicella at any stage of pregnancy (*1*). The risk for congenital varicella syndrome after natural infection with wild varicella zoster virus is 1%–2%; because the virulence of the attenuated virus used in the vaccine is less than that of the wild-type virus, the risk to the fetus, if any, should be lower (*1*).

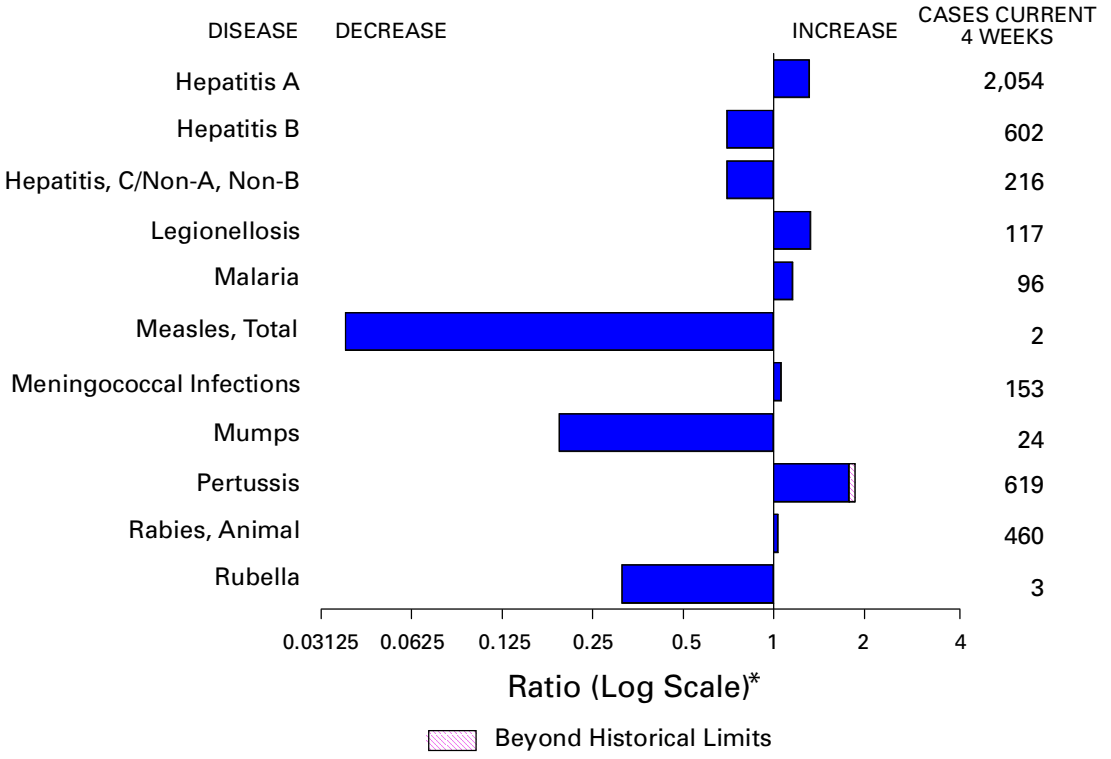
Two potential reasons these incidents occurred are 1) use of the wrong vial by mistake and 2) a lack of understanding of the appropriate indications for the use of these two products. These cases underscore the need for health-care providers and pharmacists to carefully check product labels before administering any drug and to read the package inserts for any drug if they are uncertain of the appropriate indications for its use. VZIG is shipped as a liquid in 2-mL or 10-mL vials and must be stored at 36 F–46 F (2 C–8 C). In contrast, Varivax® is shipped as a lyophilized powder for suspension in 0.7-mL vials, must be reconstituted with diluent before use, and must be stored at 5 F (–15 C).

Before a vaccine or any drug is administered to a woman of childbearing age, a health-care provider should be careful to obtain a history of pregnancy or intended pregnancy from the patient. Health-care providers are strongly encouraged to enroll any women who were unintentionally vaccinated with varicella virus vaccine 3 months before or at any time during pregnancy in the Varivax® Pregnancy Registry, telephone (800) 986-8999.

References

1. CDC. Prevention of varicella: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1996;45(no. RR-11).
2. Enders G, Miller E, Cradock-Watson J, Bolley I, Ridehalgh M. Consequences of varicella and herpes zoster in pregnancy: prospective study of 1739 cases. Lancet 1994;343:1548–51.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending November 16, 1996, 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 November 16, 1996 (46th Week)

	Cum. 1996		Cum. 1996
Anthrax	-	Plague	5
Brucellosis	82	Poliomyelitis, paralytic¶	-
Cholera	3	Psittacosis	37
Congenital rubella syndrome	1	Rabies, human	1
Cryptosporidiosis*	2,034	Rocky Mountain spotted fever (RMSF)	657
Diphtheria	1	Streptococcal toxic-shock syndrome*	13
Encephalitis: California*	105	Syphilis, congenital**	225
eastern equine*	2	Tetanus	25
St. Louis*	-	Toxic-shock syndrome	112
western equine*	-	Trichinosis	17
Hansen Disease	95	Typhoid fever	318
Hantavirus pulmonary syndrome*†	19	Yellow fever††	1
HIV infection, pediatric*§	227		

-: no reported cases
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention (NCHSTP), last update October 29, 1996.
¶ Three suspected cases of polio with onset in 1996 has been reported to date.
**Updated quarterly from reports to the Division of STD Prevention, NCHSTP.
††This fatal case of yellow fever is the first occurrence of this disease reported in the United States since 1924. The infection is presumed to have been acquired in Brazil.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending November 16, 1996, and November 18, 1995 (46th Week)

Reporting Area	AIDS*		Chlamydia	*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB		Legionellosis	
				NETSS†	PHLIS§						
	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995
UNITED STATES	56,760	60,827	335,242	2,480	1,366	265,688	345,981	2,928	3,564	882	1,022
NEW ENGLAND	2,334	2,943	14,818	325	79	6,246	6,845	105	110	66	31
Maine	39	82	844	22	-	53	83	-	-	2	6
N.H.	72	77	397	39	38	80	99	8	12	5	2
Vt.	18	28	U	34	31	42	58	36	13	4	-
Mass.	1,134	1,336	6,210	146	10	1,950	2,410	55	78	28	19
R.I.	159	205	1,652	15	-	441	475	6	7	27	4
Conn.	912	1,215	5,715	69	-	3,680	3,720	-	-	N	N
MID. ATLANTIC	15,871	16,428	40,726	209	43	32,138	38,010	276	434	205	180
Upstate N.Y.	2,180	1,973	N	141	16	5,771	8,246	218	222	69	50
N.Y. City	8,653	8,417	18,756	13	-	10,373	15,233	1	1	10	5
N.J.	3,102	3,977	6,324	55	5	4,812	3,468	-	172	13	30
Pa.	1,936	2,061	15,646	N	22	11,182	11,063	57	39	113	95
E.N. CENTRAL	4,442	4,504	71,178	551	401	49,915	69,873	397	306	256	308
Ohio	940	942	15,667	163	97	11,323	21,433	32	14	96	137
Ind.	497	467	8,863	82	48	5,751	8,231	8	12	41	72
Ill.	1,988	1,871	21,032	210	126	15,615	18,322	63	77	9	33
Mich.	782	919	17,705	96	70	13,379	16,042	294	203	86	30
Wis.	235	305	7,911	N	60	3,847	5,845	-	-	24	36
W.N. CENTRAL	1,324	1,439	24,510	552	339	10,968	17,542	114	80	54	73
Minn.	260	345	2,702	248	220	U	2,638	4	4	8	6
Iowa	76	94	3,801	121	88	1,004	1,431	48	13	10	20
Mo.	673	642	10,635	64	-	7,190	9,921	36	19	17	16
N. Dak.	11	5	2	16	15	-	29	-	5	-	3
S. Dak.	11	17	1,315	24	-	166	199	-	1	2	3
Nebr.	87	93	2,084	49	4	786	973	7	23	12	17
Kans.	206	243	3,971	30	12	1,822	2,351	19	15	5	8
S. ATLANTIC	14,203	15,365	49,123	131	64	85,788	96,375	232	221	139	157
Del.	248	277	1,148	1	2	1,287	2,024	1	-	11	2
Md.	2,008	2,287	6,016	N	8	12,681	12,134	3	7	27	25
D.C.	1,120	896	N	-	-	3,865	4,165	-	-	8	5
Va.	965	1,204	10,367	N	32	8,192	9,479	16	18	23	21
W. Va.	101	94	1	N	3	473	598	9	44	1	4
N.C.	744	898	-	43	12	16,722	21,174	45	55	12	31
S.C.	717	815	-	12	7	10,161	11,079	28	19	6	30
Ga.	2,058	1,999	11,051	30	-	16,391	17,698	U	15	3	14
Fla.	6,242	6,895	20,540	33	-	16,016	18,024	130	63	48	25
E.S. CENTRAL	1,931	1,919	27,783	69	59	30,875	35,958	504	890	44	52
Ky.	345	245	5,935	13	8	3,777	4,196	27	29	8	10
Tenn.	708	763	11,901	32	48	10,567	12,294	366	859	19	24
Ala.	512	520	7,492	13	3	11,991	14,814	7	2	4	6
Miss.	366	391	U	11	-	4,540	4,654	104	U	13	12
W.S. CENTRAL	5,722	5,173	33,252	71	13	25,705	48,303	413	312	19	21
Ark.	229	241	-	13	4	2,772	5,121	14	7	2	6
La.	1,264	902	6,532	6	4	7,232	9,644	188	169	2	3
Okla.	227	236	6,606	12	1	4,326	5,192	69	50	5	4
Tex.	4,002	3,794	20,114	40	4	11,375	28,346	142	86	10	8
MOUNTAIN	1,644	1,888	14,784	203	98	6,037	8,385	513	424	46	105
Mont.	34	20	-	25	-	34	61	18	14	1	4
Idaho	35	41	1,361	37	13	93	127	95	46	-	2
Wyo.	5	17	507	11	9	33	48	168	178	7	12
Colo.	437	572	U	73	40	1,077	2,513	56	61	8	38
N. Mex.	139	148	3,521	11	-	840	942	66	44	2	4
Ariz.	486	551	6,164	N	24	3,058	3,313	70	48	19	9
Utah	161	113	1,398	31	-	260	249	22	11	3	16
Nev.	347	426	1,833	15	12	642	1,132	18	22	6	20
PACIFIC	9,288	11,168	59,068	369	270	18,016	24,690	374	787	53	95
Wash.	587	780	8,085	138	123	1,809	2,443	50	202	6	20
Oreg.	412	409	4,649	86	59	552	732	7	36	1	-
Calif.	8,103	9,712	44,031	141	78	14,931	20,406	129	471	40	70
Alaska	28	62	1,093	4	2	388	601	3	2	1	-
Hawaii	158	205	1,210	N	8	336	508	185	76	5	5
Guam	4	-	168	N	-	31	90	1	6	2	1
P.R.	2,026	2,159	N	17	U	342	521	76	203	-	-
V.I.	17	30	N	N	U	-	-	-	-	-	-
Amer. Samoa	-	-	-	N	U	-	32	-	-	-	-
C.N.M.I.	1	-	N	N	U	11	51	-	5	-	-

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

*Updated monthly to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, last update October 29, 1996.
†National Electronic Telecommunications System for Surveillance.
§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending November 16, 1996, and November 18, 1995 (46th Week)

Reporting Area	Lyme Disease		Malaria		Meningococcal Disease		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995
UNITED STATES	12,669	9,932	1,330	1,181	2,803	2,647	9,591	14,574	16,535	18,717	6,048	6,952
NEW ENGLAND	3,782	1,901	64	45	126	133	165	324	372	444	653	1,370
Maine	52	25	8	7	13	10	-	2	19	11	102	46
N.H.	45	24	3	2	7	22	1	1	14	17	51	139
Vt.	15	9	7	1	4	11	-	-	-	4	127	166
Mass.	316	135	21	15	54	42	70	61	185	246	97	391
R.I.	471	297	7	4	13	6	3	4	27	45	35	303
Conn.	2,883	1,411	18	16	35	42	91	256	126	121	241	325
MID. ATLANTIC	7,692	6,503	359	333	256	319	425	733	2,841	3,826	1,314	1,785
Upstate N.Y.	3,948	3,294	75	61	80	90	68	76	381	479	972	1,067
N.Y. City	292	408	194	182	33	48	120	337	1,340	2,101	-	-
N.J.	1,831	1,611	60	65	58	71	126	139	652	683	124	309
Pa.	1,621	1,190	30	25	85	110	111	181	468	563	218	409
E.N. CENTRAL	72	415	115	149	387	369	1,366	2,495	1,765	1,770	89	98
Ohio	45	28	13	11	141	107	498	813	276	249	13	12
Ind.	24	18	13	17	54	52	174	305	155	161	8	14
Ill.	3	18	35	73	108	95	372	933	910	918	23	15
Mich.	-	5	39	26	42	67	166	262	324	362	31	39
Wis.	U	346	15	22	42	48	156	182	100	80	14	18
W.N. CENTRAL	184	204	47	25	220	167	321	670	419	511	472	343
Minn.	97	117	21	5	25	26	51	41	92	124	27	27
Iowa	19	13	3	3	47	29	20	43	55	56	219	119
Mo.	27	46	10	8	91	64	207	548	176	201	18	30
N. Dak.	1	-	1	1	4	1	-	-	6	4	65	27
S. Dak.	-	-	-	2	10	7	-	-	17	22	105	93
Nebr.	5	6	3	3	20	17	11	12	21	20	5	5
Kans.	35	22	9	3	23	23	32	26	52	84	33	42
S. ATLANTIC	650	623	274	233	558	452	3,348	3,652	3,113	3,271	2,506	1,980
Del.	105	49	4	1	2	6	35	15	30	53	68	83
Md.	377	395	75	62	65	36	569	443	262	350	559	393
D.C.	3	3	7	16	10	8	121	97	121	91	10	11
Va.	47	52	49	53	55	60	352	532	282	255	549	406
W. Va.	11	22	5	4	14	8	3	10	50	64	94	109
N.C.	63	67	27	15	68	72	972	1,014	447	393	635	428
S.C.	6	16	12	1	57	55	353	528	291	282	83	117
Ga.	1	14	27	36	127	99	607	679	562	617	272	257
Fla.	37	5	68	45	160	108	336	334	1,068	1,166	236	176
E.S. CENTRAL	71	67	34	24	209	185	2,138	3,000	1,123	1,267	200	263
Ky.	25	13	7	3	27	42	138	161	210	284	39	26
Tenn.	20	28	14	10	58	73	743	801	346	388	82	91
Ala.	7	9	6	8	76	38	485	588	370	353	76	137
Miss.	19	17	7	3	48	32	772	1,450	197	242	3	9
W.S. CENTRAL	110	105	47	48	303	318	1,225	2,965	2,179	2,783	371	557
Ark.	24	8	-	2	33	31	131	457	170	217	28	46
La.	6	8	6	5	55	50	454	924	175	307	15	42
Okla.	22	45	-	1	36	39	163	174	154	326	30	28
Tex.	58	44	41	40	179	198	477	1,410	1,680	1,933	298	441
MOUNTAIN	7	12	54	57	157	186	124	187	547	610	137	171
Mont.	-	-	7	3	6	3	-	4	14	10	21	43
Idaho	1	-	-	1	22	11	4	-	7	14	-	3
Wyo.	2	3	7	-	3	8	2	1	6	4	27	26
Colo.	-	-	22	25	36	45	23	98	75	76	41	9
N. Mex.	1	1	2	6	25	33	1	6	73	70	6	6
Ariz.	-	1	7	11	38	55	79	43	212	298	31	55
Utah	1	1	5	6	15	15	2	4	51	38	4	15
Nev.	2	6	4	5	12	16	13	31	109	100	7	14
PACIFIC	101	102	336	267	587	518	479	548	4,176	4,235	306	385
Wash.	17	10	21	21	93	83	6	15	219	247	6	15
Oreg.	19	17	19	19	106	95	11	21	137	128	3	3
Calif.	64	75	284	214	374	324	460	510	3,590	3,628	289	360
Alaska	-	-	3	3	8	12	-	2	63	68	8	7
Hawaii	1	-	9	10	6	4	2	-	167	164	-	-
Guam	-	-	-	1	1	2	3	8	35	99	-	-
P.R.	-	-	-	1	4	23	124	261	63	162	40	37
V.I.	-	-	-	2	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	5	-	-
C.N.M.I.	-	-	-	1	-	-	1	9	-	36	-	-

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending November 16, 1996, and November 18, 1995 (46th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (viral), by type				Measles (Rubeola)			
			A		B		Indigenous		Imported†	
	Cum. 1996*	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	1996	Cum. 1996	1996	Cum. 1996
UNITED STATES	868	998	25,289	26,728	8,695	8,792	-	415	-	49
NEW ENGLAND	28	38	365	283	178	203	-	11	-	4
Maine	-	3	21	28	2	12	-	-	-	-
N.H.	9	10	22	12	20	20	-	-	-	-
Vt.	1	2	10	5	11	5	-	1	-	1
Mass.	16	12	176	123	60	80	-	9	-	3
R.I.	2	5	20	32	9	8	-	-	-	-
Conn.	-	6	116	83	76	78	-	1	-	-
MID. ATLANTIC	128	151	1,672	1,706	1,293	1,262	-	23	-	5
Upstate N.Y.	15	38	400	426	305	336	-	-	-	-
N.Y. City	34	34	525	801	523	376	-	9	-	3
N.J.	51	26	311	272	227	336	-	3	-	-
Pa.	28	53	436	207	238	214	-	11	-	2
E.N. CENTRAL	146	169	2,124	2,889	877	992	-	6	-	7
Ohio	83	88	689	1,617	114	97	-	2	-	3
Ind.	15	20	323	169	134	206	-	-	-	-
Ill.	32	42	520	594	227	257	-	2	-	1
Mich.	8	17	433	335	337	362	-	-	-	3
Wis.	8	2	159	174	65	70	-	2	-	-
W.N. CENTRAL	41	76	2,309	1,740	456	574	-	20	-	2
Minn.	25	42	115	173	57	57	U	16	U	2
Iowa	6	3	325	76	72	43	-	-	-	-
Mo.	7	24	1,166	1,200	246	391	-	3	-	-
N. Dak.	-	-	117	22	2	4	-	-	-	-
S. Dak.	1	1	42	72	5	2	-	-	-	-
Nebr.	1	3	194	49	44	31	-	-	-	-
Kans.	1	3	350	148	30	46	-	1	-	-
S. ATLANTIC	171	195	1,280	1,031	1,324	1,158	-	5	-	9
Del.	2	-	18	9	7	8	-	1	-	-
Md.	54	63	218	195	265	228	U	-	U	2
D.C.	6	-	36	25	31	21	-	1	-	-
Va.	9	28	165	190	128	99	-	-	-	3
W. Va.	10	8	14	24	30	50	-	-	-	-
N.C.	24	28	157	96	280	273	-	3	-	1
S.C.	5	2	49	42	88	49	-	-	-	-
Ga.	39	60	150	53	32	62	-	-	-	2
Fla.	22	6	473	397	463	368	-	-	-	1
E.S. CENTRAL	26	11	1,135	1,896	751	748	-	2	-	-
Ky.	4	5	41	41	55	61	-	-	-	-
Tenn.	12	-	733	1,591	442	587	-	2	-	-
Ala.	9	5	178	78	69	100	-	-	-	-
Miss.	1	1	183	186	185	U	U	-	U	-
W.S. CENTRAL	37	57	5,249	3,979	1,160	1,240	-	26	-	2
Ark.	-	6	461	538	73	61	-	-	-	-
La.	4	1	173	134	136	209	-	-	-	-
Okla.	29	21	2,188	1,100	59	152	-	-	-	-
Tex.	4	29	2,427	2,207	892	818	-	26	-	2
MOUNTAIN	89	108	3,960	3,816	1,022	760	-	153	-	5
Mont.	-	-	108	147	15	21	-	-	-	-
Idaho	1	4	224	291	85	91	-	1	-	-
Wyo.	35	8	33	101	44	26	-	1	-	-
Colo.	14	16	413	468	120	119	-	4	-	3
N. Mex.	10	14	328	738	376	277	-	17	-	-
Ariz.	13	26	1,559	1,163	222	109	-	8	-	-
Utah	8	11	939	636	85	62	-	117	-	2
Nev.	8	29	356	272	75	55	-	5	-	-
PACIFIC	202	193	7,195	9,388	1,634	1,855	-	169	-	15
Wash.	4	9	650	787	93	177	-	51	-	-
Oreg.	26	26	754	2,488	84	107	U	10	U	-
Calif.	167	153	5,670	5,912	1,427	1,546	-	38	-	8
Alaska	2	1	39	44	18	11	-	63	-	-
Hawaii	3	4	82	157	12	14	-	7	-	7
Guam	-	-	2	8	-	5	-	-	-	-
P.R.	1	3	123	97	350	582	-	7	-	-
V.I.	-	-	-	8	-	15	U	-	U	-
Amer. Samoa	-	-	-	6	-	-	U	-	U	-
C.N.M.I.	10	11	1	24	5	22	U	-	U	-

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

*Of 209 cases among children aged <5 years, serotype was reported for 48 and of those, 17 were type b.

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

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending November 16, 1996, and November 18, 1995 (46th Week)

Reporting Area	Measles (Rubeola), cont'd. Total		Mumps			Pertussis			Rubella		
	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995
UNITED STATES	464	292	7	571	765	208	5,026	3,995	-	201	116
NEW ENGLAND	15	10	-	2	11	51	1,088	579	-	27	48
Maine	-	-	-	-	4	-	20	42	-	-	-
N.H.	-	-	-	-	1	10	127	45	-	-	1
Vt.	2	-	-	-	-	5	140	69	-	2	-
Mass.	12	3	-	2	2	36	742	391	-	21	8
R.I.	-	5	-	-	1	-	30	4	-	-	-
Conn.	1	2	-	-	3	-	29	28	-	4	39
MID. ATLANTIC	28	12	-	78	111	27	447	368	-	12	15
Upstate N.Y.	-	1	-	25	25	27	275	192	-	5	4
N.Y. City	12	5	-	17	16	-	38	49	-	4	8
N.J.	3	6	-	2	18	-	16	18	-	2	3
Pa.	13	-	-	34	52	-	118	109	-	1	-
E.N. CENTRAL	13	15	-	93	155	16	549	500	-	3	4
Ohio	5	2	-	41	51	4	246	147	-	-	-
Ind.	-	-	-	9	9	9	102	55	-	-	-
Ill.	3	2	-	20	45	-	149	106	-	1	-
Mich.	3	5	-	22	50	3	47	65	-	2	4
Wis.	2	6	-	1	-	-	5	127	-	-	-
W.N. CENTRAL	22	2	-	18	43	2	362	251	-	-	1
Minn.	18	-	U	6	6	U	288	125	U	-	-
Iowa	-	-	-	2	10	-	20	11	-	-	-
Mo.	3	1	-	7	22	2	36	61	-	-	-
N. Dak.	-	-	-	2	1	-	1	8	-	-	-
S. Dak.	-	-	-	-	-	-	4	12	-	-	-
Nebr.	-	-	-	-	4	-	9	12	-	-	-
Kans.	1	1	-	1	-	-	4	22	-	-	1
S. ATLANTIC	14	19	2	96	116	18	565	327	-	93	10
Del.	1	-	-	-	-	-	15	10	-	-	-
Md.	2	1	U	26	34	U	200	43	U	-	1
D.C.	1	-	-	1	-	-	4	6	-	2	-
Va.	3	-	-	15	25	15	95	25	-	2	-
W. Va.	-	-	-	-	-	-	2	-	-	-	-
N.C.	4	-	-	20	16	-	100	110	-	78	1
S.C.	-	-	1	7	11	-	41	26	-	1	-
Ga.	2	4	-	3	8	-	17	24	-	-	-
Fla.	1	14	1	24	22	3	91	83	-	10	8
E.S. CENTRAL	2	-	-	21	12	2	144	268	-	2	1
Ky.	-	-	-	-	-	-	90	25	-	-	-
Tenn.	2	-	-	3	4	1	21	206	-	-	1
Ala.	-	-	-	3	4	1	24	35	-	2	-
Miss.	-	-	U	15	4	U	9	2	N	N	N
W.S. CENTRAL	28	34	1	33	51	-	115	287	-	3	7
Ark.	-	2	-	2	7	-	12	38	-	-	-
La.	-	18	-	13	13	-	9	19	-	1	-
Okla.	-	-	-	1	-	-	17	31	-	-	-
Tex.	28	14	1	17	31	-	77	199	-	2	7
MOUNTAIN	158	70	1	22	30	2	388	586	-	6	4
Mont.	-	-	-	-	1	1	34	4	-	-	-
Idaho	1	2	-	-	3	-	101	103	-	2	-
Wyo.	1	-	1	1	-	1	7	1	-	-	-
Colo.	7	26	-	3	2	-	98	104	-	2	-
N. Mex.	17	31	N	N	N	-	61	131	-	-	-
Ariz.	8	10	-	1	2	-	27	153	-	1	3
Utah	119	-	-	2	11	-	22	27	-	-	1
Nev.	5	1	-	15	11	-	38	63	-	1	-
PACIFIC	184	130	3	208	236	90	1,368	829	-	55	26
Wash.	51	19	-	19	13	90	642	303	-	2	1
Oreg.	10	1	U	-	-	U	34	55	U	1	-
Calif.	46	108	3	157	201	-	660	412	-	49	20
Alaska	63	-	-	3	12	-	4	1	-	-	-
Hawaii	14	2	-	29	10	-	28	58	-	3	5
Guam	-	-	-	5	4	-	1	2	-	-	1
P.R.	7	3	-	1	2	-	1	2	-	-	-
V.I.	-	-	U	-	3	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	-	1	U	-	-	U	-	-

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

TABLE IV. Deaths in 121 U.S. cities,* week ending November 16, 1996 (46th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	626	478	95	31	9	13	51
Boston, Mass.	137	98	28	6	1	4	19
Bridgeport, Conn.	45	39	4	1	1	-	-
Cambridge, Mass.	17	14	3	-	-	-	-
Fall River, Mass.	19	15	2	2	-	-	-
Hartford, Conn.	44	29	6	3	3	3	2
Lowell, Mass.	28	22	4	2	-	-	4
Lynn, Mass.	16	12	4	-	-	-	1
New Bedford, Mass.	51	44	4	3	-	-	-
New Haven, Conn.	48	29	8	4	2	5	3
Providence, R.I.	68	51	13	3	1	-	1
Somerville, Mass.	6	4	1	1	-	-	1
Springfield, Mass.	51	45	5	-	1	-	10
Waterbury, Conn.	32	25	5	1	-	1	1
Worcester, Mass.	64	51	8	5	-	-	9
MID. ATLANTIC	2,400	1,627	476	201	49	45	133
Albany, N.Y.	49	29	10	7	3	-	7
Allentown, Pa.	23	15	6	1	1	-	-
Buffalo, N.Y.	81	61	10	5	1	4	9
Camden, N.J.	40	23	9	3	1	4	-
Elizabeth, N.J.	17	14	-	-	3	-	-
Erie, Pa.§	51	44	2	4	1	-	3
Jersey City, N.J.	52	32	12	5	2	1	2
New York City, N.Y.	1,248	811	287	110	18	21	45
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	20	15	3	1	1	-	-
Philadelphia, Pa.	399	260	74	47	8	9	25
Pittsburgh, Pa.§	53	37	9	4	2	1	4
Reading, Pa.	10	8	1	-	1	-	3
Rochester, N.Y.	119	97	7	5	6	4	11
Schenectady, N.Y.	27	23	3	1	-	-	2
Scranton, Pa.§	25	21	4	-	-	-	3
Syracuse, N.Y.	95	69	22	3	-	1	7
Trenton, N.J.	39	31	7	1	-	-	7
Utica, N.Y.	21	15	4	2	-	-	1
Yonkers, N.Y.	31	22	6	2	1	-	4
E.N. CENTRAL	2,031	1,422	357	139	42	70	124
Akron, Ohio	49	38	7	3	1	-	-
Canton, Ohio	41	33	8	-	-	-	5
Chicago, Ill.	376	229	75	45	13	13	19
Cincinnati, Ohio	187	139	31	10	3	4	16
Cleveland, Ohio	127	73	35	10	2	7	2
Columbus, Ohio	207	144	34	17	4	8	18
Dayton, Ohio	113	91	18	3	-	1	8
Detroit, Mich.	221	138	47	17	4	15	7
Evansville, Ind.	42	37	2	-	-	3	2
Fort Wayne, Ind.	53	41	10	1	-	1	5
Gary, Ind.	U	U	U	U	U	U	U
Grand Rapids, Mich.	46	33	9	2	2	-	3
Indianapolis, Ind.	163	113	25	11	6	8	10
Madison, Wis.	U	U	U	U	U	U	U
Milwaukee, Wis.	128	95	19	9	1	4	7
Peoria, Ill.	39	31	7	1	-	-	5
Rockford, Ill.	41	30	7	1	-	3	1
South Bend, Ind.	35	30	4	1	-	-	4
Toledo, Ohio	97	75	10	6	3	3	9
Youngstown, Ohio	66	52	9	2	3	-	3
W.N. CENTRAL	750	537	122	53	17	19	44
Des Moines, Iowa	58	44	8	3	1	2	6
Duluth, Minn.	35	26	7	1	1	-	4
Kansas City, Kans.	47	36	7	1	1	2	2
Kansas City, Mo.	75	51	15	6	-	1	4
Lincoln, Nebr.	22	15	5	2	-	-	-
Minneapolis, Minn.	155	114	23	10	5	3	10
Omaha, Nebr.	92	65	18	6	1	2	5
St. Louis, Mo.	113	78	18	12	3	2	7
St. Paul, Minn.	64	42	11	4	2	5	4
Wichita, Kans.	89	66	10	8	3	2	2
S. ATLANTIC	1,216	764	235	138	48	31	75
Atlanta, Ga.	173	109	37	14	7	6	5
Baltimore, Md.	219	133	44	31	7	4	28
Charlotte, N.C.	73	46	15	11	1	-	6
Jacksonville, Fla.	130	80	31	13	5	1	4
Miami, Fla.	105	57	21	16	6	5	-
Norfolk, Va.	49	31	11	3	2	2	5
Richmond, Va.	53	35	10	7	1	-	4
Savannah, Ga.	59	43	6	7	2	1	1
St. Petersburg, Fla.	71	50	8	8	5	-	3
Tampa, Fla.	142	103	22	12	2	3	15
Washington, D.C.	132	67	30	16	10	9	4
Wilmington, Del.	10	10	-	-	-	-	-
E.S. CENTRAL	678	486	115	41	27	6	54
Birmingham, Ala.	110	77	21	4	4	2	3
Chattanooga, Tenn.	44	31	7	2	2	2	5
Knoxville, Tenn.	84	62	15	2	5	-	9
Lexington, Ky.	79	53	18	5	3	-	8
Memphis, Tenn.	186	135	30	13	7	1	15
Mobile, Ala.	36	26	5	4	1	-	1
Montgomery, Ala.	U	U	U	U	U	U	U
Nashville, Tenn.	139	102	19	11	5	1	13
W.S. CENTRAL	1,454	912	305	144	48	45	66
Austin, Tex.	56	40	9	4	2	1	3
Baton Rouge, La.	45	26	12	3	1	3	1
Corpus Christi, Tex.	47	37	6	1	-	3	1
Dallas, Tex.	210	118	49	27	6	10	2
El Paso, Tex.	72	45	14	7	5	1	3
Ft. Worth, Tex.	123	79	27	9	3	5	2
Houston, Tex.	356	223	75	39	11	8	30
Little Rock, Ark.	73	52	8	5	4	4	5
New Orleans, La.	111	60	22	19	9	1	-
San Antonio, Tex.	181	118	44	13	2	4	13
Shreveport, La.	67	38	19	2	5	3	3
Tulsa, Okla.	113	76	20	15	-	2	3
MOUNTAIN	878	594	154	85	27	17	67
Albuquerque, N.M.	104	67	24	10	-	3	2
Colo. Springs, Colo.	37	27	7	2	1	-	1
Denver, Colo.	96	61	14	14	5	2	12
Las Vegas, Nev.	163	109	38	14	2	-	8
Ogden, Utah	33	25	4	2	2	-	5
Phoenix, Ariz.	176	113	32	20	3	7	14
Pueblo, Colo.	20	17	3	-	-	-	2
Salt Lake City, Utah	103	65	15	10	10	3	8
Tucson, Ariz.	146	110	17	13	4	2	15
PACIFIC	1,723	1,240	285	129	33	35	143
Berkeley, Calif.	11	7	3	1	-	-	1
Fresno, Calif.	94	75	8	4	3	4	11
Glendale, Calif.	19	14	4	1	-	-	2
Honolulu, Hawaii	43	32	5	4	1	1	4
Long Beach, Calif.	69	52	9	5	1	2	4
Los Angeles, Calif.	431	303	76	37	9	6	24
Pasadena, Calif.	20	15	1	3	1	-	1
Portland, Oreg.	133	90	30	12	1	-	8
Sacramento, Calif.	192	138	29	16	2	7	14
San Diego, Calif.	123	82	20	10	6	5	16
San Francisco, Calif.	119	89	22	3	2	2	17
San Jose, Calif.	171	123	32	12	3	1	20
Santa Cruz, Calif.	32	23	6	2	-	1	7
Seattle, Wash.	142	100	21	15	3	3	5
Spokane, Wash.	60	46	10	3	-	1	5
Tacoma, Wash.	64	51	9	1	1	2	4
TOTAL	11,756¶	8,060	2,144	961	300	281	757

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 121 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 these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

Contributors to the Production of the *MMWR* (Weekly)

Weekly Notifiable Disease Morbidity Data and 121 Cities Mortality Data

Denise Koo, M.D., M.P.H.
Deborah A. Adams
Timothy M. Copeland
Patsy A. Hall
Carol M. Knowles
Sarah H. Landis
Myra A. Montalbano

Desktop Publishing and Graphics Support

Morie M. Higgins
Peter M. Jenkins

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 *lists@list.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 (404) 332-4555.

☆**U.S. Government Printing Office: 1997-532-228/47039 Region IV**