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MORBIDITY AND MORTALITY WEEKLY REPORT



*Epidemiologic Notes and Reports*

## Update: Influenza Activity — Micronesia, United States

During the summer months, outbreaks of influenza types A(H1N1) and B were reported from south pacific islands. Several sporadic cases of influenza A(H1N1) also were reported from Hawaii during that time period. In October, the first sporadic cases of influenza A(H1N1) were reported from the contiguous United States.

**Micronesia**. Widespread outbreak activity was reported from Micronesia for the period May through August. In the Republic of Palau, outbreaks were associated with circulation of influenza types A(H1N1) and B. Rises in titer of hemagglutination-inhibition antibody in sera collected from 101 persons in 1985 and 1986 were measured to determine the incidence of influenza virus infection. Thirty-six (51%) of 70 persons $<35$ years of age had influenza A(H1N1) infections compared with 4 (13%) of 31 persons $\geq 35$. The three type A(H1N1) viruses that were isolated were all similar to A/Taiwan/86. For influenza B virus, the serologically diagnosed infection rates were 36 (51%) and 10 (32%) in the same age groups. Thirty-four (34%) had no titer rise to either type of influenza. The incidence and characteristics of clinical illness associated with serologic evidence of infection could not be determined. Type A(H1N1) influenza was also isolated in the Republic of the Marshall Islands.

**Hawaii**. Two type A(H1N1) influenza virus isolates, both similar to A/Taiwan/86, have been reported from Hawaii. Serologic evidence of type A(H1N1) virus infection was detected for a third person. The patients were 20, 23, and 43 years of age, and onset of illnesses occurred in June and August.

**New York**. In Syracuse, influenza virus type A(H1N1), similar to A/Taiwan/86 on preliminary testing, was isolated from a 17-year-old student who was ill during mid-September.

**Texas**. In early to mid-October, three influenza A(H1N1) viruses were isolated in association with sporadic influenza cases in Houston. All three isolates were from children $<12$ years of age.

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*Influenza Activity — Continued*

**Editorial Note:** These are the first reports of influenza virus isolates in Micronesia and the United States this season. The influenza A(H1N1) isolates obtained from both Hawaii and New York resemble A/Taiwan/86(H1N1), a new variant strain of influenza A(H1N1) (*1*). No influenza outbreaks have been reported in the United States. Although the initial isolates reported have all been type A(H1N1), neither the extent of influenza activity, if any, nor which influenza virus strains may circulate in the United States this season can be predicted. While it may not be appropriate to extrapolate the findings from Palau to the United States, the results of the Palau serologic survey are consistent with previous reports from Asia (*1,2*) indicating that contemporary strains of influenza A(H1N1) are affecting children and young adults primarily.

In addition to a trivalent inactivated influenza vaccine recommended for all high-risk persons, a supplemental vaccine containing the A/Taiwan/86 strain will be available this year in the United States. Recommendations for usage of both vaccines have been published (*3,4*). Production of a supplemental vaccine was possible because of early detection of the A/Taiwan/86 variant and is intended to optimize protection, particularly for high-risk persons $<35$ years of age. At present, the trivalent vaccine is widely available. This vaccine contains updated A(H3N2) and B strains and also an A(H1N1) component that may provide partial protection against the new A(H1N1) variants. The Food and Drug Administration released the first lots of monovalent vaccine in late October, and it should be available shortly through normal distribution channels*.

Key points to bear in mind regarding recommendations for influenza vaccine administration and treatment of influenza include:

1) High-risk persons of all ages should receive the standard trivalent vaccine according to previously published Immunization Practices Advisory Committee recommendations.
2) The Public Health Service (PHS) urges health care personnel who treat high-risk children or high-risk adults $<35$ years of age to provide both trivalent and supplemental A(H1N1) influenza vaccines to their patients.
3) Vaccination with the trivalent vaccine should not be delayed if the supplemental vaccine is not available at the time the trivalent vaccine would normally be given.
4) Supplemental vaccination is of potential benefit to many other groups of young persons to reduce morbidity if A(H1N1) outbreaks occur. The potential for introducing influenza to high-risk patients could be reduced by vaccinating young adult parents and siblings of high-risk children; young health care personnel who provide care for young, high-risk patients; and young employees who perform essential services in the public or private sector.
5) There is no special emphasis by the PHS to provide the supplemental vaccine to adults $\geq 35$ years of age. However, it may be used in this group either as an added precaution, if the physician and patient so desire, or on the basis of institutional or other local policy decisions.
6) Aspirin use during influenza, influenza-like illnesses, and chickenpox has been associated with Reye syndrome (*5*), a rare but serious disease. Therefore, the PHS warns that children and teenagers $\leq 18$ years of age should not use aspirin for the treatment of these illnesses (*6*).

*References*

1. CDC. Antigenic variation of recent influenza A(H1N1) viruses. MMWR 1986;35:510-2.
2. CDC. Update: influenza activity—worldwide. MMWR 1986;35:433-4.

*Product information about influenza vaccines can be obtained from the following manufacturers: Connaught: (800) 538-7678 (distribution to pediatricians only); Squibb: (609) 921-4071 (Squibb handles distribution of Connaught vaccine to all others); Parke-Davis: (800) 223-0432; Wyeth: (800) 321-2304.

*Influenza Activity — Continued*

3. ACIP. Prevention and control of influenza. MMWR 1986;35:317-26, 331.
4. ACIP. Monovalent influenza A(H1N1) vaccine, 1986-1987. MMWR 1986;35:517-21.
5. Hurwitz ES, Barrett MJ, Bregman D, et al. Public Health Service study on Reye's syndrome and medications. Report of the pilot phase. N Engl J Med 1985;313:849-57.
6. CDC. Reye syndrome—United States, 1985. MMWR 1986;35:66-8, 73-4.

## Cholera in Louisiana — Update

Since mid-August 1986, 12 cases of cholera have been identified among residents of Louisiana. The cases occurred in nine families living in New Orleans and in other towns in six parishes (Jefferson, LaFourche, Assumption, St. Mary, Iberia, and Jefferson Davis) within a 200-mile radius to the south and west of New Orleans. None of the patients had traveled abroad within the past year.

Onset of symptoms occurred between August 8 and October 1. Ten of the patients had severe diarrhea, seven required hospitalization, and four required treatment in an intensive care unit for hypotension. All patients recovered following intravenous fluid therapy. Seven patients had stool cultures yielding toxigenic *Vibrio cholerae* O1, biotype El Tor, serotype Inaba. The remaining five patients did not have stool cultures performed but had vibriocidal antibody titers greater than or equal to 1280, suggesting recent infection with *V. cholerae* O1.

Sewer system surveillance using Moore swabs has detected toxigenic *V. cholerae* O1 in sewage in eight separate sites in southern Louisiana (three in Jefferson Parish, one in Orleans Parish, one in St. Tammany Parish, one in Iberia Parish, and two in Jefferson Davis Parish). Five of these sites are in towns without a clinically identified case of cholera.

Although no common source has been identified, eleven of the patients reported eating crabs or shrimp within 5 days before the onset of symptoms. The seafoods were harvested from multiple sites in a wide area along the Louisiana coast of the Gulf of Mexico. Surveillance is continuing, and further epidemiologic studies are underway.

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**Editorial Note:** Thirteen cases of domestically acquired cholera (one involving a Florida patient [*1*]) have been detected near the U.S. Gulf coast so far during 1986. Past studies of El Tor *V. cholerae* infections in both endemic and non-endemic countries indicate that many mild or clinically inapparent infections occur for every hospitalized patient (*2*). The detection of toxigenic *V. cholerae* O1 in the sewer systems of several towns with no identified cases suggests that undetected cases have occurred in Louisiana.

The source of infection, as in 1978 in Louisiana (*3*), appears to be crustacea. Because seafood from the Gulf Coast is shipped to many states, even physicians located far from the Gulf should consider the possibility of cholera when a patient has severe, watery diarrhea. Diagnosis is confirmed by the isolation of *V. cholerae* O1 from stool culture, preferably on thiosulfate-citrate-bile salts-sucrose (TCBS) agar. Isolates of *V. cholerae* should be serotyped and tested for toxin production through state public health laboratories, and all cases should be reported immediately to the state epidemiologist.

In this outbreak, inadequate cooking or improper handling of crustacea appeared to play a significant role in the development of *V. cholerae* O1 infection. Thoroughly cooking potentially contaminated food and then carefully handling and storing cooked food will prevent foodborne cholera. (*V. cholerae* O1 has been shown to survive in crabs boiled for 8 minutes, but not in crabs boiled for 10 minutes [*3*]).

*Cholera — Continued*

Vigorous rehydration (preferably with Ringer's lactate) and careful correction of electrolyte and acid-base disturbances are the mainstays of therapy and result in very low mortality rates among hospitalized patients. Tetracycline shortens the duration of symptoms and the period of fecal shedding of the organism (*4*).

*References*

1. CDC. Toxigenic *Vibrio cholerae O1* infections—Louisiana and Florida. MMWR 1986;35:606-7.
2. Harris JR, Holmberg SD, Parker RDR, et al. Impact of epidemic cholera in a previously uninfected island population: evaluation of a new seroepidemiologic method. Am J Epidemiol 1986;123:424-30.
3. Blake PA, Allegra DT, Snyder JD, et al. Cholera—a possible endemic focus in the United States. N Engl J Med 1980;302:305-9.
4. Greenbough WB. In: Mandell GL, Douglas RG Jr, Bennett JE, eds. Principles and practice of infectious diseases. 2nd ed. New York: John Wiley and Sons, 1985:1208-18.

**TABLE I. Summary—cases specified notifiable diseases, United States**

| Disease | 44th Week Ending | | | Cumulative, 44th Week Ending | | |
|---|---|---|---|---|---|---|
| | Nov. 1, 1986 | Nov. 2, 1985 | Median 1981-1985 | Nov. 1, 1986 | Nov. 2, 1985 | Median 1981-1985 |
| Acquired Immunodeficiency Syndrome (AIDS) | 376 | 124 | N | 11,152 | 6,661 | N |
| Aseptic meningitis | 272 | 308 | 268 | 8,710 | 8,768 | 8,259 |
| Encephalitis: Primary (arthropod-borne & unspec.) | 28 | 37 | 37 | 1,028 | 1,118 | 1,305 |
| Post-infectious | - | 2 | 2 | 85 | 110 | 80 |
| Gonorrhea: Civilian | 16,211 | 17,568 | 18,182 | 749,432 | 753,158 | 764,479 |
| Military | 314 | 261 | 329 | 14,210 | 17,867 | 20,592 |
| Hepatitis: Type A | 467 | 580 | 455 | 18,943 | 19,222 | 19,222 |
| Type B | 432 | 553 | 553 | 21,598 | 21,999 | 20,221 |
| Non A, Non B | 72 | 94 | N | 2,963 | 3,506 | N |
| Unspecified | 60 | 133 | 133 | 3,757 | 4,882 | 6,196 |
| Legionellosis | 30 | 24 | N | 642 | 643 | N |
| Leprosy | 9 | 17 | 3 | 212 | 312 | 205 |
| Malaria | 6 | 19 | 19 | 957 | 885 | 885 |
| Measles: Total* | 68 | 23 | 14 | 5,752 | 2,606 | 2,434 |
| Indigenous | 63 | 23 | N | 5,455 | 2,178 | N |
| Imported | 5 | - | N | 297 | 428 | N |
| Meningococcal infections: Total | 51 | 49 | 49 | 2,075 | 2,022 | 2,322 |
| Civilian | 51 | 48 | 48 | 2,073 | 2,015 | 2,307 |
| Military | - | 1 | - | 2 | 7 | 11 |
| Mumps | 92 | 55 | 66 | 4,324 | 2,530 | 2,809 |
| Pertussis | 285 | 77 | 31 | 3,755 | 2,972 | 2,034 |
| Rubella (German measles) | 6 | 5 | 8 | 450 | 583 | 863 |
| Syphilis (Primary & Secondary): Civilian | 739 | 502 | 679 | 22,728 | 22,791 | 26,181 |
| Military | 1 | 1 | 6 | 139 | 143 | 329 |
| Toxic Shock syndrome | 9 | 7 | N | 293 | 321 | N |
| Tuberculosis | 354 | 488 | 488 | 18,442 | 18,024 | 19,777 |
| Tularemia | 5 | 1 | 5 | 131 | 159 | 236 |
| Typhoid fever | 8 | 5 | 6 | 264 | 322 | 337 |
| Typhus fever, tick-borne (RMSF) | 15 | 10 | 10 | 722 | 653 | 933 |
| Rabies, animal | 92 | 107 | 107 | 4,652 | 4,617 | 5,299 |

**TABLE II. Notifiable diseases of low frequency, United States**

| | Cum. 1986 | | Cum. 1986 |
|---|---|---|---|
| Anthrax | - | Leptospirosis (Tex. 1) | 28 |
| Botulism: Foodborne (Utah 1) | 13 | Plague | 7 |
| Infant (Del. 1, Tex. 2) | 43 | Poliomyelitis, Paralytic | 1 |
| Other | 1 | Psittacosis (Del. 1, Calif. 2) | 84 |
| Brucellosis (Md. 1, Fla. 1, Tex. 1) | 75 | Rabies, human | - |
| Cholera | 3 | Tetanus | 57 |
| Congenital rubella syndrome | 10 | Trichinosis | 31 |
| Congenital syphilis, ages < 1 year | 107 | Typhus fever, flea-borne (endemic, murine) | 44 |
| Diphtheria | - | | |

*Two of the 68 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

## TABLE III. Cases of specified notifiable diseases, United States, weeks ending November 1, 1986, and November 2, 1985 (44th Week)

| Reporting Area | AIDS | Aseptic Meningitis | Encephalitis | | Gonorrhea (Civilian) | | Hepatitis (Viral), by type | | | | Legionellosis | Leprosy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Post-infectious | | | A | B | NA,NB | Unspecified | | |
| | Cum 1986 | 1986 | Cum 1986 | Cum 1986 | Cum 1986 | Cum 1985 | 1986 | 1986 | 1986 | 1986 | 1986 | Cum 1986 |
| UNITED STATES | 11,152 | 272 | 1,028 | 85 | 749,432 | 753,158 | 467 | 432 | 72 | 60 | 30 | 212 |
| NEW ENGLAND | 432 | 4 | 24 | 3 | 19,843 | 19,216 | 16 | 29 | 3 | 5 | 11 | 7 |
| Maine | 18 | - | - | - | 750 | 979 | 2 | 4 | - | - | 1 | - |
| N H | 10 | - | 2 | - | 515 | 486 | - | - | - | - | - | - |
| Vt | 4 | 1 | 4 | 2 | 233 | 282 | - | 1 | - | - | - | - |
| Mass | 237 | - | 5 | - | 7,401 | 7,898 | 2 | 9 | - | 5 | 2 | 7 |
| R I | 28 | 1 | - | - | 1,539 | 1,517 | 2 | 5 | 2 | - | 8 | - |
| Conn | 135 | 2 | 13 | 1 | 9,405 | 8,054 | 10 | 10 | 1 | - | - | - |
| MID ATLANTIC | 4,042 | 29 | 94 | 7 | 126,697 | 109,349 | 26 | 30 | 2 | 1 | - | 14 |
| Upstate N Y | 428 | 9 | 33 | 4 | 15,553 | 15,313 | 4 | 8 | 1 | - | - | 1 |
| N Y City | 2,732 | U | 18 | - | 72,315 | 53,766 | U | U | U | U | U | 12 |
| N J | 615 | 3 | 10 | - | 16,498 | 16,312 | 11 | 13 | 1 | 1 | - | - |
| Pa | 267 | 17 | 33 | 3 | 22,331 | 23,958 | 11 | 9 | - | - | - | 1 |
| E N CENTRAL | 667 | 65 | 315 | 11 | 98,177 | 99,508 | 23 | 53 | 7 | 1 | 8 | 5 |
| Ohio | 154 | 39 | 125 | 3 | 24,999 | 26,614 | 3 | 14 | 1 | 1 | 7 | - |
| Ind | 59 | 8 | 75 | 3 | 10,617 | 11,061 | 1 | 10 | 1 | - | - | - |
| Ill | 302 | 3 | 44 | 4 | 24,079 | 23,832 | 12 | 12 | 5 | - | - | 4 |
| Mich | 116 | 15 | 49 | 1 | 31,476 | 28,398 | 7 | 17 | - | - | 1 | 1 |
| Wis | 36 | - | 22 | - | 7,006 | 9,603 | - | - | - | - | - | - |
| W N CENTRAL | 206 | 10 | 70 | 9 | 32,526 | 35,185 | 4 | 10 | 6 | - | 1 | 4 |
| Minn | 72 | 4 | 31 | - | 4,603 | 5,246 | 1 | - | 4 | - | 1 | 2 |
| Iowa | 18 | 1 | 21 | - | 3,337 | 3,715 | 2 | 2 | 2 | - | - | - |
| Mo | 71 | 5 | 1 | - | 16,131 | 16,939 | - | 6 | - | - | - | - |
| N Dak | 2 | - | 4 | - | 277 | 240 | - | - | - | - | - | - |
| S Dak | 2 | - | 11 | - | 682 | 676 | - | 1 | - | - | - | - |
| Nebr | 11 | - | - | 1 | 2,477 | 3,030 | - | - | - | - | - | - |
| Kans | 30 | - | 2 | 8 | 5,019 | 5,339 | 1 | 1 | - | - | - | 2 |
| S ATLANTIC | 1,573 | 58 | 135 | 32 | 194,810 | 196,757 | 42 | 107 | 16 | 5 | 3 | 2 |
| Del | 20 | 2 | 6 | - | 3,263 | 3,777 | 1 | 4 | 1 | - | - | - |
| Md | 159 | 10 | 29 | 1 | 22,747 | 24,889 | 1 | 11 | - | - | 2 | - |
| D C | 195 | - | - | 1 | 14,331 | 13,273 | - | - | - | - | - | - |
| Va | 129 | 19 | 36 | 1 | 16,041 | 16,512 | 4 | 15 | 3 | 3 | - | 1 |
| W Va | 7 | 2 | 45 | - | 1,888 | 2,231 | 1 | 2 | - | - | - | - |
| N C | 65 | 3 | 17 | 2 | 30,131 | 31,209 | 4 | 15 | 2 | 1 | - | - |
| S C | 39 | - | - | - | 16,778 | 18,747 | - | 6 | 1 | - | - | - |
| Ga | 235 | 5 | - | 1 | 32,252 | 38,491 | - | 5 | 1 | - | - | - |
| Fla | 724 | 17 | 2 | 26 | 57,379 | 47,628 | 31 | 49 | 8 | 1 | 1 | 1 |
| E S CENTRAL | 134 | 31 | 60 | 4 | 60,554 | 65,033 | 8 | 35 | 4 | 1 | - | 1 |
| Ky | 25 | 7 | 30 | 1 | 6,681 | 7,443 | 2 | 11 | 3 | 1 | - | - |
| Tenn | 66 | 5 | 7 | 1 | 23,032 | 24,851 | 2 | 14 | - | - | - | - |
| Ala | 25 | 4 | 22 | 2 | 17,694 | 19,452 | - | 6 | - | - | - | 1 |
| Miss | 18 | 15 | 1 | - | 13,147 | 13,287 | 4 | 4 | 1 | - | - | - |
| W S CENTRAL | 1,052 | 32 | 157 | 6 | 88,512 | 95,011 | 78 | 32 | 10 | 13 | 1 | 19 |
| Ark | 27 | - | - | 2 | 8,525 | 9,109 | - | - | - | - | - | 1 |
| La | 135 | - | 9 | - | 15,633 | 18,122 | - | 2 | - | - | - | 1 |
| Okla | 39 | 3 | 20 | - | 10,088 | 10,601 | 12 | 3 | 1 | - | - | - |
| Tex | 851 | 29 | 128 | 4 | 54,266 | 57,179 | 66 | 27 | 9 | 13 | 1 | 17 |
| MOUNTAIN | 281 | 11 | 35 | 1 | 22,261 | 23,700 | 59 | 35 | 5 | 5 | 2 | 13 |
| Mont | 4 | 1 | 1 | 1 | 586 | 678 | - | 1 | - | 1 | - | - |
| Idaho | 3 | - | - | - | 766 | 824 | 3 | 1 | - | - | - | - |
| Wyo | 4 | - | 2 | - | 467 | 542 | 1 | 1 | - | - | - | - |
| Colo. | 132 | 2 | 4 | - | 5,713 | 6,891 | 7 | 3 | - | 1 | - | 3 |
| N Mex | 21 | - | 3 | - | 2,326 | 2,688 | 12 | 3 | - | - | - | - |
| Ariz | 71 | 6 | 17 | - | 7,197 | 7,032 | 34 | 18 | 3 | 1 | 2 | 7 |
| Utah | 17 | 2 | 6 | - | 942 | 1,146 | 1 | 1 | - | 2 | - | 1 |
| Nev | 29 | - | 2 | - | 4,264 | 3,899 | 1 | 7 | 2 | - | - | 2 |
| PACIFIC | 2,765 | 32 | 138 | 12 | 106,052 | 109,399 | 211 | 101 | 19 | 29 | 4 | 147 |
| Wash | 148 | 2 | 11 | - | 7,813 | 8,581 | 14 | 9 | 3 | 1 | - | 17 |
| Oreg | 52 | - | - | - | 4,507 | 5,526 | 38 | 15 | 3 | - | - | - |
| Calif | 2,510 | 28 | 120 | 12 | 90,334 | 91,181 | 157 | 74 | 12 | 24 | 4 | 101 |
| Alaska | 12 | - | 6 | - | 2,316 | 2,632 | 2 | 1 | 1 | 4 | - | - |
| Hawaii | 43 | 2 | 1 | - | 1,082 | 1,479 | - | 2 | - | - | - | 29 |
| Guam | - | U | - | - | 172 | 169 | U | U | U | U | U | 1 |
| P R | 77 | - | 5 | 1 | 2,074 | 2,680 | 1 | 1 | - | 1 | - | 7 |
| V I | 3 | - | - | - | 238 | 356 | - | - | - | - | - | - |
| Pac. Trust Terr | - | - | - | - | 413 | 766 | 1 | - | - | - | - | 43 |
| Amer Samoa | - | - | - | - | 46 | - | - | - | - | - | - | 2 |

N Not notifiable U Unavailable

**TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 1, 1986, and November 2, 1985 (44th Week)**

| Reporting Area | Malaria | Measles (Rubeola) | | | | | Menin-gococcal Infections | Mumps | | Pertussis | | | Rubella | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Indigenous | | Imported * | | Total | | | | | | | | | |
| | Cum. 1986 | 1986 | Cum. 1986 | 1986 | Cum. 1986 | Cum. 1985 | Cum. 1986 | 1986 | Cum. 1986 | 1986 | Cum. 1986 | Cum. 1985 | 1986 | Cum. 1986 | Cum. 1985 |
| UNITED STATES | 957 | 63 | 5,455 | 5 | 297 | 2,606 | 2,075 | 92 | 4,324 | 285 | 3,755 | 2,972 | 6 | 450 | 583 |
| NEW ENGLAND | 60 | - | 82 | - | 21 | 126 | 143 | - | 60 | - | 144 | 190 | - | 9 | 12 |
| Maine | 2 | - | 12 | - | 1 | 1 | 25 | - | - | - | 2 | 9 | - | - | - |
| N.H. | 3 | - | 43 | - | - | - | 6 | - | 14 | - | 75 | 105 | - | 1 | 2 |
| Vt. | 2 | - | - | - | - | - | 17 | - | 4 | - | 3 | 3 | - | 1 | - |
| Mass. | 32 | - | 24 | - | 13 | 118 | 36 | - | 10 | - | 34 | 46 | - | 4 | 6 |
| R.I. | 7 | - | 2 | - | - | - | 19 | - | 10 | - | 6 | 19 | - | 2 | - |
| Conn. | 14 | - | 1 | - | 7 | 7 | 40 | - | 22 | - | 24 | 8 | - | 1 | 4 |
| MID. ATLANTIC | 133 | - | 1,686 | 1 | 34 | 224 | 333 | 1 | 182 | 4 | 184 | 197 | 1 | 36 | 221 |
| Upstate N.Y. | 45 | - | 77 | 1 † | 24 | 85 | 113 | - | 60 | 2 | 118 | 101 | - | 27 | 17 |
| N.Y. City | 29 | U | 682 | U | 4 | 71 | 68 | U | 29 | U | 10 | 25 | U | 5 | 179 |
| N.J. | 34 | - | 905 | - | 4 | 28 | 30 | - | 46 | - | 17 | 11 | 1 | 4 | 11 |
| Pa. | 25 | - | 22 | - | 2 | 40 | 122 | 1 | 47 | 2 | 39 | 60 | - | - | 14 |
| E.N. CENTRAL | 58 | - | 1,053 | - | 28 | 535 | 290 | 65 | 2,936 | 16 | 356 | 714 | - | 45 | 37 |
| Ohio | 18 | - | - | - | 10 | 60 | 119 | 6 | 122 | 13 | 159 | 96 | - | 1 | - |
| Ind. | 2 | - | 27 | - | 11 | 57 | 31 | 1 | 37 | 3 | 29 | 188 | - | - | 1 |
| Ill. | 16 | - | 689 | - | 4 | 299 | 70 | 34 | 2,237 | - | 36 | 69 | - | 34 | 19 |
| Mich. | 18 | - | 59 | - | - | 60 | 61 | 21 | 308 | - | 35 | 46 | - | 8 | 16 |
| Wis. | 4 | - | 278 | - | 3 | 59 | 9 | 3 | 232 | - | 97 | 315 | - | 2 | 1 |
| W.N. CENTRAL | 29 | - | 322 | - | 17 | 12 | 101 | 2 | 115 | 229 | 1,370 | 213 | - | 13 | 19 |
| Minn. | 8 | - | 45 | - | 4 | 6 | 21 | - | 1 | - | 51 | 107 | - | 1 | 2 |
| Iowa | 1 | - | 133 | - | 1 | - | 11 | 2 | 36 | - | 19 | 28 | - | 1 | 1 |
| Mo. | 11 | - | 25 | - | 6 | 3 | 35 | - | 21 | 1 | 20 | 29 | - | 1 | 7 |
| N. Dak. | - | - | 25 | - | 1 | 2 | 1 | - | 3 | - | 5 | 9 | - | 1 | 2 |
| S. Dak. | 2 | - | - | - | - | - | 5 | - | 1 | - | 14 | 3 | - | - | - |
| Nebr. | 4 | - | - | - | - | - | 11 | - | - | - | 7 | 9 | - | - | - |
| Kans. | 3 | - | 94 | - | 5 | 1 | 17 | - | 53 | 228 | 1,254 | 28 | - | 9 | 7 |
| S. ATLANTIC | 114 | 22 | 685 | - | 55 | 329 | 378 | 7 | 213 | 12 | 719 | 485 | - | 14 | 52 |
| Del. | 1 | - | 1 | - | - | - | 4 | - | - | - | 227 | 2 | - | - | 2 |
| Md. | 14 | - | 26 | - | 9 | 113 | 45 | 1 | 20 | - | 163 | 276 | - | - | 6 |
| D.C. | 3 | - | - | - | 1 | 31 | 5 | - | - | - | - | - | - | - | - |
| Va. | 30 | - | 36 | - | 24 | 28 | 66 | 3 | 41 | 3 | 39 | 17 | - | - | 2 |
| W. Va. | 4 | - | 2 | - | - | 33 | 3 | - | 48 | - | 23 | 4 | - | - | 9 |
| N.C. | 5 | - | 3 | - | 1 | 9 | 61 | 1 | 22 | 5 | 73 | 30 | - | - | 1 |
| S.C. | 6 | - | 274 | - | - | 3 | 41 | 1 | 13 | - | 18 | 2 | - | - | 3 |
| Ga. | 12 | - | 79 | - | 14 | 8 | 54 | - | 28 | - | 129 | 92 | - | - | - |
| Fla. | 39 | 22 | 264 | - | 6 | 104 | 99 | 1 | 41 | 4 | 47 | 62 | - | 14 | 29 |
| E.S. CENTRAL | 19 | - | 58 | 3 | 12 | 7 | 109 | 3 | 46 | - | 47 | 55 | - | 4 | 3 |
| Ky. | 5 | - | - | - | 6 | 5 | 24 | - | 6 | - | 5 | 8 | - | 4 | 3 |
| Tenn. | 1 | - | 55 | - | 1 | 1 | 37 | 3 | 35 | - | 16 | 24 | - | - | - |
| Ala. | 9 | - | 1 | - | 1 | - | 35 | - | 4 | - | 25 | 19 | - | - | - |
| Miss. | 4 | - | 2 | 3 § | 4 | 1 | 13 | - | 1 | - | 1 | 4 | - | - | - |
| W.S. CENTRAL | 95 | 38 | 680 | - | 38 | 436 | 189 | 3 | 219 | - | 231 | 488 | 1 | 64 | 37 |
| Ark. | 1 | - | 276 | - | 2 | - | 27 | - | 33 | - | 18 | 14 | - | - | 1 |
| La. | 17 | - | 4 | - | - | 42 | 25 | - | 3 | - | 13 | 15 | - | - | - |
| Okla. | 10 | - | 37 | - | 2 | 1 | 28 | N | N | - | 117 | 163 | - | - | 1 |
| Tex. | 67 | 38 | 363 | - | 34 | 393 | 109 | 3 | 183 | - | 83 | 296 | 1 | 64 | 35 |
| MOUNTAIN | 31 | - | 302 | - | 29 | 539 | 100 | 2 | 237 | 13 | 255 | 206 | - | 23 | 6 |
| Mont. | - | - | - | - | 8 | 137 | 10 | - | 5 | 1 | 15 | 9 | - | 2 | - |
| Idaho | 1 | - | 1 | - | - | 137 | 4 | - | 8 | 1 | 42 | 15 | - | - | 2 |
| Wyo. | - | - | - | - | - | 5 | 2 | - | - | - | 4 | - | - | 1 | - |
| Colo. | 8 | - | 2 | - | 8 | 13 | 17 | - | 14 | 1 | 66 | 81 | - | 1 | - |
| N. Mex. | 5 | - | 33 | - | 7 | 6 | 9 | N | N | - | 20 | 11 | - | - | 2 |
| Ariz. | 11 | - | 252 | - | 6 | 241 | 22 | 1 | 187 | 9 | 65 | 38 | - | 2 | 1 |
| Utah | 3 | - | 12 | - | - | - | 10 | 1 | 15 | 1 | 39 | 52 | - | 14 | - |
| Nev. | 3 | - | 2 | - | - | - | 26 | - | 8 | - | 4 | - | - | 3 | 1 |
| PACIFIC | 418 | 3 | 587 | 1 | 63 | 398 | 432 | 9 | 316 | 11 | 449 | 424 | 4 | 242 | 196 |
| Wash. | 28 | - | 139 | - | 28 | 122 | 58 | 1 | 15 | 2 | 141 | 75 | - | 17 | 14 |
| Oreg. | 15 | - | 7 | - | 4 | 5 | 32 | N | N | - | 12 | 44 | - | 4 | 1 |
| Calif. | 374 | 2 | 413 | 1 † | 30 | 247 | 319 | 8 | 275 | 9 | 280 | 258 | 3 | 215 | 132 |
| Alaska | - | - | - | - | - | - | 13 | - | 6 | - | 2 | 30 | - | - | 1 |
| Hawaii | 1 | 1 | 28 | - | 1 | 24 | 10 | - | 20 | - | 14 | 17 | 1 | 6 | 48 |
| Guam | 1 | U | 4 | U | 1 | 11 | - | U | 4 | U | - | - | U | 4 | 2 |
| P.R. | 4 | - | 36 | - | - | 63 | 3 | 1 | 33 | - | 19 | 11 | - | 62 | 27 |
| V.I. | - | - | - | - | - | 10 | - | - | 16 | - | - | - | - | - | - |
| Pac. Trust Terr. | - | - | - | - | - | - | 1 | - | 11 | - | - | - | - | 2 | - |
| Amer. Samoa | - | - | 2 | - | - | - | - | - | 5 | - | - | - | - | 1 | - |

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

**TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 1, 1986, and November 2, 1985 (44th Week)**

| Reporting Area | Syphilis (Civilian) (Primary & Secondary) | | Toxic-shock Syndrome | Tuberculosis | | Tula-remia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|---|---|---|---|---|---|---|---|---|---|
| | Cum 1986 | Cum. 1985 | 1986 | Cum 1986 | Cum 1985 | Cum 1986 | Cum 1986 | Cum 1986 | Cum 1986 |
| UNITED STATES | 22,728 | 22,791 | 9 | 18,442 | 18,024 | 131 | 264 | 722+15 | 4,652 |
| NEW ENGLAND | 411 | 498 | - | 605 | 620 | 1 | 16 | 13 | 8 |
| Maine | 19 | 13 | - | 34 | 40 | - | - | - | - |
| N H | 10 | 36 | - | 23 | 20 | - | - | 2 | 1 |
| Vt | 9 | 6 | - | 16 | 7 | - | - | - | 2 |
| Mass | 215 | 248 | - | 335 | 370 | 1 | 13 | 4 | - |
| R I | 19 | 14 | - | 42 | 47 | - | - | 3 | 3 |
| Conn | 139 | 181 | - | 155 | 136 | - | 3 | 4 | 2 |
| MID ATLANTIC | 3,167 | 3,090 | - | 3,622 | 3,254 | 1 | 22 | 34 | 593 |
| Upstate N Y | 159 | 234 | - | 515 | 569 | - | 4 | 19 | 76 |
| N Y City | 1,755 | 1,871 | U | 1,884 | 1,569 | - | 9 | 5 | - |
| N J | 567 | 598 | - | 621 | 456 | 1 | 8 | 2 | 17 |
| Pa | 686 | 387 | - | 602 | 660 | - | 1 | 8 | 500 |
| E N CENTRAL | 812 | 870 | - | 2,214 | 2,187 | - | 22 | 54 | 129 |
| Ohio | 110 | 128 | - | 387 | 374 | - | 8 | 48 | 14 |
| Ind | 98 | 74 | - | 238 | 271 | - | 2 | - | 17 |
| Ill | 363 | 400 | - | 944 | 960 | - | 3 | 2 | 38 |
| Mich | 144 | 210 | - | 545 | 459 | - | 6 | 4 | 24 |
| Wis | 97 | 58 | - | 100 | 123 | - | 3 | - | 36 |
| W N CENTRAL | 180 | 195 | - | 548 | 499 | 38 | 9 | 49+2 | 709 |
| Minn | 29 | 39 | - | 130 | 107 | - | 2 | 1 | 112 |
| Iowa | 7 | 18 | - | 46 | 51 | 1 | - | 1 | 163 |
| Mo | 94 | 104 | - | 265 | 239 | 29 | 6 | 25 2 | 67 |
| N Dak | 5 | 2 | - | 9 | 10 | - | - | 1 | 144 |
| S Dak | 9 | 6 | - | 25 | 27 | 3 | - | 6 | 141 |
| Nebr | 11 | 7 | - | 12 | 15 | 1 | - | 6 | 29 |
| Kans | 25 | 19 | - | 61 | 50 | 4 | 1 | 9 | 53 |
| S ATLANTIC | 6,852 | 6,576 | - | 3,675 | 3,671 | 9 | 44 | 327+6 | 1,169 |
| Del | 52 | 34 | - | 39 | 39 | - | 1 | 1 | 1 |
| Md | 381 | 413 | - | 275 | 330 | 2 | 15 | 29 1 | 528 |
| D C | 255 | 286 | - | 136 | 133 | 1 | 4 | - | 31 |
| Va | 302 | 256 | - | 303 | 357 | 2 | 10 | 52 1 | 171 |
| W Va | 19 | 22 | - | 108 | 93 | - | 3 | 10 | 46 |
| N C | 439 | 591 | - | 503 | 470 | 1 | 4 | 124 3 | 9 |
| S C | 596 | 691 | - | 470 | 451 | - | - | 70 | 60 |
| Ga | 1,275 | 1,175 | - | 613 | 612 | 3 | - | 39 1 | 176 |
| Fla | 3,533 | 3,108 | - | 1,228 | 1,186 | - | 7 | 2 | 147 |
| E S CENTRAL | 1,579 | 1,760 | - | 1,648 | 1,579 | 12 | 3 | 107+5 | 313 |
| Ky | 61 | 59 | - | 369 | 383 | 4 | - | 22 1 | 91 |
| Tenn | 528 | 528 | - | 487 | 470 | 6 | 1 | 43 1 | 109 |
| Ala | 449 | 571 | - | 516 | 464 | 1 | 1 | 24 | 111 |
| Miss | 541 | 602 | - | 276 | 262 | 1 | 1 | 18 3 | 2 |
| W S CENTRAL | 4,508 | 5,273 | 1 | 2,303 | 2,326 | 57 | 23 | 127+2 | 641 |
| Ark | 214 | 284 | - | 315 | 274 | 40 | - | 10 | 147 |
| La | 785 | 939 | - | 378 | 335 | 1 | 1 | - | 19 |
| Okla | 120 | 168 | - | 215 | 220 | 11 | 2 | 100 2 | 57 |
| Tex | 3,389 | 3,882 | 1 | 1,395 | 1,497 | 5 | 20 | 17 | 418 |
| MOUNTAIN | 519 | 621 | 1 | 441 | 471 | 10 | 15 | 10 | 603 |
| Mont | 6 | 6 | - | 24 | 46 | 1 | 1 | 4 | 194 |
| Idaho | 13 | 5 | - | 20 | 22 | - | - | 2 | 9 |
| Wyo | 2 | 7 | - | - | 5 | - | - | 1 | 252 |
| Colo | 118 | 156 | - | 40 | 68 | 3 | 1 | 3 | 29 |
| N Mex | 62 | 112 | - | 86 | 76 | 1 | 1 | - | 6 |
| Ariz | 219 | 273 | 1 | 208 | 214 | - | 8 | - | 95 |
| Utah | 18 | 8 | - | 30 | 12 | 4 | 3 | - | 7 |
| Nev | 81 | 54 | - | 33 | 28 | 1 | 1 | - | 11 |
| PACIFIC | 4,700 | 3,908 | 7 | 3,386 | 3,417 | 3 | 110 | 1 | 487 |
| Wash | 120 | 97 | 1 | 176 | 198 | 1 | 3 | - | 5 |
| Oreg | 100 | 88 | - | 110 | 115 | - | - | - | 1 |
| Calif | 4,448 | 3,663 | 6 | 2,902 | 2,854 | 1 | 102 | 1 | 473 |
| Alaska | 1 | 4 | - | 46 | 89 | 1 | 1 | - | 8 |
| Hawaii | 31 | 56 | - | 152 | 161 | - | 4 | - | - |
| Guam | 1 | 2 | U | 34 | 36 | - | 1 | - | - |
| P R | 758 | 723 | - | 288 | 295 | - | 5 | - | 41 |
| V I | 1 | 3 | - | 1 | 1 | - | - | - | - |
| Pac. Trust Terr. | 215 | 128 | - | 62 | 75 | - | 46 | - | - |
| Amer. Samoa | - | - | - | 5 | - | - | - | - | - |

U Unavailable

## TABLE IV. Deaths in 121 U.S. cities,* week ending November 1, 1986 (44th Week)

| Reporting Area | All Causes, By Age (Years) | | | | | | P&I** Total |
|---|---|---|---|---|---|---|---|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | |
| NEW ENGLAND | 628 | 455 | 108 | 35 | 12 | 18 | 45 |
| Boston, Mass. | 176 | 112 | 39 | 11 | 3 | 11 | 17 |
| Bridgeport, Conn. | 42 | 31 | 9 | 1 | - | 1 | 4 |
| Cambridge, Mass. | 20 | 17 | 2 | - | 1 | - | 1 |
| Fall River, Mass. | 26 | 21 | 3 | 2 | - | - | - |
| Hartford, Conn. | 69 | 52 | 8 | 6 | 2 | 1 | 3 |
| Lowell, Mass. | 25 | 19 | 2 | 1 | 2 | 1 | - |
| Lynn, Mass. | 15 | 9 | 5 | 1 | - | - | - |
| New Bedford, Mass. | 27 | 22 | 3 | 2 | - | - | 1 |
| New Haven, Conn. | 49 | 27 | 13 | 5 | 1 | 3 | 5 |
| Providence, R.I. | 41 | 31 | 7 | 1 | 1 | 1 | 5 |
| Somerville, Mass. | 2 | 1 | 1 | - | - | - | - |
| Springfield, Mass. | 51 | 43 | 4 | 3 | 1 | - | 4 |
| Waterbury, Conn. | 28 | 24 | 3 | 1 | - | - | 2 |
| Worcester, Mass. | 57 | 46 | 9 | 1 | 1 | - | 3 |
| MID ATLANTIC | 2,772 | 1,817 | 562 | 269 | 63 | 61 | 127 |
| Albany, N.Y. | 65 | 47 | 13 | 3 | 2 | - | 1 |
| Allentown, Pa. | 16 | 14 | 2 | - | - | - | 1 |
| Buffalo, N.Y. | 110 | 77 | 22 | 3 | 4 | 4 | 8 |
| Camden, N.J. | 39 | 22 | 14 | 2 | - | 1 | - |
| Elizabeth, N.J. | 32 | 25 | 5 | 1 | 1 | - | 3 |
| Erie, Pa † | 36 | 25 | 9 | 1 | 1 | - | 1 |
| Jersey City, N.J. § | 50 | 31 | 11 | 5 | 1 | 2 | 2 |
| N.Y. City, N.Y. | 1,533 | 980 | 296 | 187 | 36 | 34 | 62 |
| Newark, N.J. | 53 | 16 | 14 | 18 | 2 | 3 | 3 |
| Paterson, N.J. | 26 | 15 | 5 | 4 | - | 2 | 2 |
| Philadelphia, Pa. § | 347 | 230 | 76 | 24 | 7 | 10 | 20 |
| Pittsburgh, Pa † | 57 | 39 | 13 | 2 | 3 | - | 3 |
| Reading, Pa. | 43 | 28 | 10 | 3 | 2 | - | 1 |
| Rochester, N.Y. | 122 | 92 | 21 | 6 | 1 | 2 | 12 |
| Schenectady, N.Y. | 32 | 25 | 5 | 1 | 1 | - | 1 |
| Scranton, Pa † | 31 | 26 | 5 | - | - | - | 2 |
| Syracuse, N.Y. | 81 | 54 | 21 | 3 | 1 | 2 | 1 |
| Trenton, N.J. | 33 | 22 | 8 | 2 | - | 1 | - |
| Utica, N.Y. | 36 | 25 | 9 | 2 | - | - | 2 |
| Yonkers, N.Y. | 30 | 24 | 3 | 2 | 1 | - | 2 |
| E.N. CENTRAL | 2,414 | 1,592 | 508 | 168 | 59 | 87 | 106 |
| Akron, Ohio | 65 | 46 | 13 | 2 | 1 | 3 | - |
| Canton, Ohio | 33 | 28 | 3 | 2 | - | - | 1 |
| Chicago, Ill. § | 564 | 362 | 125 | 45 | 10 | 22 | 16 |
| Cincinnati, Ohio | 164 | 111 | 33 | 8 | 4 | 8 | 12 |
| Cleveland, Ohio | 176 | 110 | 39 | 14 | 7 | 6 | 3 |
| Columbus, Ohio | 122 | 77 | 28 | 9 | 3 | 5 | 9 |
| Dayton, Ohio | 129 | 82 | 33 | 12 | - | 2 | 3 |
| Detroit, Mich. | 237 | 144 | 51 | 22 | 10 | 10 | 10 |
| Evansville, Ind. | 40 | 31 | 6 | 1 | 1 | 1 | 1 |
| Fort Wayne, Ind. | 81 | 52 | 21 | 2 | 2 | 4 | 3 |
| Gary, Ind. | 21 | 6 | 8 | 4 | 1 | 2 | 1 |
| Grand Rapids, Mich. | 82 | 64 | 11 | 3 | 2 | 2 | 6 |
| Indianapolis, Ind. | 216 | 134 | 49 | 19 | 6 | 8 | 6 |
| Madison, Wis. | 44 | 26 | 11 | 3 | - | 4 | 4 |
| Milwaukee, Wis. | 140 | 117 | 16 | 4 | 1 | 2 | 5 |
| Peoria, Ill. | 53 | 35 | 11 | 3 | 2 | 2 | 7 |
| Rockford, Ill. | 41 | 26 | 11 | - | 2 | 2 | 7 |
| South Bend, Ind. | 42 | 27 | 9 | 5 | 1 | - | 4 |
| Toledo, Ohio | 110 | 75 | 19 | 7 | 6 | 3 | 7 |
| Youngstown, Ohio | 54 | 39 | 11 | 3 | - | 1 | 1 |
| W.N. CENTRAL | 869 | 609 | 154 | 54 | 27 | 24 | 49 |
| Des Moines, Iowa | 54 | 41 | 7 | 4 | 1 | 1 | 4 |
| Duluth, Minn. | 23 | 18 | 3 | 1 | 1 | - | - |
| Kansas City, Kans. | 34 | 26 | 3 | 3 | - | 2 | 1 |
| Kansas City, Mo. | 126 | 83 | 17 | 11 | 7 | 8 | 11 |
| Lincoln, Nebr. | 30 | 24 | 4 | - | 2 | - | 2 |
| Minneapolis, Minn. | 209 | 143 | 47 | 10 | 4 | 4 | 7 |
| Omaha, Nebr. | 81 | 55 | 17 | 5 | 2 | 2 | 5 |
| St. Louis, Mo. | 171 | 125 | 28 | 11 | 6 | 1 | 11 |
| St. Paul, Minn. | 69 | 43 | 15 | 5 | 2 | 4 | 3 |
| Wichita, Kans. | 72 | 51 | 13 | 4 | 2 | 2 | 5 |
| S. ATLANTIC | 1,425 | 865 | 307 | 143 | 58 | 50 | 44 |
| Atlanta, Ga. | 187 | 118 | 27 | 24 | 9 | 9 | 1 |
| Baltimore, Md. | 365 | 202 | 91 | 43 | 19 | 10 | 15 |
| Charlotte, N.C. | 72 | 44 | 18 | 5 | 3 | 2 | 4 |
| Jacksonville, Fla. | 114 | 78 | 22 | 10 | 3 | 1 | 3 |
| Miami, Fla. | 144 | 81 | 31 | 19 | 8 | 5 | 3 |
| Norfolk, Va. | 61 | 34 | 20 | 4 | 1 | 2 | - |
| Richmond, Va. | 79 | 49 | 18 | 7 | 3 | 2 | 6 |
| Savannah, Ga. | 48 | 32 | 13 | 1 | 1 | 1 | 4 |
| St. Petersburg, Fla. | 103 | 84 | 9 | 4 | 3 | 3 | 2 |
| Tampa, Fla. | 67 | 36 | 14 | 8 | 3 | 4 | 3 |
| Washington, D.C. | 165 | 88 | 44 | 17 | 5 | 11 | 3 |
| Wilmington, Del. | 20 | 19 | - | 1 | - | - | - |
| E.S. CENTRAL | 726 | 437 | 171 | 63 | 22 | 32 | 29 |
| Birmingham, Ala. | 125 | 83 | 22 | 9 | 5 | 6 | 2 |
| Chattanooga, Tenn. | 67 | 40 | 14 | 8 | 2 | 3 | 6 |
| Knoxville, Tenn. | 66 | 48 | 14 | 1 | 3 | - | 3 |
| Louisville, Ky. | 99 | 58 | 30 | 7 | 2 | 2 | 4 |
| Memphis, Tenn. | 118 | 68 | 29 | 14 | 4 | 2 | 4 |
| Mobile, Ala. | 89 | 45 | 21 | 12 | 2 | 9 | 4 |
| Montgomery, Ala. | 41 | 26 | 11 | 1 | - | 3 | 1 |
| Nashville, Tenn. | 121 | 69 | 30 | 11 | 4 | 7 | 5 |
| W.S. CENTRAL | 1,287 | 794 | 290 | 108 | 39 | 56 | 68 |
| Austin, Tex. | 59 | 38 | 13 | 3 | 3 | 2 | 8 |
| Baton Rouge, La. | 32 | 22 | 5 | 3 | 1 | 1 | 1 |
| Corpus Christi, Tex. | 38 | 24 | 8 | 1 | 2 | 3 | 2 |
| Dallas, Tex. | 176 | 104 | 36 | 21 | 9 | 6 | 9 |
| El Paso, Tex. | 43 | 26 | 13 | 1 | 1 | 2 | 8 |
| Fort Worth, Tex. | 96 | 56 | 23 | 8 | 2 | 7 | 3 |
| Houston, Tex. | 289 | 150 | 74 | 41 | 12 | 12 | 5 |
| Little Rock, Ark. | 114 | 75 | 25 | 6 | 3 | 5 | 9 |
| New Orleans, La. | 96 | 54 | 23 | 11 | 2 | 6 | - |
| San Antonio, Tex. | 177 | 121 | 40 | 5 | 2 | 9 | 17 |
| Shreveport, La. § | 61 | 42 | 13 | 4 | 1 | 1 | 2 |
| Tulsa, Okla. | 106 | 82 | 17 | 4 | 1 | 2 | 4 |
| MOUNTAIN | 655 | 436 | 129 | 49 | 22 | 18 | 25 |
| Albuquerque, N.Mex. | 72 | 49 | 12 | 4 | 5 | 1 | 3 |
| Colo. Springs, Colo. | 43 | 30 | 8 | 1 | 2 | 2 | 3 |
| Denver, Colo. | 122 | 71 | 25 | 15 | 6 | 5 | 5 |
| Las Vegas, Nev. | 78 | 50 | 20 | 5 | 2 | 1 | - |
| Ogden, Utah | 32 | 22 | 7 | 2 | 1 | - | 3 |
| Phoenix, Ariz. | 132 | 84 | 29 | 9 | 3 | 7 | 4 |
| Pueblo, Colo. | 21 | 19 | 1 | 1 | - | - | 2 |
| Salt Lake City, Utah | 45 | 29 | 10 | 4 | 1 | 1 | 1 |
| Tucson, Ariz. | 110 | 82 | 17 | 8 | 2 | 1 | 4 |
| PACIFIC | 1,933 | 1,291 | 383 | 169 | 37 | 48 | 106 |
| Berkeley, Calif. | 17 | 9 | 3 | 3 | 1 | 1 | 3 |
| Fresno, Calif. | 87 | 56 | 14 | 7 | 4 | 5 | 15 |
| Glendale, Calif. | 28 | 22 | 4 | 2 | - | - | 1 |
| Honolulu, Hawaii | 75 | 55 | 9 | 6 | - | 5 | 10 |
| Long Beach, Calif. § | 94 | 63 | 18 | 6 | 2 | 5 | 9 |
| Los Angeles, Calif. | 578 | 380 | 116 | 64 | 10 | 5 | 16 |
| Oakland, Calif. § | 78 | 51 | 14 | 6 | 5 | 2 | 3 |
| Pasadena, Calif. | 30 | 22 | 2 | 3 | 1 | 2 | 1 |
| Portland, Oreg. | 136 | 98 | 29 | 3 | 2 | 4 | 11 |
| Sacramento, Calif. | 135 | 89 | 24 | 15 | 2 | 5 | 7 |
| San Diego, Calif. | 125 | 77 | 29 | 16 | 1 | 1 | 4 |
| San Francisco, Calif. | 164 | 107 | 36 | 17 | 2 | 2 | 3 |
| San Jose, Calif. | 153 | 107 | 33 | 7 | 2 | 4 | 12 |
| Seattle, Wash. | 135 | 86 | 30 | 11 | 4 | 4 | 2 |
| Spokane, Wash. | 51 | 37 | 11 | 1 | 1 | 1 | 7 |
| Tacoma, Wash. | 47 | 32 | 11 | 2 | - | 2 | 2 |
| TOTAL | 12,709†† | 8,296 | 2,612 | 1,058 | 339 | 394 | 599 |

* 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.

§ Data not available. Figures are estimates based on average of past 4 weeks.

## St. Louis Encephalitis — Baytown and Houston, Texas

In the summer of 1986, Harris County (Baytown and Houston), Texas, experienced its largest outbreak of St. Louis encephalitis (SLE) since 1980. As of October 7, 25 confirmed cases and one presumptive case had been reported; four patients died. The focus of virus activity was Baytown, a town of 56,910 located 30 miles east of Houston. Twenty-one cases occurred in the Baytown area; 19 of the patients resided within the city limits. Four of the patients with confirmed disease resided in Houston, and the patient with the presumptive case was a Pasadena, Texas, resident who had been exposed to infection in Houston.

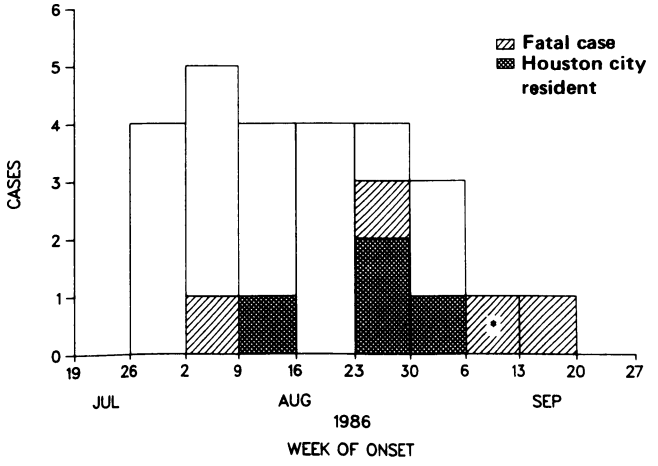
Before any cases were recognized, routine mosquito surveillance had led the Harris County Mosquito Control District to anticipate the outbreak. Vector mosquitoes collected in Baytown on July 15 and in the weeks that followed had had unusually high SLE virus infection rates (minimum infection rate >20 infected mosquitoes/1,000 tested), suggesting the likelihood of subsequent human disease. By August, the medical community in Harris County had been alerted to the possibility of a large SLE outbreak, and concentrated efforts to destroy adult mosquitoes had begun. Mosquito surveillance was intensified in Houston, but substantial numbers of infected mosquitoes were not detected there until August and September.

A countywide epidemic of enteroviral meningitis that began in March and continued through July made initial detection of the outbreak difficult. However, in September, a search of all Baytown hospital records disclosed only one case of SLE that had not already been recognized by physicians or infection-control nurses.

The 26 patients became ill in the period July 28-September 16 (Figure 1). Patients who lived in or were exposed to infection in Houston became ill notably later than those in Baytown. Although patients ranged from 10 to 84 years of age, 11 of them—including all four who died—were ≥55 years of age. The age- and sex-specific attack rates for Baytown (Table 1) showed a sharp increase in risk with advancing age. The attack rate for Baytown was 33.4/100,000 population, but cases were clustered principally in old, impoverished neighborhoods in the center of town. Ten of the 19 Baytown patients lived in the city's three poorest census tracts (attack rate, 85.2/100,000).

A case-control study of risk factors for infection was conducted. Controls were patients who were initially believed to have SLE but whose serologic test results did not indicate SLE

**FIGURE 1. St. Louis encephalitis cases by week of onset, residence and outcome — Baytown and Houston, Texas, 1986**




*Harris County resident exposed in Houston.

*St. Louis Encephalitis — Continued*

infection. Preliminary results indicated that the risk of acquiring SLE was associated with a) inadequate screening on dwellings (odds ratio [OR]=6.0), b) lack of air-conditioning (OR ≥10.0), and c) sitting outside the residence (OR=5.6). A trend toward risk was associated with window air-conditioning as opposed to central air-conditioning and with smoking cigarettes (p=0.07, Fisher's exact test). Patients and controls did not spend a significantly different number of hours outdoors or in such activities as gardening, walking outdoors, or watching television indoors.

*Reported by MA Canfield, MS, VL Flannery, MS, T Hyslop, MD, MPH, CY Svrcek, MSN, Harris County Health Dept, DA Sprenger, PhD, RE Bartnett, Harris County Mosquito Control District, HW Brister, CA Riser, MD, Baytown Health Dept, CR Craig, Gulf Coast Hospital, BM Conrad, San Jacinto Methodist Hospital, ME Lewis, Humana Hospital, Baytown, KH Sullivan, PhD, GR Reeve, PhD, LM Little, PhD, J Haughton, MD, MPH, City of Houston Dept of Health and Human Svcs, CM Reed, MPH, CE Alexander, MD, MPH, State Epidemiologist, Bureau of Epidemiology, Texas Dept of Health; Div of Vector-Borne Viral Diseases, Center for Infectious Diseases, CDC.*

**Editorial Note:** Harris County has been the focus of numerous SLE epidemics. In 1964, an outbreak centered in Houston involved over 1,000 cases (*1,2*). Since that time, there have been frequent outbreaks of SLE in Houston and other areas of Harris County, but the cluster of cases this summer was the first reported for Baytown.

The epidemiologic characteristics of this outbreak followed a typical pattern. Attack rates rose with advancing age, and the risks for illness and mortality were highest for the elderly (*1,3,4*). The attack rate in Baytown—33.4/100,000 population—was typical for urban-centered SLE epidemics (*3,4*) and similar to the incidence in the 1964 Houston epidemic (19.5/100,000) (*1*). The highest attack rates in Baytown were associated with old, impoverished neighborhoods in the center of the city. This pattern was also similar to that for the 1964 Houston outbreak, i.e., the epicenter of epidemic activity was downtown Houston, and risk declined in direct proportion to distance from the center of the city (*1*).

The association between risk and dwellings poorly sealed against mosquitoes as well as the absence of an association between risk and the number of hours spent outdoors suggests that exposure may have occurred indoors or in a peridomestic setting outside. The present case-control study confirms an earlier report from serologic surveys that risk of infection is associated with inadequate screening or the absence of air-conditioning (*5*). The reasons underlying the association between cigarette smoking and risk of acquiring SLE are unknown. Entomologic descriptions of the peridomestic habits of the epidemic vector, *Culex quinquefasciatus*, have led to its common name, "southern house mosquito" (*6*). The case-control study provides epidemiologic evidence that epidemic SLE virus infection may be transmitted indoors.

When outbreaks of SLE occur, the usual public health advisory to seek protection indoors assumes that houses are adequately sealed against mosquitoes. An advisory to repair window screens—and help for persons who need assistance in doing so—may be a more ef-

**TABLE 1. Age- and sex-specific attack rates for St. Louis encephalitis — Baytown, Texas, 1986**

| Age (years) | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Number | Rate* | Number | Rate* | Number | Rate* |
| ≤24 | 1 | (7.6) | 2 | (15.6) | 3 | (11.5) |
| 25-54 | 4 | (36.1) | 3 | (28.5) | 7 | (32.4) |
| ≥55 | 5 | (124.7) | 4 | (76.1) | 9 | (107.9) |
| **Total** | **10** | **(35.3)** | **9** | **(31.5)** | **19** | **(33.4)** |

*Cases/100,000 population, based on 1980 census data.

*St. Louis Encephalitis — Continued*

fective preventive measure in impoverished neighborhoods where the risk of SLE infection appears highest.

The 1986 outbreak of SLE in Baytown and Houston provides a clear example of the value of mosquito surveillance in anticipating and limiting human infection. Results of mosquito surveillance corresponded temporally and geographically to the occurrence of human cases. Cases and virus isolates from mosquitoes in Houston were reported relatively late in comparison with the reporting of cases and virus activity in Baytown. Mosquito surveillance also accurately indicated that a large outbreak would occur in Baytown but not elsewhere in the county. Present methods of detecting viruses in mosquitoes through cell culture or mouse innoculation require 1 to 2 weeks. An antigen detection immunoassay that identifies SLE virus antigen in 1 day is being evaluated in several mosquito control districts and should improve the timeliness of surveillance.

Although the outbreak in Baytown was the largest cluster of SLE cases this year, sporadic SLE virus activity was widespread in the United States. The Baytown outbreak was part of more diffuse activity on the Gulf Coast. To the south, a case was reported from Matagorda County, Texas. To the east, four cases were reported in Port Arthur, Texas, and one case each was reported in Lake Charles and in Baton Rouge, Louisiana. In the Upper Midwest, cases were reported in Fargo, North Dakota, and Scotts Bluff, Nebraska. (The Scotts Bluff patient was visiting the area.) In July, two cases were reported from Los Angeles, California.

Major urban-centered SLE outbreaks have recurred in a 10-year cycle. The last nationwide epidemic of SLE occurred in 1976, when more than 2,000 cases were reported (*3*). Small premonitory outbreaks often have foreshadowed larger epidemics the following year (*3*). The 1986 SLE virus activity indicates both the possibility of more widespread transmission next year and the need for careful surveillance.

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**Erratum: Vol. 35, No. 42**

**p. 655** In Table 1, Hispanic AIDS cases included 254 cases in adults (age ≥15 years) and 11 cases in children (age <15 years) that were citizens of Puerto Rico. In calculating the cumulative incidences, however, the denominator included only the U.S. population. If the Puerto Rican population is included in the denominator, the cumulative incidence for adults is 291.9/1,000,000 population, and for children, 13.7/1,000,000 population. Alternatively, if the Puerto Rican cases are excluded from the numerator, the cumulative incidence for adults is 330.6/1,000,000 population, and for children, 14.3/1,000,000 population.

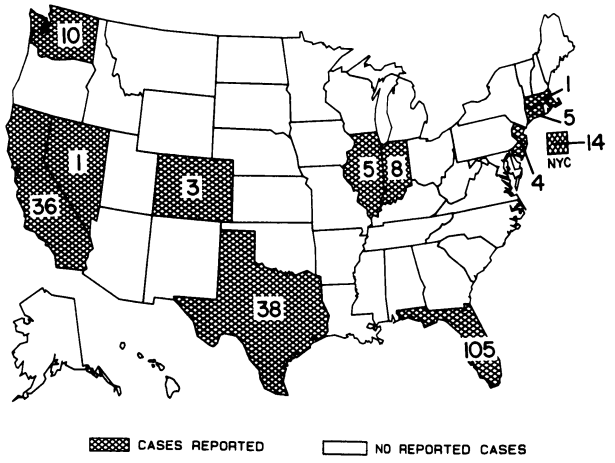
In Tables 2 and 3, the U.S. population provided for reference does not include the Puerto Rican population. The AIDS cases in these tables include cases from Puerto Rico. For reference, the total U.S. population including Puerto Rico is 177,442,206 adults (80.4% white, 10.5% black, 6.8% Hispanic, and 2.3% other races) and 52,299,613 children (71.8% white, 14.3% black, 10.9% Hispanic, and 3.0% other races).

*Notice to Readers*

## Delay in Publication of Tables I-IV

Because Veterans' Day (a Federal holiday) falls on Tuesday, November 11, this year, Tables I-IV—specified notifiable diseases and deaths in 121 U.S. cities—for the week ending November 8 cannot be prepared in time for the November 14 issue of the *MMWR*. Therefore, Volume 35, Number 45, dated November 14, 1986, will contain text only and Volume 35, Number 46, dated November 21, 1986, will contain a double set of Tables I-IV for the weeks ending November 8 and November 15. The data from Tables I-IV will be available upon request after 1:00 p.m. on Thursday, November 13. Call (404) 329-3761.

**FIGURE I. Reported measles cases — United States, weeks 40-43, 1986**

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