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MORBIDITY AND MORTALITY WEEKLY REPORT

509 International Notes
Diphtheria in Indochinese Refugees
from Thailand

510 ACIP Recommendation
Poliomyelitis Prevention

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International Notes

Diphtheria in Indochinese Refugees from Thailand

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At the Lumphini refugee transit center in Bangkok, Thailand, a 2-year-old girl developed clinical evidence of diphtheria and was hospitalized on October 20. She had arrived by bus the night before from Leoi Camp in northern Thailand, where in the preceding month a child had died with pharyngitis and fever of unknown cause. On October 22, the flow of refugees into Lumphini Center was stopped, and active surveillance for diphtheria was initiated at both the camp and the center and among refugees arriving into the United States from Lumphini.

Among 96 refugees who arrived in Los Angeles on October 26, 7 were found to have pyrexia and pharyngitis without pharyngeal exudate or pseudomembrane and were cultured for *Corynebacterium diphtheriae*. One was culture positive: a 32-year-old man, with no known prior diphtheria immunization, who along with 5 well family members traveled to Denver to join his sponsor family before the culture results were available. Biotyping and toxigenicity testing of his isolate are not complete. Among 29 refugees who arrived in Honolulu on October 29, one, a 1-year-old Cambodian boy, had possible signs of diphtheria. The boy was transferred to Tripler Air Force Medical Center for evaluation. Cultures of the boy and 3 family contacts are pending. Culture or clinical evidence of diphtheria was not identified in refugees from 5 other flights arriving in the United States through October 29.

Reported by S Fannin, MD, Los Angeles County Health Dept; J Chin, MD, State Epidemiologist, California Dept of Health Services; RS Hopkins, MD State Epidemiologist, Colorado State Dept of Health; K Wells, MD, USPHS Outpatient Clinic, Honolulu; NH Wiebenga, MD, State Epidemiologist, Hawaii State Dept of Health; Quarantine Div, Field Services Div, and Special Pathogens Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Evidence of diphtheria in refugees at Lumphini Center and possibly at Leoi Camp has prompted several control measures. Attempts have been increased to initiate diphtheria immunization of all persons at the Lumphini Center and other transit camps. The goal is to immunize all refugees at least twice, including once on arrival at a camp and once 3 weeks later. A waiting period of at least 1 week is planned between the second toxoid immunization and departure from Thailand. Until the immunization program is fully implemented and shown to be effective, refugees scheduled to leave Bangkok will be screened within 24 hours of departure for clinical evidence of diphtheria. Those with pyrexia and pharyngitis, exudative pharyngitis, or pseudomembranes will be detained, cultured, and, if indicated, treated for diphtheria. Upon arrival in the United States, refugees will again be screened for evidence of diphtheria. Any persons suspected to have the disease will be cultured and isolated pending results of culture.

Recommendation of the Immunization
Practices Advisory Committee (ACIP)

Poliomyelitis Prevention

This revised ACIP recommendation on poliomyelitis prevention addresses issues important in poliomyelitis control in the United States today. Specifically, situations that constitute increased risk are defined, and alternatives for protection are outlined. Recommendations for immunization of adults are presented, clarifying the role of Inactivated Polio Vaccine in immunizing adults. These recommendations also address the problems of interrupted immunization schedules and completion of primary immunization. Oral Polio Vaccine remains the vaccine of choice for primary immunization of children.

INTRODUCTION

Poliovirus vaccines, used widely since 1955, have dramatically reduced the incidence of poliomyelitis in the United States. The annual number of reported cases of paralytic disease declined from more than 18,000 in 1954 to less than 20 in 1973-1978. The risk of poliomyelitis is generally very small in the United States today, but epidemics are certain to occur if the immunity of the population is not maintained by immunizing children beginning in the first year of life.

The proportion of the U.S. population fully immunized against poliomyelitis appears to have declined in recent years. The United States Immunization Survey in 1978 indicated that only 60% of 1- to 4-year-old children had completed primary vaccination against poliomyelitis. Rates for infants and young children in disadvantaged urban and rural areas were even lower. Recent intensive immunization efforts have reversed this downward trend, but clearly there remain many unimmunized (or incompletely immunized) children.

Laboratory surveillance of enteroviruses shows that the circulation of wild polioviruses has diminished markedly. Inapparent infection with wild strains no longer contributes significantly to establishing or maintaining immunity, making universal vaccination of infants and children even more important.

POLIOVIRUS VACCINES

Two types of poliovirus vaccines are currently licensed in the United States: Oral Polio Vaccine (OPV)* and Inactivated Polio Vaccine (IPV).†

Oral Polio Vaccine (OPV)

Since it was licensed in the United States in 1963, trivalent OPV, the live attenuated vaccine combining all 3 strains of poliovirus, has almost totally supplanted the individual monovalent OPV antigens used in the early 1960s. Full primary vaccination with OPV will produce long-lasting immunity to all 3 poliovirus types in more than 95% of recipients. Most recipients are protected after a single dose.

OPV consistently induces intestinal immunity that provides resistance to reinfection with polioviruses. Administration of OPV may interfere with simultaneous infection by wild polioviruses, a property which is of special value in epidemic-control campaigns. In rare instances (once in approximately 3 million doses distributed) OPV has been associated with paralytic disease in vaccine recipients or their close contacts. In the 10-year

*Official name: Poliovirus Vaccine, Live, Oral, Trivalent.

†Official name: Poliomyelitis Vaccine.

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period 1969-1978, approximately 242 million doses of OPV were distributed, and 76 cases of paralysis associated with vaccine were reported. Eighteen cases of paralysis occurred in otherwise healthy vaccine recipients, 47 cases in healthy close contacts of vaccine recipients, and 11 cases in persons (recipients or contacts) with immune deficiency conditions.

Inactivated Polio Vaccine (IPV)

Licensed in 1955, IPV has been extensively used in this country and many other parts of the world. It is given by subcutaneous injection. Where extensively used, IPV has brought about a great reduction in paralytic poliomyelitis cases. Approximately 428 million doses have been administered in the United States, mostly before 1962. Although IPV has not been widely used in this country for more than a decade, a Canadian product licensed for use in the United States is now available.

It is generally accepted that primary vaccination with 4 doses of IPV produces immunity to all 3 poliovirus types in more than 95% of recipients. Additional experience with the currently available, more potent, IPV product is necessary to establish whether the duration of immunity is comparable to that induced by OPV. Experience in other countries forms the basis for the present recommendations on booster doses.

There is considerable evidence from epidemiologic studies that immunizing with IPV diminishes circulation of wild poliovirus in the community, although it is known that persons vaccinated with IPV can subsequently be infected with, and become intestinal carriers of, either wild strains or attenuated vaccine virus strains. No paralytic reactions to IPV are known to have occurred since the 1955 cluster of poliomyelitis cases caused by vaccine that contained live polioviruses that had escaped inactivation. Serious adverse reactions are not anticipated with the current IPV product.

ROUTINE IMMUNIZATION

Rationale for Choice of Vaccine

Although IPV and OPV are both effective in preventing poliomyelitis, OPV is the vaccine of choice for primary immunization of children in the United States when the benefits and risks for the entire population are considered. OPV is preferred because it induces intestinal immunity, is simple to administer, is well accepted by patients, results in immunization of some contacts of vaccinated persons, and has a record of having essentially eliminated disease associated with wild polioviruses in this country. The choice of OPV as the preferred polio vaccine in the United States has also been made by the Committee on Infectious Diseases of the American Academy of Pediatrics (1) and a special expert committee of the Institute of Medicine, National Academy of Sciences (2).

Some poliomyelitis experts contend that greater use of IPV in the United States for routine vaccination would provide continued control of naturally occurring poliovirus infections and simultaneously reduce the problem of OPV-associated disease. They argue that there is no substantial evidence that OPV and currently available IPV differ in their ability to protect individuals from disease. They question the public health significance of higher levels of gastrointestinal immunity achieved with OPV. Finally, they question whether the transmission of vaccine virus to close contacts contributes substantially to the level of immunity achieved in the community.

Some countries prevent poliomyelitis successfully with IPV. However, because of many differences between these countries and the United States, particularly with respect to risks of exposure to wild polioviruses and the ability to achieve and maintain very high vaccination rates in the population, their experiences with IPV may not be directly

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applicable here. Based on current achievements in the United States with other vaccines, it is doubtful that a sufficient number of persons would regularly receive vaccination with IPV to sustain the present level of poliomyelitis protection in the community and to prevent recurrence of outbreaks.

Prospective vaccinees or their parents should be made aware of the polio vaccines available and the reasons why recommendations are made for giving specific vaccines at particular ages and under certain circumstances. Furthermore, the benefits and risks of the vaccines for individuals and the community should be stated so that vaccination is carried out among persons who are fully informed.

RECOMMENDATIONS FOR INFANTS, CHILDREN, AND ADOLESCENTS

Primary Immunization

OPV: For infants, children, and adolescents (up to the 18th birthday) the primary series of OPV consists of 3 doses. In infancy the primary series is integrated with DTP vaccination, and the first dose is commonly given at 6-12 weeks of age. At all ages the first 2 doses should be separated by at least 6, and preferably 8, weeks. The third dose is given at least 6 weeks, and preferably 8-12 months, after the second dose.

(Continued on page 517)

TABLE I. Summary — cases of specified notifiable diseases, United States
(Cumulative totals include revised and delayed reports through previous weeks.)

| DISEASE | 43rd WEEK ENDING | | MEDIAN 1974-1978** | CUMULATIVE, FIRST 43 WEEKS | | |
|---|---------------------|----------------------|-----------------------|----------------------------|----------------------|-----------------------|
| | October 27, 1978 | October 28, 1978* | | October 27, 1979 | October 28, 1978* | MEDIAN 1974-1978** |
| Aseptic meningitis | 254 | 199 | 113 | 6,640 | 5,329 | 3,323 |
| Brucellosis | 1 | 3 | 2 | 135 | 146 | 185 |
| Chickenpox | 762 | 997 | 1,104 | 174,414 | 127,708 | 127,708 |
| Diphtheria | - | - | - | 64 | 63 | 128 |
| Encephalitis: Primary (arthropod-borne & unspec.) | 27 | 28 | 34 | 842 | 1,009 | 1,009 |
| Post-infectious | 3 | 1 | 3 | 187 | 198 | 215 |
| Hepatitis, Viral: Type B | 273 | 308 | 268 | 11,956 | 12,412 | 12,404 |
| Type A | 479 | 670 | 670 | 24,263 | 24,123 | 27,923 |
| Type unspecified | 234 | 203 | 178 | 8,828 | 6,954 | 6,819 |
| Malaria | 24 | 17 | 6 | 616 | 624 | 393 |
| Measles (rubeola) | 40 | 125 | 155 | 12,506 | 24,670 | 24,545 |
| Meningococcal infections: Total | 26 | 35 | 25 | 2,137 | 2,018 | 1,292 |
| Civilian | 26 | 35 | 25 | 2,125 | 1,994 | 1,275 |
| Military | - | - | - | 12 | 24 | 24 |
| Mumps | 106 | 133 | 371 | 11,844 | 14,170 | 34,118 |
| Pertussis | 18 | 27 | 27 | 1,118 | 1,745 | 1,422 |
| Rubella (German measles) | 51 | 90 | 90 | 10,990 | 17,265 | 15,321 |
| Tetanus | - | 1 | 3 | 58 | 69 | 69 |
| Tuberculosis | 539 | 557 | 622 | 23,114 | 24,024 | 25,189 |
| Tularemia | 3 | 2 | 2 | 170 | 107 | 113 |
| Typhoid fever | 5 | 19 | 10 | 412 | 433 | 350 |
| Typhus fever, tick-borne (Rky. Mt. spotted) | 16 | 12 | 12 | 978 | 1,002 | 841 |
| Veneral diseases: | | | | | | |
| Gonorrhea: Civilian | 21,335 | 22,696 | 21,871 | 826,597 | 837,055 | 836,412 |
| Military | 395 | 533 | 511 | 22,675 | 21,446 | 22,403 |
| Syphilis, primary & secondary: Civilian | 607 | 555 | 475 | 20,602 | 17,791 | 17,791 |
| Military | 10 | 5 | 5 | 255 | 251 | 261 |
| Rabies in animals | 81 | 80 | 44 | 4,191 | 2,658 | 2,508 |

TABLE II. Notifiable diseases of low frequency, United States

| | CUM 1978 | | CUM 1979 |
|-----------------------------|----------|--|----------|
| Anthrax | - | Poliomyelitis: Total | 25 |
| Botulism †(Ky 1) | 24 | Paralytic | 21 |
| Cholera | 1 | Painless (Colo. 1) | 83 |
| Congenital rubella syndrome | 39 | Rabies in man | 3 |
| Leprosy †(Fla. 1) | 144 | Trichinosis | 128 |
| Leptospirosis (Texas 1) | 41 | Typhus fever, flea-borne (endemic, murine) | 52 |
| Plague | 10 | | |

* Delayed reports received for calendar year 1978 are used to update last year's weekly and cumulative totals.

** Medians for gonorrhea and syphilis are based on data for 1976-1978.

† The following delayed reports will be reflected in next week's cumulative totals: Botulism: Ky. +2; Leprosy: S.C. +1, Pac.Tr.Terr. +1

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
October 27, 1979, and October 28, 1978 (43rd week)

| REPORTING AREA | ASEPTIC MENIN- GITIS | BRU- CEL- LOSIS | CHICKEN- POX | DIPHTHERIA | | ENCEPHALITIS | | | HEPATITIS (VIRAL), BY TYPE | | | MALARIA | |
|-------------------|----------------------------|-----------------------|-----------------|------------|----|--------------|-------|----------------------|----------------------------|-----|-------------|---------|-----|
| | | | | | | Primary | | Post-in- fectious | B | A | Unspecified | | |
| | | | | | | 1979 | 1978* | | | | | | |
| UNITED STATES | 254 | 1 | 762 | - | 64 | 27 | 28 | 3 | 273 | 479 | 234 | 24 | 616 |
| NEW ENGLAND | 4 | - | 139 | - | - | 2 | - | - | 8 | 11 | 12 | 1 | 39 |
| Maine | - | - | 32 | - | - | - | - | - | - | 3 | 1 | - | 3 |
| N.H. | - | - | 21 | - | - | - | - | - | 1 | - | 2 | - | 1 |
| Vt. | - | - | - | - | - | - | - | - | - | 2 | - | - | - |
| Mass. | 1 | - | 45 | - | - | 2 | - | - | 2 | 2 | 7 | - | 11 |
| R.I. | - | - | 14 | - | - | - | - | - | 1 | 4 | - | - | 9 |
| Conn.† | 3 | - | 27 | - | - | - | - | - | 4 | - | 2 | 1 | 15 |
| MID. ATLANTIC | 48 | - | 28 | - | - | 3 | 4 | - | 22 | 20 | 10 | - | 84 |
| Upstate N.Y. | 8 | - | 13 | - | - | - | 1 | - | 3 | 8 | 1 | - | 13 |
| N.Y. City | 6 | - | 11 | - | - | - | 1 | - | 4 | 4 | 4 | - | 39 |
| N.J. | 16 | - | NN | - | - | 1 | - | - | 15 | 8 | 5 | - | 14 |
| Pa.† | 18 | - | 4 | - | - | 2 | 2 | - | NA | NA | NA | - | 18 |
| E.N. CENTRAL | 38 | - | 288 | - | 2 | - | 10 | - | 26 | 60 | 5 | 1 | 47 |
| Ohio | NA | NA | NA | NA | - | NA | 2 | - | NA | NA | NA | NA | 12 |
| Ind.† | - | - | 24 | - | 1 | - | 1 | - | 9 | 3 | 1 | - | 1 |
| Ill. | - | - | 24 | - | - | - | 3 | - | 5 | 26 | - | - | 20 |
| Mich. | 33 | - | 111 | - | - | - | 4 | - | 10 | 26 | 4 | 1 | 12 |
| Wis. | 3 | - | 129 | - | 1 | - | - | - | 2 | 5 | - | - | 2 |
| W.N. CENTRAL | 9 | - | 82 | - | 1 | 2 | 1 | - | 13 | 18 | 27 | 2 | 21 |
| Minn.† | - | - | - | - | - | - | - | - | 3 | 9 | - | 1 | 8 |
| Iowa† | - | - | 46 | - | - | 2 | 1 | - | 1 | 1 | 2 | - | 2 |
| Mo. | 6 | - | - | - | 1 | - | - | - | 9 | 4 | 17 | - | 3 |
| N. Dak. | - | - | 18 | - | - | - | - | - | - | - | - | - | 2 |
| S. Dak. | 1 | - | 5 | - | - | - | - | - | - | - | - | - | 1 |
| Nebr. | 1 | - | - | - | - | - | - | - | - | 1 | - | - | 2 |
| Kans. | 2 | - | 13 | - | - | - | - | - | - | 3 | 8 | 1 | 3 |
| S. ATLANTIC | 29 | - | 77 | - | 1 | 5 | 2 | 2 | 69 | 67 | 27 | 2 | 71 |
| Del. | - | - | 3 | - | - | - | - | - | 2 | - | - | - | 1 |
| Md. | - | - | - | - | - | - | - | - | 8 | 5 | 4 | - | 12 |
| D.C. | - | - | - | - | - | - | - | - | - | 1 | - | - | 6 |
| Va.† | - | - | - | - | - | - | - | - | - | 7 | 4 | 1 | 22 |
| W. Va.† | 10 | - | 3 | - | 1 | 1 | 1 | - | 13 | 7 | 4 | 1 | 2 |
| N.C.† | 4 | - | 52 | - | 1 | 1 | - | - | 1 | 6 | 1 | - | 2 |
| S.C. | 8 | - | NN | - | - | 2 | 1 | - | 7 | 9 | 3 | - | 6 |
| Ga. | 1 | - | 5 | - | - | - | - | - | 9 | 1 | 1 | - | 1 |
| Fla. | 6 | - | 14 | - | - | 1 | - | 2 | 29 | 38 | 14 | 1 | 19 |
| E.S. CENTRAL | 32 | 1 | 2 | - | - | 7 | 5 | - | 34 | 34 | 6 | 2 | 11 |
| Ky. | 1 | - | 2 | - | - | - | - | - | - | - | - | - | - |
| Tenn. | 14 | 1 | NN | - | - | 3 | 1 | - | 25 | 18 | 2 | - | - |
| Ala. | 11 | - | - | - | - | 2 | 4 | - | 6 | 10 | 4 | - | 3 |
| Miss. | 6 | - | - | - | - | 2 | - | - | 3 | 6 | - | 2 | 8 |
| W.S. CENTRAL | 23 | - | 60 | - | - | 7 | 3 | - | 22 | 58 | 53 | 2 | 39 |
| Ark. | 2 | - | - | - | - | - | 1 | - | - | 6 | 5 | - | - |
| La. | 4 | - | NN | - | - | 1 | - | - | 3 | 12 | 3 | - | 5 |
| Okla. | 7 | - | - | - | - | 1 | - | - | 9 | 3 | 6 | - | 6 |
| Tex. | 10 | - | 60 | - | - | 5 | 2 | - | 10 | 37 | 39 | 2 | 28 |
| MOUNTAIN | 9 | - | 31 | - | 1 | 1 | - | - | 6 | 77 | 43 | - | 17 |
| Mont. | - | - | 20 | - | - | - | - | - | 1 | 5 | - | - | 2 |
| Idaho | - | - | - | - | - | - | - | - | - | 1 | - | - | - |
| Wyo. | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Colo. | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| N. Mex. | 8 | - | 6 | - | - | 1 | - | - | 1 | 8 | 1 | - | 7 |
| Ariz. | 1 | - | 3 | - | - | - | - | - | - | 12 | - | - | 1 |
| Utah | - | - | NN | - | 1 | - | - | - | 4 | 34 | 31 | - | 5 |
| Nev. | - | - | 1 | - | - | - | - | - | - | 2 | 7 | - | - |
| PACIFIC | 64 | - | 55 | - | 59 | - | 3 | 1 | 73 | 134 | 51 | 14 | 287 |
| Wash. | 4 | - | 51 | - | 56 | - | - | - | 6 | 29 | 6 | - | 12 |
| Oreg. | 2 | - | 1 | - | - | - | - | - | 8 | 9 | 1 | 1 | 12 |
| Calif.† | 53 | - | - | - | 3 | - | 3 | 1 | 56 | 95 | 43 | 10 | 258 |
| Alaska | 1 | - | 1 | - | - | - | - | - | - | - | 1 | - | - |
| Hawaii† | 4 | - | 2 | - | - | - | - | - | 3 | 1 | - | 3 | 5 |
| Guam† | NA | NA | NA | NA | - | NA | - | - | NA | NA | NA | NA | - |
| P.R. | 14 | - | 21 | - | - | - | - | - | 2 | 5 | 2 | - | 2 |
| V.I. | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pac. Trust Terr.† | NA | NA | NA | NA | - | NA | - | - | NA | NA | NA | NA | - |

NA: Not notifiable.

NA: Not available.

*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: Asep. meng.: Pa. -2, Ind. +9; Chickenpox: Iowa +20, Calif. +5, Guam +9, Pac.Tr. Terr. +34; Enceph.: Pa. -1, Ind. +4, W.Va. -1; Hep. B: Conn. -1, Minn. +1, Va. -1; Hep. A: Minn. +2, N.C. -1, Hawaii -1, Guam +1; Hep. unsp.: Iowa -1, Va. -1, N.C. -1, Pac.Tr. Terr. +6; Malaria: Minn. +1.

TABLE III (Cont'd). Cases of specified notifiable diseases, United States, weeks ending October 27, 1979, and October 28, 1978 (43rd week)

| REPORTING AREA | MEASLES (RUBEOLA) | | | MENINGOCOCCAL INFECTIONS TOTAL | | | MUMPS | | PERTUSSIS | RUBELLA | | TETANUS |
|--------------------|-------------------|-----------|------------|--------------------------------|-----------|------------|-------|-----------|-----------|---------|-----------|-----------|
| | 1979 | CUM. 1979 | CUM. 1978* | 1979 | CUM. 1979 | CUM. 1978* | 1979 | CUM. 1979 | 1979 | 1979 | CUM. 1979 | CUM. 1979 |
| UNITED STATES | 60 | 12,506 | 24,670 | 26 | 2,137 | 2,018 | 106 | 11,844 | 18 | 51 | 10,990 | 58 |
| NEW ENGLAND | - | 288 | 1,988 | 1 | 113 | 110 | 18 | 489 | - | 1 | 1,420 | 5 |
| Maine | - | 17 | 1,316 | - | 7 | 7 | 10 | 183 | - | - | 61 | 1 |
| N.H. | - | 32 | 55 | - | 13 | 9 | - | 5 | - | - | 125 | - |
| Vt. | - | 119 | 33 | - | 7 | 2 | - | 9 | - | 1 | 398 | - |
| Mass. | - | 14 | 248 | - | 34 | 44 | 6 | 60 | - | - | 487 | 3 |
| R.I. | - | 102 | 8 | 1 | 8 | 17 | 1 | 42 | - | - | 93 | - |
| Conn. | - | 4 | 328 | - | 44 | 31 | 1 | 190 | - | - | 256 | 1 |
| MID. ATLANTIC | 3 | 1,506 | 2,200 | 5 | 340 | 313 | 7 | 1,152 | 2 | 1 | 1,950 | 8 |
| Upstate N.Y. | - | 621 | 1,406 | 1 | 114 | 101 | 1 | 166 | 2 | - | 1,091 | 2 |
| N.Y. City | 3 | 782 | 362 | - | 78 | 72 | 1 | 126 | - | - | 269 | 4 |
| N.J. | - | 57 | 74 | 2 | 84 | 62 | 2 | 565 | - | 1 | 325 | 1 |
| Pa. | - | 46 | 358 | 2 | 64 | 78 | 3 | 295 | - | - | 265 | 1 |
| E.N. CENTRAL | 12 | 3,266 | 11,019 | 3 | 222 | 283 | 34 | 5,058 | 5 | 16 | 2,559 | 4 |
| Ohio | NA | 282 | 487 | - | 78 | 74 | NA | 1,801 | NA | NA | 140 | 3 |
| Ind. | 2 | 216 | 200 | - | 42 | 46 | 5 | 300 | - | 4 | 745 | - |
| Ill. | - | 1,441 | 1,120 | - | 20 | 90 | 6 | 894 | 1 | - | 187 | - |
| Mich. | 5 | 836 | 7,736 | 3 | 65 | 62 | 16 | 928 | 4 | 7 | 1,218 | 1 |
| Wis. | 5 | 491 | 1,476 | - | 17 | 11 | 7 | 1,135 | - | 5 | 269 | - |
| W.N. CENTRAL | 21 | 1,779 | 402 | 4 | 64 | 79 | 8 | 683 | - | 11 | 482 | 2 |
| Minn. | - | 1,218 | 40 | 3 | 14 | 21 | 2 | 20 | - | - | 41 | - |
| Iowa | - | 16 | 57 | - | 11 | 10 | - | 234 | - | - | 52 | - |
| Mo. | 6 | 420 | 12 | - | 29 | 31 | - | 195 | - | 4 | 65 | 1 |
| N. Dak. | - | 21 | 198 | - | 1 | 3 | - | 2 | - | - | 8 | 1 |
| S. Dak. | - | 2 | - | - | 2 | 3 | - | 7 | - | - | 5 | - |
| Nebr. | 15 | 35 | 5 | - | - | - | - | 7 | - | - | 202 | - |
| Kans. | - | 67 | 90 | 1 | 7 | 11 | 6 | 218 | - | 7 | 109 | - |
| S. ATLANTIC | 9 | 1,926 | 5,284 | 5 | 521 | 479 | 13 | 625 | 1 | 3 | 1,237 | 11 |
| Del. | - | 1 | 7 | - | 3 | 2 | 8 | 53 | - | - | 5 | - |
| Md. | - | 16 | 52 | - | 46 | 34 | - | 166 | - | - | 28 | 1 |
| D.C. | - | - | 48 | - | 2 | 2 | - | 2 | - | - | 1 | - |
| Va. † | - | 276 | 2,830 | 2 | 76 | 58 | 1 | 87 | - | 1 | 203 | 1 |
| W. Va. | - | 57 | 1,058 | - | 8 | 13 | - | 104 | - | 1 | 108 | - |
| N.C. | - | 113 | 121 | 1 | 81 | 95 | 1 | 77 | - | - | 530 | 3 |
| S.C. † | 1 | 169 | 199 | - | 59 | 32 | - | 3 | - | - | 64 | - |
| Ga. | 6 | 494 | 34 | - | 77 | 53 | - | 7 | - | - | 11 | - |
| Fla. | 2 | 800 | 935 | 2 | 169 | 190 | 3 | 126 | 1 | 1 | 287 | 6 |
| E.S. CENTRAL | 2 | 214 | 1,423 | 2 | 160 | 159 | 9 | 1,383 | - | - | 302 | 8 |
| Ky. | - | 37 | 119 | - | 33 | 30 | 6 | 1,139 | - | - | 68 | 1 |
| Tenn. | 2 | 68 | 958 | - | 44 | 41 | 2 | 103 | - | - | 98 | - |
| Ala. | - | 85 | 101 | - | 38 | 47 | 1 | 24 | - | - | 44 | 5 |
| Miss. | - | 24 | 245 | 2 | 45 | 41 | - | 117 | - | - | 92 | 2 |
| W.S. CENTRAL | 2 | 932 | 1,154 | 2 | 328 | 281 | 3 | 1,361 | 3 | 6 | 252 | 16 |
| Ark. | - | 9 | 16 | - | 27 | 22 | - | 481 | - | - | 7 | 4 |
| La. | - | 250 | 343 | - | 118 | 116 | - | 34 | - | 1 | 30 | 3 |
| Okla. † | - | 22 | 14 | 1 | 32 | 16 | - | - | - | 1 | 23 | - |
| Tex. | 2 | 651 | 781 | 1 | 151 | 127 | 3 | 844 | 3 | 4 | 192 | 9 |
| MOUNTAIN | 1 | 326 | 260 | - | 86 | 49 | 3 | 294 | - | 5 | 534 | - |
| Mont. | - | 57 | 106 | - | 10 | 4 | - | 10 | - | 1 | 70 | - |
| Idaho † | - | 18 | 1 | - | 7 | 4 | - | 9 | - | - | 204 | - |
| Wyo. | - | 36 | - | - | 1 | - | - | - | - | - | - | - |
| Colo. | - | 68 | 38 | - | 5 | 3 | 2 | 93 | - | - | 66 | - |
| N. Mex. | - | 39 | - | - | 6 | 12 | 1 | 13 | - | - | 11 | - |
| Ariz. | - | 77 | 51 | - | 36 | 15 | - | 59 | - | 2 | 143 | - |
| Utah | 1 | 19 | 44 | - | 9 | 6 | - | 96 | - | 2 | 38 | - |
| Nev. | - | 12 | 20 | - | 12 | 5 | - | 14 | - | - | 2 | - |
| PACIFIC | 10 | 2,269 | 940 | 4 | 303 | 265 | 11 | 799 | 7 | 8 | 2,254 | 4 |
| Wash. | 2 | 1,135 | 219 | 2 | 54 | 44 | 2 | 201 | 2 | - | 188 | - |
| Oreg. | - | 61 | 148 | 1 | 24 | 29 | - | 94 | - | - | 109 | - |
| Calif. | 8 | 988 | 563 | 1 | 209 | 181 | 8 | 386 | 5 | 8 | 1,929 | 4 |
| Alaska | - | 17 | 1 | - | 6 | 8 | 1 | 12 | - | - | 4 | - |
| Hawaii † | - | 68 | 9 | - | 10 | 3 | - | 106 | - | - | 24 | - |
| Guam | NA | 11 | 25 | - | 1 | 1 | NA | 11 | NA | NA | 4 | - |
| P.R. † | 6 | 363 | 270 | - | 5 | 7 | 9 | 572 | - | - | 38 | 10 |
| V.I. | - | 4 | 6 | - | 3 | 1 | - | 20 | - | - | - | - |
| Pac. Trust Terr. † | NA | 9 | 619 | - | 1 | 3 | NA | 34 | NA | NA | 1 | - |

NA: Not available.

* Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

† The following delayed reports will be reflected in next week's cumulative totals: Measles: Va. -1, Hawaii -1, P.R. +1; Men. inf.: Idaho +1; Mumps: Pac.Tr. Terr. +6; Pertussis: S.C. +5, Okla. +18, Pac.Tr.Terr. +3; Rubella: Hawaii -5.

TABLE III (Cont'd). Cases of specified notifiable diseases, United States, weeks ending October 27, 1979, and October 28, 1978 (43rd week)

| REPORTING AREA | TUBERCULOSIS | | TULAREMIA | TYPHOID FEVER | | TYPHUS FEVER (Tick-borne) (RMSF) | | VENEREAL DISEASES (Civilian) | | | | | | RABIES (in Animals) |
|----------------------|--------------|-----------|-----------|---------------|-----------|----------------------------------|-----------|------------------------------|-----------|------------|------------------------|-----------|------------|---------------------|
| | 1978 | CUM. 1979 | CUM. 1978 | 1979 | CUM. 1979 | 1979 | CUM. 1979 | GONORRHEA | | | SYPHILIS (Pri. & Sec.) | | | CUM. 1979 |
| | | | | | | | | 1979 | CUM. 1979 | CUM. 1978* | 1979 | CUM. 1979 | CUM. 1978* | |
| UNITED STATES | 539 | 23,114 | 170 | 5 | 412 | 16 | 978 | 21,335 | 826,597 | 837,055 | 607 | 20,602 | 17,791 | 4,191 |
| NEW ENGLAND | 16 | 659 | 3 | 1 | 18 | - | 9 | 658 | 20,470 | 21,465 | 9 | 407 | 486 | 45 |
| Maine | - | 50 | - | - | 1 | - | - | 34 | 1,432 | 1,753 | - | 10 | 8 | 28 |
| N.H. | 1 | 16 | - | - | - | - | - | 21 | 756 | 963 | - | 18 | 5 | - |
| Vt. | 3 | 29 | - | - | - | - | 1 | 17 | 504 | 518 | - | 1 | 3 | - |
| Mass. | 6 | 343 | 3 | - | 10 | - | 4 | 250 | 8,132 | 9,447 | 5 | 225 | 300 | 10 |
| R.I. | - | 57 | - | - | 2 | - | - | 38 | 1,645 | 1,537 | - | 16 | 20 | 2 |
| Conn. | 6 | 164 | - | 1 | 5 | - | 4 | 298 | 8,001 | 7,227 | 4 | 137 | 150 | 2 |
| MID. ATLANTIC | 74 | 3,603 | 1 | - | 67 | 1 | 44 | 2,303 | 99,800 | 90,172 | 95 | 3,092 | 2,335 | 67 |
| Upstate N.Y. | 11 | 648 | 1 | - | 13 | - | 27 | 627 | 15,722 | 15,165 | 7 | 223 | 163 | - |
| N.Y. City† | 36 | 1,352 | - | - | 29 | - | 1 | 867 | 34,411 | 34,191 | 65 | 2,089 | 1,620 | - |
| N.J. | 15 | 664 | - | - | 16 | - | 5 | 172 | 15,851 | 16,963 | 16 | 410 | 287 | 5 |
| Pa. | 16 | 939 | - | - | 9 | 1 | 11 | 637 | 23,816 | 23,853 | 7 | 370 | 265 | 15 |
| E.N. CENTRAL | 93 | 3,405 | - | - | 27 | - | 58 | 3,112 | 128,483 | 129,573 | 49 | 2,594 | 2,023 | 374 |
| Ohio | NA | 598 | - | NA | 3 | NA | 21 | NA | 34,728 | 33,350 | NA | 506 | 368 | 33 |
| Ind.† | 14 | 436 | - | - | - | - | 2 | 230 | 10,635 | 13,417 | 2 | 179 | 135 | 64 |
| Ill. | 53 | 1,374 | - | - | 8 | - | 31 | 1,817 | 40,934 | 41,285 | 40 | 1,461 | 1,284 | 176 |
| Mich. | 21 | 838 | - | - | 12 | - | 3 | 770 | 30,320 | 30,062 | 5 | 378 | 181 | 13 |
| Wis.† | 5 | 159 | - | - | 4 | - | 1 | 295 | 11,866 | 11,459 | 2 | 70 | 55 | 88 |
| W.N. CENTRAL | 12 | 780 | 24 | 3 | 20 | - | 53 | 1,122 | 41,079 | 42,388 | 8 | 267 | 368 | 827 |
| Minn. | 2 | 121 | - | - | 4 | - | 2 | 181 | 6,767 | 7,209 | 2 | 73 | 135 | 142 |
| Iowa | - | 59 | 1 | 1 | 5 | - | 14 | 148 | 4,919 | 4,654 | - | 28 | 30 | 159 |
| Mo. | 5 | 422 | 20 | 2 | 8 | - | 25 | 590 | 17,726 | 18,733 | 3 | 123 | 117 | 255 |
| N. Dak. | 2 | 18 | 2 | - | - | - | - | 9 | 692 | 744 | - | 2 | 3 | 67 |
| S. Dak.† | - | 46 | 2 | - | - | - | - | 35 | 1,375 | 1,453 | - | 2 | 3 | 88 |
| Nebr. | 3 | 22 | 1 | - | 1 | - | 4 | 76 | 2,919 | 3,076 | - | 5 | 12 | - |
| Kans.† | 3 | 92 | - | - | 2 | - | 8 | 83 | 6,681 | 6,519 | 3 | 34 | 68 | 116 |
| S. ATLANTIC | 120 | 5,211 | 11 | - | 41 | 4 | 559 | 5,204 | 199,977 | 204,169 | 136 | 4,870 | 4,719 | 589 |
| Del. | 1 | 46 | - | - | - | - | 3 | 88 | 3,322 | 2,861 | - | 24 | 10 | - |
| Md. | 11 | 663 | - | - | 7 | - | 75 | 907 | 24,649 | 26,287 | 4 | 311 | 363 | 37 |
| D.C. | 10 | 249 | 2 | - | 1 | - | 2 | 377 | 13,211 | 13,683 | 7 | 373 | 360 | - |
| Va. | 9 | 619 | 2 | - | 4 | 1 | 91 | 587 | 19,179 | 19,634 | 18 | 399 | 399 | 19 |
| W. Va. | 6 | 199 | - | - | 4 | - | 9 | 62 | 2,742 | 2,810 | 1 | 45 | 24 | - |
| N.C.† | 18 | 821 | - | - | 2 | 1 | 217 | 736 | 28,880 | 28,918 | 11 | 380 | 500 | 23 |
| S.C.† | 11 | 400 | 1 | - | 3 | 1 | 73 | 282 | 18,412 | 20,083 | 6 | 247 | 240 | 162 |
| Ga. | 27 | 824 | 6 | - | 2 | - | 81 | 1,104 | 37,956 | 39,331 | 33 | 1,365 | 1,166 | 301 |
| Fla. | 27 | 1,390 | - | - | 18 | 1 | 8 | 1,061 | 51,626 | 50,562 | 56 | 1,726 | 1,657 | 47 |
| E.S. CENTRAL | 53 | 2,107 | 14 | - | 21 | 5 | 132 | 2,004 | 70,590 | 71,075 | 43 | 1,375 | 933 | 284 |
| Ky. | 8 | 544 | 2 | - | 7 | - | 19 | 194 | 9,403 | 9,411 | 3 | 138 | 126 | 117 |
| Tenn. | 13 | 609 | 12 | - | 3 | 2 | 75 | 651 | 25,426 | 26,234 | 14 | 580 | 309 | 96 |
| Ala. | 22 | 504 | - | - | 8 | 2 | 19 | 842 | 20,956 | 20,261 | 6 | 250 | 162 | 70 |
| Miss. | 10 | 450 | - | - | 3 | 1 | 19 | 317 | 14,805 | 15,169 | 20 | 407 | 336 | 1 |
| W.S. CENTRAL | 60 | 2,778 | 71 | - | 71 | 6 | 102 | 2,666 | 106,104 | 112,690 | 120 | 3,783 | 2,843 | 1,561 |
| Ark.† | 3 | 240 | 45 | - | 5 | - | 22 | 237 | 8,303 | 8,408 | 3 | 132 | 60 | 289 |
| La. | 7 | 553 | 5 | - | 5 | - | 3 | 604 | 18,906 | 18,245 | 46 | 971 | 601 | 26 |
| Okla. | 11 | 311 | 14 | - | - | 6 | 61 | 292 | 10,516 | 10,664 | 2 | 76 | 86 | 24 |
| Tex. | 39 | 1,674 | 7 | - | 61 | - | 16 | 1,533 | 68,379 | 75,373 | 69 | 2,604 | 2,096 | 1,005 |
| MOUNTAIN | 18 | 697 | 38 | - | 25 | - | 16 | 819 | 33,295 | 31,928 | 19 | 415 | 363 | 138 |
| Mont.† | - | 32 | 9 | - | - | - | 5 | 23 | 1,630 | 1,822 | - | 8 | 7 | 8 |
| Idaho | - | 13 | 1 | - | 1 | - | 2 | 15 | 1,475 | 1,317 | - | 8 | 13 | - |
| Wyo. | - | 7 | - | - | 1 | - | - | 10 | 957 | 783 | - | 2 | 8 | - |
| Colo. | 4 | 103 | 12 | - | 14 | - | 4 | 271 | 8,852 | 8,822 | 4 | 81 | 103 | 51 |
| N. Mex. | 4 | 119 | 4 | - | 4 | - | 1 | 86 | 4,079 | 4,611 | 4 | 75 | 76 | 39 |
| Ariz. | 8 | 346 | - | - | 3 | - | - | 225 | 9,299 | 8,199 | 9 | 123 | 81 | 23 |
| Utah | 1 | 27 | 10 | - | - | - | 1 | 53 | 1,701 | 1,735 | 1 | 4 | 12 | 10 |
| Nev. | 1 | 50 | 2 | - | 2 | - | 3 | 134 | 5,304 | 4,639 | 1 | 91 | 63 | - |
| PACIFIC | 93 | 3,874 | 8 | 1 | 122 | - | 5 | 3,447 | 136,799 | 133,595 | 128 | 3,799 | 3,721 | 306 |
| Wash. | 15 | 231 | 5 | 1 | 7 | - | - | 227 | 12,041 | 11,102 | NA | 166 | 213 | - |
| Oreg. | 17 | 168 | - | - | 2 | - | - | 264 | 8,562 | 9,184 | 4 | 148 | 138 | 15 |
| Calif. | 53 | 3,141 | 3 | - | 104 | - | 5 | 2,797 | 109,364 | 104,786 | 123 | 3,383 | 3,322 | 289 |
| Alaska | - | 63 | - | - | 2 | - | - | 100 | 4,210 | 4,138 | - | 21 | 10 | 2 |
| Hawaii | 8 | 271 | - | - | 7 | - | - | 59 | 2,622 | 2,385 | 1 | 81 | 38 | - |
| Guam † | NA | 50 | - | NA | - | NA | - | NA | 82 | 123 | NA | 1 | - | - |
| P.R. | 6 | 256 | - | - | 5 | - | - | 29 | 1,827 | 1,850 | 17 | 479 | 411 | 20 |
| V.I. | - | 4 | - | - | 1 | - | - | 1 | 135 | 166 | - | 7 | 15 | - |
| Pac. Trust Terr. † | NA | 29 | - | NA | - | NA | - | NA | 344 | 382 | NA | 1 | - | - |

NA: Not available.

*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: TB: Kans. -1, N.C. -6, S.C. -1, Guam +3, Pac.Terr. +3; Tularemia: Mont. +5; GC: NYC +988 civ., Ind. +389 civ., Wis. +6 civ., S.Dak. -1, Guam +6 civ. +8 mil., Pac.Terr. +26 civ.; Syphilis: Ind. +6, Ark. -1.

TABLE IV. Deaths in 121 U.S. cities,* week ending
October 27, 1979 (43rd week)

| REPORTING AREA | ALL CAUSES, BY AGE (YEARS) | | | | | P & I** TOTAL | REPORTING AREA | ALL CAUSES, BY AGE (YEARS) | | | | | P & I** TOTAL |
|----------------------|----------------------------|-------|-------|-------|-----|------------------|-----------------------|----------------------------|-------|-------|-------|-----|------------------|
| | ALL AGES | >85 | 45-64 | 25-44 | <1 | | | ALL AGES | >85 | 45-64 | 25-44 | <1 | |
| NEW ENGLAND | 692 | 462 | 149 | 35 | 21 | 37 | S. ATLANTIC | 1,103 | 669 | 301 | 61 | 37 | 46 |
| Boston, Mass. | 190 | 103 | 52 | 14 | 12 | 11 | Atlanta, Ga. | 143 | 88 | 36 | 6 | 5 | 6 |
| Bridgeport, Conn. | 46 | 31 | 13 | 1 | — | 1 | Baltimore, Md. | 107 | 59 | 35 | 7 | 3 | 2 |
| Cambridge, Mass. | 31 | 24 | 4 | 3 | — | 3 | Charlotta, N.C. | 46 | 25 | 14 | 3 | 1 | 4 |
| Fall River, Mass. | 28 | 20 | 8 | — | — | — | Jacksonville, Fla. | 124 | 76 | 29 | 12 | 2 | 4 |
| Hartford, Conn. | 55 | 37 | 9 | 5 | 1 | 3 | Miami, Fla. | 124 | 75 | 39 | 2 | 6 | 9 |
| Lowell, Mass. | 40 | 25 | 9 | 2 | 1 | 2 | Norfolk, Va. | 56 | 31 | 19 | 2 | 4 | 2 |
| Lynn, Mass. | 18 | 14 | 4 | — | — | — | Richmond, Va. | 86 | 49 | 22 | 11 | 2 | 7 |
| New Bedford, Mass. | 19 | 16 | 2 | 1 | — | 1 | Savannah, Ga. | 43 | 28 | 11 | 1 | 2 | 5 |
| New Haven, Conn. | 51 | 33 | 9 | 6 | 2 | — | St. Petersburg, Fla. | 61 | 46 | 10 | 1 | 3 | — |
| Providence, R.I. | 62 | 38 | 17 | 3 | 1 | 7 | Tampa, Fla. | 84 | 52 | 22 | 5 | 1 | 3 |
| Somerville, Mass. | 9 | 8 | — | — | 1 | — | Washington, D.C. | 180 | 111 | 48 | 9 | 7 | 4 |
| Springfield, Mass. | 36 | 27 | 6 | — | 2 | 2 | Wilmington, Del. | 49 | 29 | 16 | 2 | 1 | — |
| Waterbury, Conn. | 38 | 29 | 6 | — | — | 3 | | | | | | | |
| Worcester, Mass. | 69 | 57 | 10 | — | 1 | 4 | | | | | | | |
| | | | | | | | E.S. CENTRAL | 730 | 419 | 220 | 45 | 12 | 30 |
| MID. ATLANTIC | 2,521 | 1,629 | 598 | 140 | 82 | 112 | Birmingham, Ala. | 106 | 55 | 34 | 9 | 2 | 2 |
| Albany, N.Y. | 53 | 29 | 18 | 2 | 4 | — | Chattanooga, Tenn. | 61 | 37 | 20 | 3 | — | 7 |
| Allentown, Pa. | 21 | 18 | 3 | — | — | — | Knoxville, Tenn. | 36 | 21 | 13 | — | — | 1 |
| Buffalo, N.Y. | 138 | 86 | 39 | 8 | 2 | 8 | Louisville, Ky. | 108 | 55 | 38 | 11 | 1 | 8 |
| Camden, N.J. | 41 | 22 | 10 | 6 | 3 | 1 | Memphis, Tenn. | 194 | 127 | 50 | 6 | 1 | 2 |
| Elizabeth, N.J. | 27 | 16 | 8 | 3 | — | 2 | Mobile, Ala. | 80 | 41 | 20 | 8 | 3 | 1 |
| Erie, Pa.† | 56 | 37 | 14 | 3 | 1 | 4 | Montgomery, Ala. | 40 | 25 | 10 | 2 | 2 | 1 |
| Jersey City, N.J. | 48 | 28 | 13 | 6 | — | 2 | Nashville, Tenn. | 105 | 58 | 35 | 6 | 3 | 8 |
| Newark, N.J. | 68 | 37 | 13 | 3 | 9 | 1 | | | | | | | |
| N.Y. City, N.Y.†† | 1,273 | 831 | 287 | 80 | 35 | 49 | W.S. CENTRAL | 1,203 | 695 | 336 | 91 | 34 | 25 |
| Paterson, N.J. | 33 | 22 | 5 | 1 | 5 | 2 | Austin, Tex. | 61 | 41 | 14 | 5 | — | 3 |
| Philadelphia, Pa.† | 318 | 194 | 76 | 19 | 16 | 17 | Baton Rouge, La. | 57 | 34 | 16 | 1 | 2 | 3 |
| Pittsburgh, Pa.† | 66 | 44 | 19 | 1 | 1 | 1 | Corpus Christi, Tex. | 32 | 22 | 7 | 2 | 1 | — |
| Reading, Pa. | 24 | 19 | 5 | — | — | 3 | Dallas, Tex. | 196 | 101 | 59 | 21 | 3 | 4 |
| Rochester, N.Y. | 111 | 81 | 23 | 1 | 2 | 11 | El Paso, Tex. | 49 | 28 | 15 | 2 | 1 | 2 |
| Schenectady, N.Y. | 17 | 6 | 8 | 2 | — | 1 | Fort Worth, Tex. | 93 | 55 | 28 | 9 | 1 | 2 |
| Scranton, Pa.† | 30 | 25 | 5 | — | — | 4 | Houston, Tex. | 207 | 110 | 63 | 17 | 6 | 2 |
| Syracuse, N.Y. | 90 | 53 | 29 | 3 | 3 | — | Little Rock, Ark. | 64 | 41 | 11 | 4 | 2 | 2 |
| Trenton, N.J. | 52 | 39 | 12 | — | 1 | 2 | New Orleans, La. | 116 | 59 | 36 | 10 | 10 | — |
| Utica, N.Y. | 29 | 23 | 5 | 1 | — | 2 | San Antonio, Tex. | 168 | 104 | 47 | 7 | 6 | 3 |
| Yonkers, N.Y. | 26 | 19 | 6 | 1 | — | 2 | Shreveport, La. | 54 | 37 | 11 | 3 | 1 | 1 |
| | | | | | | | Tulsa, Okla. | 106 | 63 | 29 | 10 | 1 | 3 |
| | | | | | | | MOUNTAIN | 561 | 336 | 141 | 34 | 24 | 21 |
| E.N. CENTRAL | 2,340 | 1,379 | 600 | 150 | 102 | 57 | Albuquerque, N. Mex. | 47 | 27 | 12 | 3 | 2 | 6 |
| Akron, Ohio | 107 | 71 | 19 | 8 | 4 | — | Colo. Springs, Colo. | 31 | 17 | 5 | 2 | 2 | 3 |
| Canton, Ohio | 42 | 30 | 9 | — | 1 | 1 | Danver, Colo. | 102 | 65 | 26 | 4 | 4 | 1 |
| Chicago, Ill. | 547 | 291 | 153 | 50 | 32 | 9 | Las Vegas, Nev. | 59 | 33 | 19 | 6 | — | 3 |
| Cincinnati, Ohio | 169 | 100 | 40 | 11 | 10 | 3 | Ogden, Utah | 19 | 10 | 6 | 2 | — | 1 |
| Cleveland, Ohio | 163 | 93 | 55 | 6 | 3 | 2 | Phoenix, Ariz. | 126 | 81 | 28 | 6 | 7 | 4 |
| Columbus, Ohio | 139 | 80 | 35 | 8 | 9 | 2 | Pueblo, Colo. | 30 | 18 | 8 | 2 | — | 1 |
| Dayton, Ohio | 110 | 73 | 24 | 4 | 4 | 2 | Salt Lake City, Utah | 67 | 37 | 14 | 5 | 6 | 2 |
| Dayton, Ohio | 263 | 144 | 80 | 17 | 9 | 9 | Tucson, Ariz. | 80 | 48 | 23 | 4 | 3 | — |
| Detroit, Mich. | 39 | 24 | 8 | 4 | 2 | 1 | | | | | | | |
| Evansville, Ind. | 49 | 27 | 11 | 5 | 2 | 7 | | | | | | | |
| Fort Wayne, Ind. | 16 | 6 | 8 | 1 | — | — | | | | | | | |
| Gary, Ind. | 43 | 39 | 4 | 2 | 2 | 1 | | | | | | | |
| Grand Rapids, Mich. | 151 | 83 | 42 | 12 | 5 | 2 | PACIFIC | 1,624 | 1,037 | 351 | 102 | 72 | 48 |
| Indianapolis, Ind. | 53 | 27 | 14 | 3 | 6 | 7 | Berkeley, Calif. | 11 | 9 | 2 | — | — | — |
| Madison, Wis. | 162 | 107 | 39 | 5 | 4 | 3 | Fresno, Calif. | 46 | 22 | 12 | 1 | 9 | — |
| Milwaukee, Wis. | 26 | 15 | 6 | — | 1 | — | Glendale, Calif. | 19 | 17 | 2 | — | — | 1 |
| Peoria, Ill. | 63 | 28 | 8 | 4 | 2 | 3 | Honolulu, Hawaii | 50 | 28 | 14 | 6 | 1 | 2 |
| Rockford, Ill. | 36 | 27 | 7 | 1 | — | — | Long Beach, Calif. | 86 | 52 | 24 | 6 | 3 | 2 |
| South Bend, Ind. | 125 | 84 | 22 | 6 | 5 | 5 | Los Angeles, Calif. | 462 | 319 | 72 | 32 | 13 | 16 |
| Toledo, Ohio | 57 | 36 | 16 | 3 | 1 | — | Oakland, Calif. | 91 | 49 | 27 | 9 | 3 | 6 |
| Youngstown, Ohio | | | | | | | Pasadena, Calif. | 24 | 20 | 2 | 1 | 1 | — |
| | | | | | | | Portland, Oreg. | 110 | 77 | 22 | 1 | 5 | — |
| | | | | | | | Sacramento, Calif. | 74 | 41 | 22 | 4 | 5 | 3 |
| W.N. CENTRAL | 733 | 469 | 156 | 45 | 31 | 33 | San Diego, Calif. | 131 | 77 | 30 | 10 | 8 | — |
| Des Moines, Iowa | 57 | 37 | 11 | 5 | 1 | 2 | San Francisco, Calif. | 155 | 90 | 44 | 10 | 5 | 3 |
| Duluth, Minn. | 23 | 19 | 2 | 1 | — | 3 | San Jose, Calif. | 128 | 87 | 23 | 4 | 4 | 3 |
| Kansas City, Kans. | 29 | 14 | 10 | 3 | 1 | 3 | Seattle, Wash. | 147 | 93 | 33 | 11 | 10 | 4 |
| Kansas City, Mo. | 107 | 71 | 20 | 6 | 5 | 3 | Spokane, Wash. | 41 | 27 | 11 | 2 | 1 | 6 |
| Lincoln, Nebr. | 25 | 20 | 4 | — | 1 | 5 | Tacoma, Wash. | 49 | 29 | 11 | 5 | 4 | 2 |
| Minneapolis, Minn. | 103 | 62 | 20 | 9 | 8 | 3 | | | | | | | |
| Omaha, Nebr. | 70 | 46 | 12 | 3 | 7 | 2 | | | | | | | |
| St. Louis, Mo. | 169 | 111 | 36 | 5 | 6 | 4 | | | | | | | |
| St. Paul, Minn. | 60 | 38 | 16 | 2 | — | 2 | | | | | | | |
| Wichita, Kans. | 90 | 51 | 25 | 9 | 2 | 7 | TOTAL | 11,507 | 7,095 | 2,852 | 703 | 415 | 409 |

*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 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††(NYC) Data not available. Figures are estimates based on average percent of regional totals.

Poliomyelitis Prevention — Continued

IPV: The primary series consists of 4 doses of vaccine; volume and route of injection are specified by the manufacturer. In infancy, the primary schedule is usually integrated with DTP vaccination, as with OPV. Three doses can be given at 4- to 8-week intervals; the fourth dose should follow 6-12 months after the third.

All children should complete primary immunization with OPV or IPV before entering school.

Supplementary Immunization

OPV: Before school entry, all children who previously received primary immunization with OPV (3 doses) in early childhood should be given a fourth dose. This additional dose will increase the likelihood of complete immunity in the small percentage of children who have not previously developed serum antibodies to all 3 types of polioviruses. The need for supplementary doses after the 4 basic doses of OPV has not been established, but children considered to be at increased risk of exposure to poliovirus (as noted below under **RECOMMENDATIONS FOR ADULTS**) may be given a single additional dose of OPV.

IPV: Before entering school, all children who previously received primary immunization with IPV (4 doses) in early childhood should be given at least 1 dose of OPV or 1 additional dose of IPV. Use of a primary series of OPV would eliminate the need for subsequent booster doses of IPV. Children who received primary immunization with IPV should obtain a booster dose of IPV every 5 years until the age of 18 years, unless a primary series of OPV is given. The need for supplementary doses after the 5 basic doses of the currently available IPV product has not been firmly established. Further experience may lead to alteration of this recommendation.

Children Incompletely Immunized

The preadolescent years are a good time to re-evaluate polio vaccination status and to complete the immunization of those who are inadequately protected.

OPV: To help assure seroconversion to all 3 serotypes of poliovirus, completion of the primary series of 3 doses of OPV is recommended. Time intervals between doses longer than those recommended for routine primary immunization do not necessitate additional doses of vaccine. Individuals who received only 1 dose of each of the monovalent OPVs in the past should receive 2 doses of trivalent OPV at least 6 weeks apart. One dose of each monovalent OPV (poliovirus types 1, 2, and 3) is at least equivalent to 1 dose of trivalent OPV.

IPV: Regulations for vaccine licensure adopted since 1968 require a higher potency IPV than was previously manufactured. Four doses of IPV administered after 1968 are considered a complete primary series. As with OPV, time intervals between doses longer than those recommended for routine primary immunization do not necessitate additional doses.

Incompletely immunized children who are at increased risk of exposure to poliovirus (as noted below under **RECOMMENDATIONS FOR ADULTS**) should be given the remaining required doses or, if time is a limiting factor, at least a single dose of OPV.

RECOMMENDATIONS FOR ADULTS

Routine primary polio vaccination of adults (those past the 18th birthday) residing in the United States is not necessary. Most adults are already immune and have a very small risk of exposure to poliomyelitis. Immunization is recommended for certain adults

Poliomyelitis Prevention — Continued

who are at greater risk of exposure to poliovirus than the general population, including:

1. travelers to areas or countries where poliomyelitis is epidemic or endemic;
2. members of communities or specific population groups with disease caused by wild poliovirus;
3. laboratory workers handling specimens which may contain polioviruses;
4. health care workers in close contact with patients who may be excreting polioviruses.

For individuals in the above categories, polio vaccination is recommended, as detailed below.

Unvaccinated Adults

For adults at increased risk of exposure to poliomyelitis, primary immunization with IPV is recommended whenever this is feasible. IPV is preferred because the risk of vaccine-associated paralysis following OPV is slightly higher in adults than in children. Three doses should be given at intervals of 1-2 months; a fourth dose should follow 6-12 months after the third.

In circumstances where time will not allow at least 3 doses of IPV to be given before protection is required, the following alternatives are recommended:

1. If less than 8, but more than 4, weeks are available before protection is needed, 2 doses of IPV should be given at least 4 weeks apart.
2. If less than 4 weeks are available before protection is needed, a single dose of OPV is recommended.

In both instances the remaining doses of vaccine should be given later, at the recommended intervals, if the person remains at increased risk.

Incompletely Immunized Adults

Adults who are at increased risk of exposure to poliomyelitis and who have previously received less than a full primary course of OPV or IPV should be given the remaining required doses of either vaccine, regardless of the interval since the last dose.

Adults Previously Given a Complete Primary Course of OPV or IPV

Adults who are at increased risk of exposure to poliomyelitis and who have previously completed a primary course of OPV may be given another dose of OPV. The need for further supplementary doses has not been established. Those adults who previously completed a primary course of IPV may be given a dose of either IPV or OPV. If IPV is used exclusively, additional doses may be given every 5 years, but their need also has not been established.

Recommendations for Unvaccinated Parents of Children to be Given OPV

Unvaccinated parents of infants who are to be given OPV are at a very small risk of developing OPV-associated paralysis. Therefore, when OPV strains are to be introduced into a household with adults who have never received any polio vaccine, some health care personnel may elect to give these adults at least 2 doses of IPV a month apart—if not the full primary series—before the children receive OPV. Vaccination of the children must be assured and not unduly delayed by this process—the primary concern is immunization of the child.

PRECAUTIONS AND CONTRAINDICATIONS

Pregnancy

Although there is no convincing evidence documenting adverse effects of either OPV or IPV on the developing fetus or pregnant woman, it is prudent on theoretical grounds

Poliomyelitis Prevention — Continued

to avoid vaccinating pregnant women. However, if immediate protection against poliomyelitis is needed, OPV is recommended.

Immunodeficiency

Patients with immune deficiency diseases, such as combined immunodeficiency, hypogammaglobulinemia and agammaglobulinemia, should not be given OPV because of their substantially increased risk of vaccine-associated disease. Furthermore, patients with altered immune states due to diseases such as leukemia, lymphoma, or generalized malignancy, or with immune systems compromised by therapy with corticosteroids, alkylating drugs, antimetabolites, or radiation should not receive OPV because of the theoretical risk of paralytic disease. OPV should not be used for immunizing immunodeficient patients and their household contacts; IPV is recommended. Although a protective immune response to IPV in the immunodeficient patient cannot be assured, the vaccine is safe and some protection may result from its administration. If OPV is inadvertently administered to a household-type contact of an immunodeficient patient, close contact between the patient and the recipients of OPV should be avoided for at least 2-3 weeks after vaccination. Because of the possibility of immunodeficiency in other children born to a family in which there has been 1 such case, OPV should not be given to a member of a household in which there is a family history of immunodeficiency until the immune status of the recipient and other children in the family is documented.

ADVERSE REACTIONS

OPV

In rare instances, administration of OPV has been associated with paralysis in healthy recipients and their contacts. Other than efforts to identify persons with immune deficiency conditions, no procedures are currently available for identifying persons likely to experience such adverse reactions. Although the risk of vaccine-associated paralysis is extremely small for vaccinees and their susceptible close personal contacts, they should be informed of this risk.

IPV

No serious side effects of currently available IPV have been documented. Since IPV contains trace amounts of streptomycin and neomycin, there is a possibility of hypersensitivity reactions in individuals sensitive to these antibiotics.

CASE INVESTIGATION AND EPIDEMIC CONTROL

The occurrence of a single case of poliomyelitis should prompt an immediate epidemiologic investigation, including an active search for other cases. If evidence implicates wild poliovirus and there is a possibility of transmission, a vaccination plan designed to contain spread should be developed. If evidence implicates vaccine-derived poliovirus, no vaccination plan need be developed, as no outbreaks associated with vaccine virus have been

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Poliomyelitis Prevention — Continued

documented to date. Within an epidemic area, OPV should be provided for all persons over 6 weeks of age who have not been completely immunized or whose immunization status is unknown, with the exceptions noted above under **Immunodeficiency**.

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