



MORBIDITY AND MORTALITY WEEKLY REPORT

- 765 Carbon Monoxide Poisoning Weld County, Colorado, 1993
- 768 Emerging Polio-Free Zone Southern Africa, 1990–1994
- 771 Implementation of the Medicare Influenza Vaccination Benefit United States, 1993
- 773 Human Rabies Miami, 1994
- 775 Notices to Readers
- 776 AIDS Map

Epidemiologic Notes and Reports

Carbon Monoxide Poisoning — Weld County, Colorado, 1993

In March 1993, the Colorado Department of Public Health and Environment (CDPHE) was notified that six family members residing in a home in Weld County had suffered carbon monoxide (CO) poisoning; five of the persons died. An investigation indicated that the source of CO had been a van parked in the garage of the home; the van had been left running, and the exhaust fumes leaked into the home. This report summarizes the investigation of this incident.

On March 10, 1993, at 7:32 p.m., emergency personnel in Weld County received an inactivity alert from the heart monitor of an outpatient. On arrival at the patient's home, they found the six family members (three adults and three children) to be dead or unconscious. Four persons (a 77-year-old woman who was wearing the heart monitor, two other adults aged 29 and 30 years, and one 8-year-old child) were pronounced dead at the scene. The decedents were found on the first floor of the house, in upstairs bedrooms, and in the basement; on autopsy, carboxyhemoglobin (COHb) levels of the decedents ranged from 72% to 78%. Two other children (aged 12 and 11 years) were found unconscious in the basement. Although their initial COHb levels were similar, clinical features of the two patients were distinctly different.

Patient 1. On discovery, the 12-year-old boy was in electromechanical dissociation but was successfully resuscitated. On physical examination in the emergency department, he was flaccid with intermittent decerebrate posturing, had no spontaneous breathing, and was unresponsive to pain. The pH of an arterial blood sample was 7.01 and the COHb level, 16%. CO poisoning was diagnosed. After his metabolic status was stabilized, hyperbaric oxygen (HBO) therapy was initiated. Following the first course of treatment, the patient became hypotensive and required vasopressor therapy; cardiac evaluation revealed diminished cardiac function. On March 11, an electroencephalogram (EEG) revealed seizure activity, and a computed tomography (CT) scan of the brain showed diffuse cerebral edema with hypodense anoxic white matter. On March 15, the patient died.

Patient 2. On discovery, the 11-year-old boy was comatose. At the hospital, he had an initial COHb level of 12% and had stable cardiovascular function but remained comatose and required ventilatory support; CO poisoning was diagnosed. During the first week of hospitalization, he also received HBO therapy. Neurologic examination demonstrated decorticate posturing and mixed reflexes. EEGs revealed diffuse slowing; a

Carbon Monoxide Poisoning — Continued

CT scan showed moderate cerebral edema with white matter involvement and petechial hemorrhages of the cortex, basal ganglia, and thalami. He remained comatose but ventilatory support was not required. At the beginning of the fourth week, he began to regain consciousness and to respond to voice commands; an EEG showed improved electrical activity. He subsequently was transferred to a pediatric rehabilitation program, improved, and, during January 1994, returned to school and resumed routine daily activities.

Investigation. A police investigation suggested that a van parked in the garage of the family home had been left running after the family had returned from an outing the previous night, approximately 24 hours before discovery. The garage adjoined the family room on the first level of the tri-level home. When emergency personnel arrived at the home, they found the door between the garage and the house was closed.

Approximately 2 hours after discovery of the family, environmental sampling by the gas company detected CO levels ranging from 17 to 64 parts per million (ppm) throughout the house; a sample from inside the van measured 448 ppm CO. These measurements were taken after emergency personnel had opened the garage door and several windows in the house. The furnace and hot water heater were inspected; exhaust vents on both appliances had been installed properly, and there were no indications of high CO output.

Reported by: M Cook, MS, L Miller, MD, Injury Epidemiology; R Hoffman, MD, State Epidemiologist, Colorado Dept of Public Health and Environment; B Clem, MD, Presbyterian/St. Luke's Medical Center, Denver; Greeley Police Dept. Air Pollution and Respiratory Health Br, Div of Environmental Hazards and Health Effects, National Center for Environmental Health, CDC.

Editorial Note: Since 1985, CDPHE has conducted surveillance for fatal and nonfatal unintentional CO poisoning. Although CO poisoning is preventable, during 1986–1991, a total of 174 fatal and 779 nonfatal unintentional CO poisonings were reported in Colorado. Nationally, approximately 590 deaths occur annually from unintentional CO poisoning (1). Fatal CO poisoning occurring in the household setting could be prevented if occupants could become alerted to the presence of the gas before concentrations reached toxic levels. The deaths described in this report resulted from inhalation of exhaust that leaked into the home from the adjoining garage where a van had been left running.

CO is an insidious poison that is a naturally occurring byproduct of the incomplete combustion of fuels. Because CO is colorless, tasteless, odorless, and nonirritating, its presence usually is not detected. CO is a component of exhaust and smoke (including cigarette smoke), and accumulation of CO may be associated with any combustion process occurring indoors (e.g., home heating, cooking, or a running vehicle or gasoline-powered tool)—particularly when ventilation is inadequate (2,3).

CO induces toxic effects by tightly binding to hemoglobin to form COHb and reducing the oxygen-carrying capacity of the blood. Other potential mechanisms of toxicity include binding to cytochrome oxidase in the mitochondria, thereby interfering with cellular respiration (4), and inducement of cardiovascular compromise and consequent endothelial disruption (5). Because CO can induce toxicity by more than one pathway, COHb levels indicate exposure to CO but do not correlate consistently with symptoms or prognosis. Therefore, treatment and prognosis of CO poisoning are based on the clinical status of the patient at presentation rather than on COHb levels.

Carbon Monoxide Poisoning — Continued

Diagnosis of CO poisoning is problematic because early symptoms of CO exposure are nonspecific (e.g., headache, dizziness, weakness, nausea, visual disturbances, and confusion) (4,6) and may be mistaken for symptoms of acute, self-limited illnesses (e.g., upper respiratory tract infection and food poisoning). At least three factors are associated with COHb levels and symptoms: 1) the concentration of CO in the environment; 2) the duration of exposure; and 3) the interval between exposure and clinical assessment (as illustrated by the cases described in this report). In general, however, exposure to CO concentrations of 80-140 ppm for 1-2 hours can result in COHb concentrations of 3%-6% (normal concentration: <2% for nonsmokers, 5%-9% for smokers); this concentration may be associated with decreased exercise tolerance and, in persons who are at risk, may precipitate angina attacks and cardiac arrhythmias (7). Clinical manifestations associated with CO concentrations of 105–205 ppm and COHb levels of 10%-20% include headache, nausea, and mental impairment. Manifestations associated with COHb levels of 30%-60% include more profound central nervous system effects, coma, and death (8). Treatment of CO poisoning requires termination of exposure and initiation of therapy with 100% oxygen; HBO therapy has been recommended for patients with neurologic or cardiac symptoms, pregnant women, and children when higher cortical function cannot be measured (4,9).

As a result of unintentional CO poisoning incidents in Colorado, CDPHE and the U.S. Consumer Product Safety Commission (CPSC) held a press conference on October 1, 1993 (the beginning of the winter heating season) to emphasize the occurrence of CO poisonings in Colorado, provide strategies to prevent such injuries, and discuss and demonstrate the use of CO detectors. Because a high proportion of unintentional deaths from CO poisoning are associated with exposure in the household setting, CPSC has proposed national mandatory installation of CO detectors in all new residential construction beginning in 1995 and has recommended installation of these devices in all existing homes. Additional information about residential CO detectors that meet Underwriter's Laboratory standards (UL 2034) is available from the CPSC Product Safety Hotline, telephone (800) 638-2772 or (301) 504-0220.

References

- 1. Cobb N, Etzel RA. Unintentional carbon monoxide-related deaths in the United States, 1979 through 1988. JAMA 1991;266:659–63.
- 2. CDC. Carbon monoxide levels during indoor sporting events—Cincinnati, 1992–1993. MMWR 1994;43:21–3.
- 3. CDC. Carbon monoxide levels in indoor tractor-pull events—Manitoba, Canada. MMWR 1990;39:743–5.
- 4. Thom SR, Keim LW. Carbon monoxide poisoning: a review. Clin Toxicol 1989;27:141–56.
- 5. Okeda T, Funata N, Higashino F, Takano T, Yokoyama K. Comparative study on pathogenesis of selective cerebral lesions in carbon monoxide poisoning and nitrogen hypoxia in cats. Acta Neuropathol 1982;56:265–72.
- 6. Meredith T, Vale A. Carbon monoxide poisoning. Br Med J 1988;296:77-8.
- US Environmental Protection Agency. Air quality criteria for carbon monoxide. Washington, DC: US Environmental Protection Agency, Office of Research and Development, 1991; publication no. EPA-600/8-90/045F.
- 8. Llano A, Raffin T. Management of carbon monoxide poisoning. Chest 1990;97:165-9.
- 9. Viccellio P, ed. Handbook of medical toxicology. Boston: Little, Brown, and Company, 1993.

International Notes

Emerging Polio-Free Zone — Southern Africa, 1990–1994

A key component of the global strategy to eradicate poliomyelitis by the year 2000 is surveillance for all cases of acute flaccid paralysis (AFP), ensuring the detection of cases of paralytic polio. During the 1990s, most of the countries of southern Africa (Table 1) have reported high (i.e., 70%–90%) levels of vaccination coverage among children aged <1 year with three doses of oral poliovirus vaccine (OPV3). In addition, with the exception of Namibia, all of these countries have reported very low or zero incidence of polio (Table 1, Figure 1). To determine whether the low number of reported polio cases reflects the true incidence or underreporting, during 1992 and 1993 assessments of polio incidence and the quality of surveillance of suspected polio were conducted by teams consisting of national health officials, World Health Organization (WHO) staff and consultants, and representatives from Rotary International, using a standard protocol (1). This report summarizes the findings of assessments in Botswana, Lesotho, Malawi, South Africa, Swaziland, and Zimbabwe.

Of the six countries, only Malawi maintains surveillance for AFP as recommended by WHO (2). Since 1991, all health facilities in Malawi likely to provide care for cases of AFP have reported such cases as suspected polio in the routine monthly reporting system. The local health authority immediately initiates an investigation that includes collection of stool specimens for virologic analysis. In addition, a private group specializing in rehabilitation (Malawi Against Polio) conducts approximately 700 lameness clinics serving more than 10,000 patients annually; these clinics also provide active surveillance for convalescent cases of polio. Since 1992, 13 AFP cases have been reported to the Malawi Ministry of Health; no polioviruses have been isolated from these reported cases, and no cases clinically compatible with polio (i.e., met the WHO case definition for polio) have been identified.

In Botswana, Lesotho, and Zimbabwe, AFP surveillance has not yet been fully implemented, and surveillance is based on reporting of physician-diagnosed polio. Since 1990, each country has reported 0–2 cases annually. In 1992, the incidence of AFP was

TABLE 1. Vaccination coverage with three doses of oral poliovirus vaccine (OPV3) among children aged <1 year, 1990–1993, and number of reported poliomyelitis cases, 1990–1994 — southern Africa

| | | O | PV3 | | Reported no. polio cases | | | | | | | | |
|----------------------|-----------------|-----------------|------|------|--------------------------|------|------|------|-------|--|--|--|--|
| Country | 1990 | 1991 | 1992 | 1993 | 1990 | 1991 | 1992 | 1993 | 1994* | | | | |
| Botswana | 82 [†] | 50 | 58 | 57 | 2 | 0 | 0 | 0 | 0 | | | | |
| Lesotho | 80 | 75 | 82 | 78 | 0 | 0 | 0 | 1 | 0 | | | | |
| Malawi | 85 | 78 | 84† | _ | 3 | 3 | 0 | 0 | 0 | | | | |
| Mozambique | 46 | 46 | 50 | 49 | 1 | 3 | 2 | 3 | 0 | | | | |
| Namibia [.] | 59 [†] | 67 | 70 | 76 | 0 | 0 | 0 | 56 | 0 | | | | |
| South Africa | 76 | 82 | 79 | 81 | 5 | 2 | 0 | 0 | 0 | | | | |
| Swaziland | 89 | 79 | 86† | 73 | 0 | 0 | 0 | 0 | 0 | | | | |
| Zimbabwe | 76 | 78 [†] | 81 | 73 | 0 | 0 | 0 | 0 | 0 | | | | |

^{*}Provisional data based on reports received by World Health Organization, Geneva, as of October 3, 1994.

[†]Based on survey data rather than routine coverage reporting.

Polio-Free Zone — Continued

evaluated in Zimbabwe and included a review of hospital records for 1990–1992 of children aged <15 years at each of the seven provincial and three central hospitals likely to provide care to persons with cases of AFP. Of the 21 identified cases of AFP, 11 were in children aged <5 years. Three cases compatible with polio occurred during 1990–1991 but were not reported. The average annual AFP incidence was 0.17 per 100,000 children aged <15 years and 0.25 per 100,000 children aged <5 years.

In Swaziland, polio cases had been reported every year during the 1980s; however, since 1990, no cases have been reported. The national rehabilitation center registers persons with paralytic illnesses seeking rehabilitation services; none of the 22 persons registered during 1991–1992 had cases clinically compatible with polio.

In South Africa, surveillance has been based on routine reporting of physiciandiagnosed polio. AFP was designated as a reportable disease in April 1994, and AFP case investigation and response in accordance with WHO guidelines is now being implemented. In September 1994, the first review of the vaccination program in South Africa conducted by national health officials and international consultants concluded that the last confirmed cases of wild virus-associated polio occurred in 1989 during an outbreak in Natal/KwaZulu (3).

Reported by: Ministry of Health, Botswana. Ministry of Health, Lesotho. Ministry of Health, Malawi. Ministry of Health, Mozambique. Ministry of Health, Namibia. Dept of Health, South Africa. Ministry of Health, Swaziland. Ministry of Health and Child Welfare, Zimbabwe. Expanded Program on Immunization, World Health Organization, Regional Office for Africa,

>1000 Cases
100-1000 Cases
1-99 Cases
0 Cases
NR No Report

FIGURE 1. Reported cases of poliomyelitis — Africa, 1993

Source: World Health Organization.

Polio-Free Zone — Continued

Brazzaville. Rotary International, Evanston, Illinois. Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Polio Eradication Activity, National Immunization Program, CDC.

Editorial Note: Although polio is now a rare disease in southern Africa, surveillance is neither sufficiently sensitive nor has the quality been evaluated adequately to determine whether wild poliovirus transmission has been interrupted. Therefore, efforts are needed to strengthen both the field epidemiology and laboratory components of surveillance to enable prompt detection, investigation, and notification of all AFP cases, the collection and testing of adequate stool specimens, and the application of the standard WHO polio case definition and case classification criteria. Private practitioners and traditional healers also must be encouraged to report AFP cases.

Although Namibia was considered polio-free from 1990 through May 1993, a surveillance assessment was performed in November 1993 because of the occurrence of an outbreak of 56 cases (4). The outbreak was attributed to the importation of wild poliovirus across Namibia's northern border with Angola, where polio remains endemic, and was terminated by a nationwide mass vaccination campaign with oral poliovirus vaccine (OPV). The outbreak in Namibia has emphasized the urgent need to establish AFP surveillance and the continuing risk for importations leading to polio outbreaks in the countries of southern Africa.

The surveillance assessment conducted in Zimbabwe in 1992 was the first systematic attempt to determine the rate of AFP in a sub-Saharan African population. The annual AFP rate in Zimbabwe was low in comparison with the reference rate of ≥1.0 per 100,000 children aged <15 years used in the Americas to define a sensitive AFP surveillance system. Explanations that may account for this finding are that 1) persons with AFP may not seek medical care or may not be referred to higher level hospitals; 2) hospital records may not be complete; 3) discharge diagnoses may be inadequately coded; or 4) the true rate of nonpolio AFP in Zimbabwe may be lower than in populations in the Americas, although during 1979–1981, the annual incidence of Guillain-Barré syndrome (the most common nonpolio cause of AFP) in the western province of South Africa ranged from 1.7 to 3.3 cases per 100,000 children aged <13 years (5).

The apparently low incidence or virtual absence of polio in the countries of southern Africa suggests that the reduction of poliovirus transmission has precluded the need for mass vaccination campaigns with OPV at the national level. This situation parallels that in 1987 in the southern cone countries of South America (Argentina, Chile, Paraguay, and Uruguay), which were characterized by relatively high (but geographically nonuniform) levels of OPV3 coverage and few or zero reported cases of polio. In these countries, polio-free status was achieved by 1989 through strategies of subnational mass vaccination campaigns with OPV in high-risk areas identified by low coverage or recent polio cases and aggressive AFP case ascertainment. In southern Africa, the low population density, low contact rates, and sustained high levels of routine vaccination coverage also may assist in achieving adequate herd immunity.

The International Certification Commission on Polio Eradication has established criteria by which countries can attain polio-free status (6). For the countries of southern Africa to achieve this objective, efforts will be necessary to strengthen polio surveillance and to implement strategies recommended by WHO for the interruption of wild poliovirus transmission (7). In November 1993, the African region of WHO initiated efforts to strengthen both disease surveillance and polio eradication activities (8).

Polio-Free Zone — Continued

References

- 1. Expanded Program on Immunization, World Health Organization. Protocol for the assessment of the quality of surveillance and control of EPI diseases. Geneva: World Health Organization, Expanded Program on Immunization, 1993; publication no. WHO/EPI/GEN/93.22.
- Expanded Program on Immunization, World Health Organization. Manual for managers of immunization programs. Geneva: World Health Organization, Expanded Program on Immunization, 1991.
- 3. van Middelkoop A, van Wyk JE, Küstner HGV, et al. Poliomyelitis outbreak in Natal/KwaZulu, South Africa, 1987–1988. Trans R Soc Trop Med Hyg 1992;86:80–2.
- 4. Heath K, Tjapepua V, Allies T, et al. Outbreak of paralytic poliomyelitis in Namibia [Abstract]. In: Program and abstracts of the 34th Interscience Conference on Antimicrobial Agents and Chemotherapy. Washington, DC: American Society for Microbiology, 1994.
- 5. Kibel MA. Guillain-Barré syndrome in childhood. S Afr Med J 1983;63:715.
- 6. Pan American Health Organization/World Health Organization. Plan of action for certification of the eradication of indigenous transmission of wild poliovirus in the Americas. Washington, DC: Pan American Health Organization, 1993. (Technical paper no. 39).
- 7. Hull HF, Ward NA, Hull BP, de Quadros C. Paralytic poliomyelitis: seasoned strategies, disappearing disease. Lancet 1994;343:1331–7.
- 8. World Health Organization. First meeting of the WHO/AFRO Task Force on Immunization in Africa: meeting final report. Brazzaville, Congo Republic: World Health Organization, Regional Office for Africa, April 1994.

Health Objectives for the Nation

Implementation of the Medicare Influenza Vaccination Benefit — United States, 1993

Influenza is a major cause of debilitating illness and premature death in the United States, particularly among persons aged ≥65 years and those with chronic conditions such as lung or heart disease, diabetes, and cancer. Medicare reimbursement for excess hospitalizations during influenza epidemics ranges from \$750 million to \$1 billion (1). In May 1993, influenza vaccination became a covered Medicare benefit after its potential cost-effectiveness was established by the Medicare Influenza Vaccine Demonstration (2). During the fall of 1993, the Health Care Financing Administration (HCFA) initiated an information campaign to promote use of the influenza vaccination benefit, implemented simplified billing procedures, and improved electronic billing capabilities. However, reports during the 1993–94 influenza season suggested problems experienced by state and local health departments in implementing the new benefit. To characterize public influenza vaccination programs and problems with implementing this benefit, in the spring of 1994, CDC collected information from all 63 state and local health departments receiving federal immunization grants. This report summarizes the reports from these programs.

During April–May 1994, immunization grant programs were mailed a questionnaire asking whether they implemented influenza vaccination programs and about use of the Medicare influenza vaccine benefit. Of the 63 health departments, 45 (71%) responded; of these, 27 (60%) reported conducting influenza vaccination programs during 1993–1994 and answered questions about influenza vaccination and Medicare. All 27 reported at least one of the following problems with initial implementation of

Influenza Vaccination — Continued

the Medicare influenza vaccine benefit: 1) perceived complex billing procedures, problems with claim forms (completion and complexity), or uncertainty about how to determine eligibility (18 [67%] of 27); 2) lack of timely, accurate, and/or complete publicity and information about the benefit (17 [63%]); and 3) concerns about reimbursement for vaccine administration (e.g., varying rates within the same state and use of state funds to buy a federally reimbursed vaccine) (14 [52%]).

Respondents reported the need for two categories of improvement: 1) improved billing, claim forms, and/or eligibility procedures (24 [89%] of 27); and 2) timely and accurate publicity and information dissemination (14 [52%]).

Reported by: Selected immunization program managers and project directors. Consumer Information Team, Health Care Financing Administration. Epidemiology and Surveillance Div, National Immunization Program, CDC.

Editorial Note: One of the national health objectives for the year 2000 is to achieve 60% influenza vaccination coverage in noninstitutionalized persons at high risk for complications of influenza, including those aged ≥65 years (3). During 1991, only 41% of persons aged ≥65 years reported having received influenza vaccine during the previous year (4). Implementation of the Medicare influenza vaccination benefit is expected to improve coverage in this population by reducing the financial barrier to vaccination. Preliminary data from HCFA indicate that, during September-December 1993, claims for influenza vaccine were filed for 9.8 million Medicare beneficiaries aged ≥65 years (HCFA, unpublished data, 1994); however, this number represents only 34.6% of all Medicare beneficiaries who do not routinely receive their services from health maintenance organizations (HMOs) (data are not available on vaccination levels in Medicare beneficiaries served by HMOs). An estimated 10%-20% of Medicare beneficiaries may have received influenza vaccinations that were not billed to Medicare (HFCA and CDC, unpublished data, 1994). Vaccines were provided at public health clinics, health fairs, private medical settings, and other sites that did not bill Medicare, including hospitals not submitting separate bills for influenza vaccinations. Private providers delivered approximately 80% of all influenza vaccinations administered to persons aged ≥65 years.

During the first year of Medicare influenza vaccine coverage, some providers reported not receiving timely information about the new benefit. To improve influenza vaccination of Medicare beneficiaries and use of other covered prevention services, in May 1994, HCFA initiated the Consumer Information Strategy (CIS) (5). Through CIS, HCFA will develop and provide information on choice and use of health-care services to physicians, other health-care providers, consumer-based and professional societies, peer-review organizations, contractors, state health departments, other federal agencies, and to Medicare and Medicaid beneficiaries (5). The strategy initially focuses on major campaigns to increase beneficiary use of influenza vaccine and other preventive services.

In 1992, collaborative activities of the Medicare Influenza Vaccine Demonstration increased overall influenza vaccination rates to 59% among Medicare beneficiaries aged ≥65 years (2). Similar activities may be necessary to improve the vaccination rates for other vaccines intended for adults. Achieving the national health objectives for adult vaccination will require multifaceted strategies to reduce cost and accessibility constraints, increase collaboration between public and private sectors to improve awareness and service delivery, and evaluate vaccination programs.

Influenza Vaccination — Continued

References

- McBean AM, Babish JD, Warren JL. The impact and cost of influenza in the elderly. Arch Intern Med 1993:153:2105–11.
- 2. CDC. Final results: Medicare Influenza Vaccine Demonstration—selected states, 1988–1992. MMWR 1993;42:601–4.
- 3. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives. Washington, DC: US Department of Health and Human Services, Public Health Service, 1991:122–3; DHHS publication no. (PHS)91-50213.
- 4. Heath KA, Strikas RA, Stevenson J, Williams WW. Influenza and pneumococcal vaccination among older adults: results of the 1991 National Health Interview Survey [Abstract]. In: Program and abstracts of the CDC Epidemic Intelligence Service 43rd annual conference. Atlanta: US Department of Health and Human Services, Public Health Service, CDC, 1994:33.
- 5. Vladeck BC. From the Health Care Financing Administration: the consumer information strategy. JAMA 1994;272:196.

Epidemiologic Notes and Reports

Human Rabies — Miami, 1994

A high proportion of recent human rabies cases diagnosed in the United States have been acquired outside the country and have lacked a history of animal bite exposure. On June 21, 1994, a 40-year-old man died in a hospital in Miami following a subacute and progressive neurologic syndrome; rabies had not been clinically suspected but was diagnosed postmortem on July 13. This report summarizes the case investigation, which indicated that the case was acquired outside the United States.

During 1979–1993, the man frequently visited Haiti. After temporarily residing in Haiti during most of 1993, the man returned to Miami in December. During February 1994, he sought medical care for severe neck pain and headache; he was treated as an outpatient and returned to Haiti in March. On April 19, after returning to the United States, he presented to a hospital in Miami with acute renal failure attributed to mild mesangial proliferative glomerular nephritis and was hospitalized. He recovered following hemodialysis and was discharged on April 29.

During May 1994, he made four visits to the hospital's outpatient clinic for different problems, including frontal headache, acute anxiety, epigastric pain, and chest and back pain. During each visit, he also complained of pain in the neck, extremities, or back. Negative diagnostic studies during these visits included an electroencephalogram, electrocardiogram (ECG), and magnetic resonance imaging (MRI).

On June 9, he presented again with a 6-day history of neck pain, headaches, photophobia, feverishness, nausea and vomiting, and right-sided weakness. He was hospitalized and started on ceftriaxone for presumed meningitis. Laboratory studies included a white blood cell count of 10,300/mm³ (normal: 5000–10,000/mm³), hemoglobin of 12 g (normal: 14–18 g), and hematocrit of 36 units (normal: 40–54 units); findings were within normal limits for chest radiographs, ECG, and a brain MRI. Cerebrospinal fluid obtained by a lumbar puncture was clear with a protein level of 16 mg/dL and glucose of 111 mg/dL. The patient was started on acyclovir and high-dose steroids for presumed central nervous system vasculitis. Because of progressive lethargy and disorientation, he was admitted to the medical intensive care unit

Rabies — Continued

(MICU); two computed tomographies of the head done on admission on June 9 and again on June 11 were negative for evidence of a cerebrovascular event or meningeal involvement.

The patient's neurologic function continued to deteriorate, and despite mechanical ventilation, he died on June 21. Hypersalivation was not a documented symptom during the clinical course.

On July 13, microscopic examination of brain tissue taken at autopsy showed diffuse, severe encephalomyelitis. Ultrastructural examination of residual neurons detected viral particles consistent with rabies virus. Immunofluorescent antibody staining of formalin-fixed tissue at CDC was strongly suggestive of rabies. On July 21, rabies was confirmed by identification of rabies virus RNA from formalin-fixed brain tissue by reverse transcription-polymerase chain reaction (RT-PCR) amplification with rabies-specific primers. Nucleotide sequence of the RT-PCR product revealed a rabies virus variant sharing 99% homology with a recent dog rabies sample from Haiti; this variant has not been documented in the United States.

Interviews with the patient's family members who resided in Florida indicated that he had not reported an animal bite and that he avoided contact with domestic and wild animals. In addition, they reported that he never had had a pet dog and were unaware of stray dogs in his neighborhood. However, the incubation period, onset of symptoms, travel history, and finding of the rabies virus variant suggest the patient had been exposed to rabies in Haiti during late 1993 or March 1994.

Although postexposure prophylaxis was not indicated for any relatives, 16 hospital personnel (i.e., a morgue technician who cut himself during the autopsy, 10 respiratory therapists, four medical residents, and one nurse in the MICU) received postexposure treatment. The Pan American Health Organization was alerted to contact appropriate Haitian authorities about the case.

Reported by: B Elser, MD, CK Petito, MD, Jackson Memorial Hospital; V Sneller, PhD, ED Sfakianaki, MD, MB Ares, MD, M Edouard, MD, Dade County Public Health Unit; WG Hlady, MD, RS Hopkins, MD, State Epidemiologist, Florida Dept of Health and Rehabilitative Svcs. Viral and Rickettsial Zoonoses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: The case described in this report is the 20th case of human rabies to have been reported in the United States since 1980. Of these 20 cases, 10 probably were acquired outside the United States, and 14 had no documented history of animal bite exposure. As a result of exposures to the 20 cases, 832 persons received post-exposure rabies prophylaxis, representing an estimated cost of \$850,000 (1).

In the United States, vaccination programs for pets have reduced the potential for rabies exposure from domestic animals (2). In comparison, the occurrence of rabies in dogs remains a common problem in Haiti (3,4) and many other developing countries (3). Because of the risk for rabies in these countries, travelers are advised to avoid contact with dogs and other animals, and rabies preexposure prophylaxis is recommended for persons planning to stay at least 30 days (5).

The case described in this report is the third since 1993 that was diagnosed approximately 1 month postmortem. Rabies should be considered early in the differential diagnosis of rapidly progressive encephalitic syndromes of suspected viral etiology, regardless of whether the patient has a history of an animal bite (6). Although early diagnosis alters neither the patient's treatment course nor prognosis, advantages of

Rabies — Continued

this approach include the prompt implementation of appropriate infection-control measures, limitation of the number of persons exposed who require postexposure prophylaxis, and prompt administration of prophylaxis to exposed persons.

References

- 1. Fishbein DB, Robinson LE. Rabies. N Engl J Med 1993;329:1632-8.
- 2. Krebs JW, Strine TW, Childs JE. Rabies surveillance in the United States during 1992. J Am Vet Med Assoc 1993;203:1718–31.
- 3. World Health Organization. World survey of rabies XXVII (for year 1991). Geneva: World Health Organization, Division of Communicable Diseases, Veterinary Public Health Unit, 1993; publication no. WHO/Rabies/93.209.
- 4. Pan American Health Organization. Epidemiologic surveillance of rabies for the Americas, 1990. Buenos Aires: Pan American Health Organization, 1991.
- 5. CDC. Human rabies—Texas and California, 1993. MMWR 1994;43:93-6.
- 6. Whitley RJ. Viral encephalitis. N Engl J Med 1990;323:242–50.

Notice to Readers

CDC Voice/Fax Information Service

In response to the increased need for and use of public health information by health professionals and the public, the CDC Voice/Fax Information Service (CDC VIS) is available. With the CDC VIS, current and comprehensive information on disease risk and prevention strategies may be readily accessed and delivered by telephone voice or fax, 24 hours a day, 365 days a year. The information on the CDC VIS has been prepared by CDC to assure the scientific accuracy and has been scripted to relate to the target populations of callers.

During 1994, the CDC VIS responded to 493,000 requests for voice information and 180,000 fax requests, resulting in the transmission of 432,000 documents totaling 1.3 million pages. Suggestions and comments received from callers have resulted in refinement of the system to make it more usable and tailored to the information needs of the users.

To access the CDC Voice Information System, telephone (404) 332-4555; to access the CDC Fax Information System, telephone (404) 332-4565.

Notice to Readers

International Fluoridation Symposium

CDC is cosponsoring the International Fluoridation Symposium hosted by the British Fluoridation Society in Birmingham, United Kingdom, June 1–2, 1995. The symposium is being held in conjunction with the British Dental Association Annual Conference and will commemorate 50 years of water fluoridation worldwide. Presentations will focus on fluoridation issues, including risks and benefits, technical aspects, the politics of implementation, and developments worldwide.

Additional information is available from Chief Fluoridation Engineer, Program Services Branch, Division of Oral Health, National Center for Prevention Services, CDC, Mailstop F-10, 1600 Clifton Road, NE, Atlanta, GA 30333; telephone (404) 639-8377; fax (404) 639-8617.

AIDS Map

The following map provides information about the reported number of acquired immunodeficiency syndrome (AIDS) cases per 100,000 population by state of residence for July 1993 through June 1994. More detailed information about AIDS cases is provided in the *HIV/AIDS Surveillance Report*, single copies of which are available free from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 217-0023.

AIDS cases per 100,000 population — United States, July 1993-June 1994

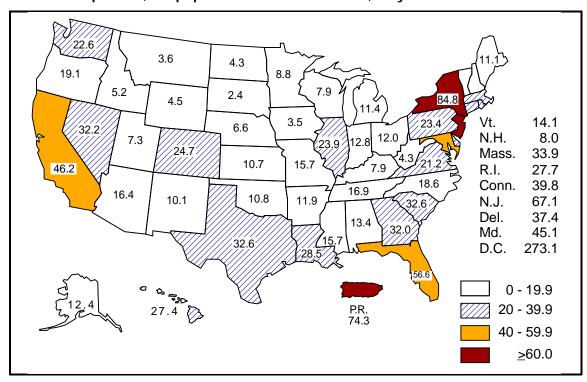
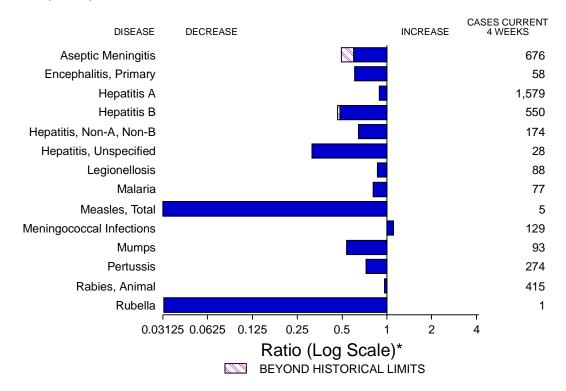


FIGURE I. Notifiable disease reports, comparison of 4-week totals ending October 22, 1994, with historical data — United States



^{*}Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending October 22, 1994 (42nd Week)

| | Cum. 1994 | | Cum. 1994 |
|---|-------------|---|--|
| AIDS* Anthrax Botulism: Foodborne Infant Other Brucellosis Cholera Congenital rubella syndrome Diphtheria Encephalitis, post-infectious Gonorrhea Haemophilus influenzae (invasive disease)† Hansen Disease | 61,173 | Measles: imported indigenous Plague Poliomyelitis, Paralytic [§] Psittacosis Rabies, human Syphilis, primary & secondary Syphilis, congenital, age < 1 year [¶] Tetanus Toxic shock syndrome Trichinosis Tuberculosis Tularemia | 171 680 14 1 30 1 17,203 1,123 28 148 29 17,571 76 |
| Leptospirosis Lyme Disease | 26 8,895 | Typhoid fever Typhus fever, tickborne (RMSF) | 353 375 |

^{*}Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update September 27, 1994.

Of 889 cases of known age, 246 (28%) were reported among children less than 5 years of age.

The remaining 5 suspected cases with onset in 1994 have not yet been confirmed. In 1993, 3 of 10 suspected cases were confirmed. Two of the confirmed cases of 1993 were vaccine-associated and one was classified as imported.

Total reported to the Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services, through second quarter 1994.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending October 22, 1994, and October 23, 1993 (42nd Week)

| | | Aseptic | Encephalitis | | | | He | oatitis (\ | /iral), by t | type | | | |
|------------------------|-----------------|-----------------|--------------|----------------------|------------------|------------------|--------------|--------------|--------------|------------------|--------------------|-----------------|--|
| Reporting Area | AIDS* | Menin- gitis | Primary | Post-in- fectious | Gono | rrhea | Α | В | NA,NB | Unspeci- fied | Legionel- losis | Lyme Disease | |
| . 3 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1993 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | |
| UNITED STATES | 61,173 | 14,612 | 534 | 91 | 314,666 | 321,873 | 18,239 | 9,232 | 3,441 | 345 | 1,270 | 8,895 | |
| NEW ENGLAND | 2,251 | 247 | 16 | 4 | 7,022 70 | 6,227 | 237 | 264 | 111 | 15 | 68 | 2,224 | |
| Maine N.H. | 71 46 | 28 26 | 3 - | 2 | 92 | 70 58 | 21 14 | 11 20 | 8 | - | 5 - | 17 24 | |
| Vt. Mass. | 29 1,126 | 27 69 | 2 9 | - 1 | 29 2,604 | 21 2,457 | 8 90 | - 161 | 83 | - 13 | - 52 | 12 192 | |
| R.I. | 202 | 97 | 2 | 1 | 380 | 350 | 20 | 7 | 20 | 2 | 11 | 347 | |
| Conn. MID. ATLANTIC | 777 | 723 | - 46 | - 16 | 3,847 | 3,271 37,430 | 1 250 | 65 1 154 | 384 | - 9 | - 205 | 1,632 5,457 | |
| Upstate N.Y. | 18,266 1,722 | 340 | 27 | 2 | 36,267 8,432 | 8,005 | 1,359 444 | 1,156 311 | 187 | 5 | 53 | 3,336 | |
| N.Y. City N.J. | 10,514 4,205 | 120 | 6 | 5 | 13,353 3,963 | 10,337 4,249 | 548 229 | 271 300 | 1 165 | - | 10 38 | 22 1,142 | |
| Pa. | 1,825 | 263 | 13 | 9 | 10,519 | 14,839 | 138 | 274 | 31 | 4 | 104 | 957 | |
| E.N. CENTRAL | 4,776 | 1,177 | 135 | 22 | 58,970 | 67,419 | 1,807 | 913 | 254 | 8 | 382 | 86 | |
| Ohio Ind. | 870 479 | 310 163 | 48 10 | 4 1 | 17,402 6,923 | 17,965 6,767 | 750 307 | 136 154 | 20 9 | - | 165 97 | 62 13 | |
| III. Mich. | 2,354 780 | 274 423 | 43 30 | 5 12 | 14,838 14,499 | 22,632 14,631 | 356 239 | 184 321 | 51 171 | 3 5 | 21 70 | 4 7 | |
| Wis. | 293 | 7 | 4 | - | 5,308 | 5,424 | 155 | 118 | 3 | - | 29 | - | |
| W.N. CENTRAL Minn. | 1,244 300 | 334 20 | 23 2 | 6 | 16,813 2,701 | 17,489 1,873 | 916 185 | 528 48 | 73 17 | 10 1 | 81 1 | 210 141 | |
| lowa | 88 | 103 | 1 | 1 | 1,289 | 1,259 | 55 | 24 | 9 | 9 | 28 | 14 | |
| Mo. N. Dak. | 566 22 | 129 11 | 7 3 | 4 | 9,643 18 | 10,474 43 | 463 5 | 406 | 25 | - | 28 4 | 36 | |
| S. Dak. | 12 | 2 | 2 | - | 162 | 220 | 31 | 2 | - | - | 1 | - | |
| Nebr. Kans. | 69 187 | 14 55 | 4 4 | 1 - | 3,000 | 484 3,136 | 89 88 | 19 29 | 8 14 | - | 14 5 | 9 10 | |
| S. ATLANTIC | 14,441 | 1,230 | 129 | 27 | 87,494 | 82,133 | 1,174 | 1,923 | 513 | 42 | 299 | 693 | |
| Del. Md. | 213 2,356 | 34 211 | 1 19 | 4 | 1,577 14,512 | 1,200 13,095 | 16 169 | 5 340 | 1 28 | - 13 | 26 79 | 70 274 | |
| D.C. | 1,089 | 47 | - | 1 | 5,906 | 3,956 | 19 | 47 | 1 | - | 10 | 7 | |
| Va. W. Va. | 877 54 | 251 28 | 27 41 | 6 | 10,862 659 | 9,618 546 | 144 16 | 106 33 | 21 24 | 6 - | 8 3 | 119 21 | |
| N.C. S.C. | 931 996 | 201 28 | 40 | 1 | 23,060 10,918 | 20,315 8,785 | 112 33 | 232 25 | 52 8 | - | 24 15 | 75 7 | |
| Ga. | 1,688 | 47 | 1 | - | 906 | 4,660 | 24 | 523 | 171 | - | 95 | 100 | |
| Fla. E.S. CENTRAL | 6,237 1,606 | 383 8,655 | - 31 | 15 3 | 19,094 37,353 | 19,958 37,224 | 641 477 | 612 854 | 207 729 | 23 2 | 39 61 | 20 38 | |
| Ky. | 248 | 144 | 14 | 1 | 4,120 | 3,934 | 126 | 64 | 23 | - | 8 | 21 | |
| Tenn. Ala. | 539 468 | 8,313 153 | 10 5 | - 1 | 11,727 12,573 | 11,496 13,336 | 208 84 | 722 68 | 691 15 | 1 1 | 36 13 | 11 6 | |
| Miss. | 351 | 45 | 2 | i | 8,933 | 8,458 | 59 | - | - | - | 4 | - | |
| W.S. CENTRAL Ark. | 5,837 206 | 714 39 | 44 | 2 | 38,995 5,232 | 36,045 5,807 | 2,679 159 | 1,236 22 | 474 7 | 64 1 | 37 7 | 102 8 | |
| La. | 995 | 31 | 7 | - | 9,931 | 9,793 | 131 | 143 | 147 | 1 | 12 | 1 | |
| Okla. Tex. | 215 4,421 | 644 | - 37 | 2 | 3,035 20,797 | 3,795 16,650 | 295 2,094 | 276 795 | 261 59 | 1 61 | 11 7 | 56 37 | |
| MOUNTAIN | 1,751 | 270 | 10 | 3 | 7,637 | 9,299 | 3,452 | 528 | 366 | 50 | 69 | 16 | |
| Mont. Idaho | 19 49 | 7 6 | - | - | 72 73 | 64 149 | 18 292 | 21 68 | 12 65 | - 1 | 14 1 | 3 | |
| Wyo. | 16 | 4 | 2 | 2 | 67 | 68 | 24 | 23 | 142 | - | 4 | 3 | |
| Colo. N. Mex. | 658 123 | 103 16 | 2 | - | 2,539 840 | 3,115 765 | 462 939 | 87 184 | 56 45 | 14 11 | 15 3 | 8 | |
| Ariz. Utah | 493 102 | 51 46 | 2 | - 1 | 2,528 218 | 3,247 360 | 1,068 454 | 36 61 | 11 22 | 11 3 | 7 | - 1 | |
| Nev. | 291 | 37 | 4 | - | 1,300 | 1,531 | 195 | 48 | 13 | 10 | 19 | i | |
| PACIFIC Wash. | 11,001 730 | 1,262 - | 100 | 8 | 24,115 2,460 | 28,607 3,072 | 6,138 290 | 1,830 60 | 537 55 | 145 2 | 68 7 | 69 - | |
| Oreg. Calif. | 486 9,604 | - 1,141 | - 97 | - 7 | 570 19,837 | 967 23,573 | 595 5,019 | 69 1,665 | 16 461 | 1 139 | - 57 | 69 | |
| Alaska | 34 | 17 | 3 | - | 721 | 512 | 181 | 10 | - | - | - | - | |
| Hawaii | 147 | 104 | - | 1 | 527 170 | 483 | 53 | 26 | 5 1 | 3 | 4 | - | |
| Guam P.R. | 1 1,759 | 16 27 | 1 | 3 | 179 370 | 83 405 | 42 58 | 6 303 | 1 122 | 12 11 | 3 - | - | |
| V.I. Amer. Samoa | 39 | - | - | - | 25 25 | 79 39 | - 7 | 1 | - | - | - | - | |
| C.N.M.I. | - | - | - | - | 41 | 72 | 6 | 1 | - | - | - | - | |

N: Not notifiable U: Unavailable

C.N.M.I.: Commonwealth of Northern Mariana Islands

^{*}Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update September 27, 1994.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 22, 1994, and October 23, 1993 (42nd Week)

| | | | Measle | s (Rube | ola) | | Menin- | | | | | | | | | |
|----------------------------|--------------|--------|--------------|---------|--------------|--------------|------------------------|--------|--------------|---------|--------------|--------------|--------|--------------|--------------|--|
| Reporting Area | Malaria | Indig | enous | Impo | rted* | Total | gococcal Infections | Mu | mps | F | Pertussi | s | | Rubella | 1 | |
| | Cum. 1994 | 1994 | Cum. 1994 | 1994 | Cum. 1994 | Cum. 1993 | Cum. 1994 | 1994 | Cum. 1994 | 1994 | Cum. 1994 | Cum. 1993 | 1994 | Cum. 1994 | Cum. 1993 | |
| UNITED STATES | 860 | - | 680 | - | 171 | 289 | 2,121 | 16 | 1,142 | 65 | 2,750 | 5,038 | - | 210 | 168 | |
| NEW ENGLAND | | - | 14 | - | 14 | 62 | 110 | - | 18 | 5 | 308 | 624 | - | 128 | 2 | |
| Maine N.H. | 5 3 | - | 1 1 | - | 4 | 1 2 | 19 6 | - | 3 4 | - | 18 53 | 15 141 | - | - | 1 | |
| Vt. | 3 | - | 2 | - | 1 | 31 | 2 | - | - | - | 40 | 79 | - | 104 | - | |
| Mass. R.I. | 29 8 | - | 2 4 | - | 6 3 | 18 1 | 47 - | - | 2 | 5 | 161 5 | 318 7 | - | 124 2 | 1 | |
| Conn. | 19 | - | 4 | - | - | 9 | 36 | - | 7 | - | 31 | 64 | - | 2 | - | |
| MID. ATLANTIC Upstate N.Y. | 167 42 | - | 166 12 | - | 23 3 | 26 7 | 220 80 | 1 1 | 88 25 | 17 3 | 486 199 | 776 278 | - | 9 6 | 58 16 | |
| N.Y. City | 61 | - | 11 | - | 3 | 10 | 11 | | 11 | 14 | 106 | 57 | - | 1 | 22 | |
| N.J. Pa. | 38 26 | - | 139 4 | - | 14 3 | 9 | 52 77 | - | 6 46 | - | 10 171 | 75 366 | - | 2 | 15 5 | |
| E.N. CENTRAL | 92 | _ | 58 | _ | 44 | 31 | 335 | 5 | 194 | 15 | 353 | 1,282 | _ | 11 | 7 | |
| Ohio | 15 | .: | 15 | | 2 | 9 | 95 | 5 | 58 | 9 | 132 | 365 | | - | 1 | |
| Ind. III. | 14 38 | U | - 17 | U | 1 39 | 1 9 | 57 104 | U | 7 88 | U | 53 76 | 118 384 | U | 3 | 2 1 | |
| Mich. | 23 | - | 23 | - | 2 | 6 | 47 | - | 37 | 6 | 43 | 91 | - | 8 | 2 | |
| Wis. | 2 | - | 3 | - | - | 6 | 32 | - | 4 | - | 49 | 324 | - | - | 1 | |
| W.N. CENTRAL Minn. | 39 12 | - | 126 | - | 44 | 3 | 146 12 | 1 | 60 5 | 2 | 146 51 | 470 270 | - | 2 | 1 | |
| lowa | 5 | - | 6 | - | 1 | - | 18 | - | 15 | 1 | 18 | 35 | - | - | - 1 | |
| Mo. N. Dak. | 12 1 | - | 118 | - | 42 | 1 | 78 1 | 1 - | 33 5 | - | 39 4 | 124 5 | - | 2 | 1 | |
| S. Dak. | 3 | | - | - | - | - | 8 9 | | - | 1 | 17 | 8 | | - | - | |
| Nebr. Kans. | 6 | U - | 1 1 | U - | 1 | 2 | 20 | U - | 2 | U - | 7 10 | 12 16 | U - | - | - | |
| S. ATLANTIC | 194 | - | 57 | - | 8 | 28 | 361 | - | 160 | 9 | 252 | 488 | - | 11 | 6 | |
| Del. Md. | 3 94 | - | 2 | - | 2 | 4 | 5 35 | - | - 53 | 1 3 | 3 71 | 9 113 | - | - | 2 | |
| D.C. | 14 | - | - | - | - | - | 4 | - | - | - | 8 | 13 | - | - | - | |
| Va. W. Va. | 29 | - | 1 36 | - | 2 | 4 | 58 12 | - | 38 3 | 1 | 36 4 | 52 8 | - | - | - | |
| N.C. | 11 | - | 2 | - | 1 | - | 44 | - | 35 | - | 58 | 100 | - | - | - | |
| S.C. Ga. | 4 20 | - | 2 | - | - | - | 22 66 | - | 7 8 | - | 13 22 | 64 50 | - | 2 | - | |
| Fla. | 19 | - | 14 | - | 3 | 20 | 115 | - | 16 | 4 | 37 | 79 | - | 9 | 4 | |
| E.S. CENTRAL | 29 | - | 28 | - | - | 1 | 123 | - | 19 | 1 | 115 | 266 | - | - | - | |
| Ky. Tenn. | 10 9 | - | 28 | - | - | - | 34 27 | - | 7 | 1 | 59 18 | 36 162 | - | - | - | |
| Ala. | 9 | - | - | - | - | 1 | 62 | - | 5 7 | - | 31 7 | 58 | - | - | - | |
| Miss. W.S. CENTRAL | 1 40 | - | 10 | - | - 7 | 10 | 263 | 7 | 223 | 1 | , 179 | 10 135 | - | 13 | - 17 | |
| Ark. | 3 | - | - | - | 1 | - | 39 | - | 1 | - | 27 | 10 | - | - | - | |
| La. Okla. | 8 6 | - | - | - | 1 | 1 | 32 27 | 1 | 25 23 | - 1 | 10 25 | 11 72 | - | 4 | 1 1 | |
| Tex. | 23 | - | 10 | - | 5 | 9 | 165 | 6 | 174 | - | 117 | 42 | - | 9 | 15 | |
| MOUNTAIN | 26 | - | 149 | - | 17 | 6 | 135 | - | 138 | 2 | 322 | 361 | - | 6 | 11 | |
| Mont. Idaho | 2 | - | 1 | - | - | - | 6 16 | - | 7 | 1 | 8 45 | 92 | - | - | 2 | |
| Wyo. | 1 | - | - | - | - | - | 7 | - | 2 | - | - | 1 | - | - | - | |
| Colo. N. Mex. | 11 3 | - | 16 | - | 3 | 3 | 27 13 | N | 3 N | 1 - | 110 20 | 141 36 | - | 1 | 2 | |
| Ariz. | 3 | - | 1 | - | 1 | 2 | 42 | - | 89 | - | 116 | 50 | - | - | 2 | |
| Utah Nev. | 4 2 | - | 131 | - | 2 11 | 1 | 18 6 | - | 23 13 | - | 20 3 | 30 4 | - | 4 1 | 4 1 | |
| PACIFIC | 206 | - | 72 | - | 14 | 122 | 428 | 2 | 242 | 13 | 589 | 636 | - | 30 | 66 | |
| Wash. | 10 11 | - | - | - | - 1 | 4 | 28 79 | - N | 7 N | - | 29 38 | 61 58 | - | - 2 | - | |
| Oreg. Calif. | 167 | - | 56 | - | 9 | 96 | 312 | 2 | 215 | 12 | 503 | 506 | - | 23 | 37 | |
| Alaska Hawaii | 2 16 | - | 16 | - | 4 | 2 20 | 2 7 | - | 3 17 | - 1 | 1 18 | 5 6 | - | 1 4 | 1 28 | |
| Guam | 3 | U | 211 | U | - | 20 | 1 | U | 4 | U | 2 | - | U | 1 | - | |
| P.R. | 2 | - | 13 | - | - | 348 | 15 | - | 2 | - | 1 | 8 | - | - | - | |
| V.I. Amer. Samoa | - | - | - | - | - | - | - | - | 1 1 | - | 2 | 2 | - | - | - | |
| C.N.M.I. | 1 | U | 26 | U | - | 1 | - | U | 2 | U | - | 1 | U | - | _ | |

^{*}For measles only, imported cases include both out-of-state and international importations. N: Not notifiable U: Unavailable † International § Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 22, 1994, and October 23, 1993 (42nd Week)

| Reporting Area | | ohilis Secondary) | Toxic- Shock Syndrome | Tuber | culosis | Tula- remia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|-------------------------------|--------------|----------------------|-----------------------------|--------------|--------------|----------------|------------------|--|-------------------|
| nopolinig / nou | Cum. 1994 | Cum. 1993 | Cum. 1994 | Cum. 1994 | Cum. 1993 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 |
| UNITED STATES | 17,203 | 21,513 | 148 | 17,571 | 18,194 | 76 | 353 | 375 | 5,094 |
| NEW ENGLAND | 176 | 272 | 4 | 429 | 408 | 1 | 21 | 15 | 1,568 |
| Maine N.H. | 4 3 | 5 24 | 1 | 23 15 | 21 15 | - | - | - | 167 |
| Vt. | - 77 | 1 | 1 | 6 | 5 | - 1 | - 17 | - 7 | 115 |
| Mass. R.I. | 12 | 112 12 | 2 | 236 35 | 222 48 | 1 - | 17 1 | 7 - | 591 44 |
| Conn. | 80 | 118 | - | 114 | 97 | - | 3 | 8 | 651 |
| MID. ATLANTIC Upstate N.Y. | 1,116 141 | 1,875 182 | 24 14 | 3,440 259 | 3,754 567 | 1 1 | 96 10 | 17 6 | 631 207 |
| N.Y. City | 506 | 905 | - | 2,104 | 2,182 | - | 64 | 1 | - |
| N.J. Pa. | 163 306 | 245 543 | - 10 | 636 441 | 460 545 | - | 17 5 | 4 6 | 226 198 |
| E.N. CENTRAL | 2,251 | 3,459 | 30 | 1,700 | 1,849 | 8 | 68 | 44 | 52 |
| Ohio | 925 | 903 | 9 | 280 | 260 | 1 | 7 | 27 | 4 |
| Ind. III. | 199 628 | 305 1,346 | 2 9 | 154 857 | 182 967 | 2 3 | 7 42 | 5 10 | 12 16 |
| Mich. | 232 | 478 | 10 | 363 | 365 | 1 | 5 7 | 2 | 12 |
| Wis. W.N. CENTRAL | 267 964 | 427 1,354 | 22 | 46 462 | 75 394 | 1 34 | 1 | 32 | 8 170 |
| Minn. | 42 | 54 | 1 | 104 | 50 | 1 | - | - | 13 |
| Iowa Mo. | 51 819 | 58 1,124 | 8 6 | 48 203 | 41 204 | - 22 | - 1 | 1 14 | 71 17 |
| N. Dak. | - | 4 | 1 | 7 | 6 | 1 | - | - | 9 |
| S. Dak. Nebr. | - | 2 10 | 2 | 21 18 | 12 21 | 1 2 | - | 13 1 | 29 |
| Kans. | 52 | 102 | 4 | 61 | 60 | 7 | - | 3 | 31 |
| S. ATLANTIC | 5,014 | 5,496 | 7 | 3,258 | 3,685 | 2 | 44 | 179 | 1,616 |
| Del. Md. | 22 248 | 90 299 | - | 26 268 | 39 322 | 1 | 1 12 | 20 | 41 443 |
| D.C. Va. | 179 652 | 273 | 1 | 100 255 | 139 369 | - | 1 8 | - 17 | 2 |
| wa. W. Va. | 8 | 532 11 | - | 67 | 61 | - | - | 2 | 332 64 |
| N.C. S.C. | 1,386 674 | 1,574 811 | 1 | 397 294 | 431 327 | - | - | 66 17 | 138 149 |
| Ga. | 1,210 | 903 | 1 | 627 | 620 | 1 | 2 | 54 | 313 |
| Fla. | 635 | 1,003 | 4 | 1,224 | 1,377 | - | 20 | 3 | 134 |
| E.S. CENTRAL Ky. | 3,150 175 | 3,335 287 | 4 2 | 1,153 259 | 1,347 304 | 1 1 | 2 1 | 29 8 | 156 18 |
| Tenn. | 822 | 946 | 2 | 360 | 424 | - | 1 | 15 | 34 |
| Ala. Miss. | 551 1,602 | 685 1,417 | - | 353 181 | 411 208 | - | - | 2 4 | 104 |
| W.S. CENTRAL | 3,716 | 4,525 | 1 | 2,441 | 2,122 | 17 | 14 | 45 | 548 |
| Ark. La. | 388 1,430 | 462 2,110 | - | 224 138 | 158 203 | 16 | 3 | 8 | 25 62 |
| Okla. | 111 | 243 | 1 | 219 | 129 | 1 | 2 | 30 | 31 |
| Tex. | 1,787 | 1,710 | - | 1,860 | 1,632 | - | 9 | 7 | 430 |
| MOUNTAIN Mont. | 198 4 | 203 1 | 7 | 395 9 | 436 13 | 9 3 | 9 | 14 4 | 120 15 |
| Idaho | 1 | - | 1 | 11 | 12 | - | - | - | 3 |
| Wyo. Colo. | 1 105 | 7 63 | 4 | 8 21 | 4 65 | 1 | 3 | 2 4 | 19 12 |
| N. Mex. | 18 | 24 | - | 43 | 46 | 1 | 1 1 | 2 1 | 6 |
| Ariz. Utah | 33 8 | 85 9 | 2 | 188 38 | 186 25 | 2 | 2 | - | 41 15 |
| Nev. | 28 | 14 | - | 77 | 85 | 2 | 2 | 1 | 9 |
| PACIFIC Wash. | 618 30 | 994 50 | 49 2 | 4,293 216 | 4,199 211 | 3 | 98 3 | - | 233 |
| Oreg. | 21 | 37 | - | 90 | - | 2 | 5 | - | 9 |
| Calif. Alaska | 561 4 | 893 8 | 43 | 3,729 51 | 3,730 48 | - 1 | 85 - | - | 194 30 |
| Hawaii | 2 | 6 | 4 | 207 | 210 | - | 5 | - | - |
| Guam | 9 | 3 | - | 142 | 48 145 | - | 1 | - | - |
| P.R. V.I. | 249 25 | 418 37 | - | 137 - | 165 2 | - | - | - | 55 - |
| Amer. Samoa C.N.M.I. | 1 2 | 3 | - | 4 31 | 4 29 | - | 1 1 | <u>-</u> | - |
| O.IN.IVI.I. | | ა | - | 31 | 27 | - | I | - | |

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending October 22, 1994 (42nd Week)

| | All Causes, By Age (Years) | | | | | | | &I [†] | | All Causes, By Age (Years) | | | | | | |
|---|--|---|---|--|---|---|---|--|--|--|---|---|--|---|--|--|
| Reporting Area | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | Total | Reporting Area | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | P&I [†] Total | |
| NEW ENGLAND Boston, Mass. Bridgeport, Conn. Cambridge, Mass. Fall River, Mass. Hartford, Conn. Lowell, Mass. Lynn, Mass. New Bedford, Mass. New Haven, Conn. Providence, R.I. Somerville, Mass. Springfield, Mass. Waterbury, Conn. | 32 22 10 38 33 | 398 103 24 18 19 49 14 12 13 20 17 9 22 28 | 40 5 5 3 14 4 3 1 4 5 8 4 | 52 23 3 7 2 1 2 7 | 16 4 2 3 - 2 - - 1 1 | 8 4 - - 1 1 - - - 2 | 43 14 1 7 2 1 1 1 1 3 2 | S. ATLANTIC Atlanta, Ga. Baltimore, Md. Charlotte, N.C. Jacksonville, Fla. Miami, Fla. Norfolk, Va. Richmond, Va. Savannah, Ga. St. Petersburg, Fla. Tampa, Fla. Washington, D.C. Wilmington, Del. E.S. CENTRAL | 1,253 162 187 73 115 103 56 81 56 42 178 190 10 | 757 95 113 45 75 57 31 51 31 31 122 99 7 | 267 36 42 14 27 23 10 19 14 7 32 40 3 | 140 24 27 8 10 15 8 6 4 1 12 25 | 42 3 4 1 3 2 3 5 1 6 11 | 45 4 2 2 2 5 5 5 2 2 2 5 14 | 59 1 16 4 9 - 4 3 2 2 10 8 - | |
| Worcester, Mass. MID. ATLANTIC Albany, N.Y. Allentown, Pa. Buffalo, N.Y. Camden, N.J. Elizabeth, N.J. Erie, Pa.§ | 2,587 46 24 111 52 23 47 | 50 1,676 36 20 81 36 16 39 | 491 5 4 21 3 4 | 2 310 3 - 7 3 3 3 | 58 1 - 1 7 - | 52 1 1 3 | 10 105 5 1 4 3 1 | Birmingham, Ala. Chattanooga, Tenn. Knoxville, Tenn. Lexington, Ky. Memphis, Tenn. Mobile, Ala. Montgomery, Ala. Nashville, Tenn. | 124 | 80 51 43 37 86 67 35 87 | 28 17 22 19 24 31 6 25 | 10 2 3 3 12 13 5 | 4 4 2 5 7 7 | 2 2 3 2 3 1 4 | 7 4 4 5 7 2 5 12 | |
| Jersey City, N.J. New York City, N.Y. Newark, N.J. Paterson, N.J. Philadelphia, Pa. Pittsburgh, Pa. Reading, Pa. Rochester, N.Y. Schenectady, N.Y. Scranton, Pa. Syracuse, N.Y. Trenton, N.J. Utica, N.Y. Yonkers, N.Y. | 34 | 22 855 28 13 183 62 14 103 19 29 71 U | 3 287 23 6 65 12 3 23 4 2 14 U | 7 178 16 5 54 4 2 14 2 1 6 U | 29 | 2 29 4 - 4 - 2 - 4 U | 36 3 1 19 6 2 7 1 4 10 U | W.S. CENTRAL Austin, Tex. Baton Rouge, La. Corpus Christi, Tex. Dallas, Tex. El Paso, Tex. Ft. Worth, Tex. Houston, Tex. Little Rock, Ark. New Orleans, La. San Antonio, Tex. Shreveport, La. Tulsa, Okla. | 1,364 83 39 | 838 59 30 U 1300 48 61 183 33 51 123 56 64 | 280 15 7 U 45 23 16 60 15 19 45 15 20 | 157 5 1 U 23 11 10 50 5 22 21 5 | 56 1 U 14 3 2 12 6 8 8 2 | 33 4 U 3 3 2 9 2 1 4 3 2 | 90 5 - U 7 4 4 27 2 - 2 3 13 | |
| E.N. CENTRAL Akron, Ohio Canton, Ohio Chicago, III. Cincinnati, Ohio Cleveland, Ohio Columbus, Ohio Dayton, Ohio Detroit, Mich. Evansville, Ind. Fort Wayne, Ind. Gary, Ind. Grand Rapids, Mich Indianapolis, Ind. Madison, Wis. Milwaukee, Wis. Peoria, III. Rockford, III. South Bend, Ind. Toledo, Ohio Youngstown, Ohio | 2,221 55 46 403 143 158 170 101 243 42 58 23 31. 69 181 57 140 43 50 52 110 | 1,402 34 32 169 96 107 102 72 145 31 47 12 49 117 42 106 29 34 44 41 83 54 | 10 77 29 28 40 19 46 5 8 4 8 39 9 19 9 5 18 | 237 6 2 86 8 18 19 5 35 4 2 14 3 11 2 2 3 7 | 109 1 56 3 3 5 3 11 1 - 2 7 8 2 1 2 1 2 1 | 62 2 15 7 2 4 2 6 1 3 3 3 3 3 2 | 105 3 8 7 3 13 4 5 3 2 12 16 6 9 4 4 1 5 | MOUNTAIN Albuquerque, N.M. Colo. Springs, Colo Denver, Colo. Las Vegas, Nev. Ogden, Utah Phoenix, Ariz. Pueblo, Colo. Salt Lake City, Utah Tucson, Ariz. PACIFIC Berkeley, Calif. Fresno, Calif. Glendale, Calif. Honolulu, Hawaii Long Beach, Calif. Postland, Oreg. Sacramento, Calif. San Diego, Calif. | 1, 43 107 1148 30 1 100 130 1,889 15 93 27 75 51 519 25 179 172 96 | 578 86 311 72 77 12 108 26 66 100 1,220 9 3 20 53 36 301 18 111 113 68 | 112 16 8 13 30 2 6 3 17 17 329 3 16 4 11 9 95 3 3 31 18 | 78 13 3 14 6 3 20 10 9 231 1 5 3 7 5 81 3 26 21 88 | 23 1 1 4 1 9 1 4 2 5 4 2 5 3 1 30 | 15 1 4 5 3 2 30 2 4 1 1 1 5 3 3 | 58 7 4 10 5 1 14 2 10 5 121 1 3 2 5 7 14 4 9 15 14 9 15 14 9 15 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18 | |
| W.N. CENTRAL Des Moines, lowa Duluth, Minn. Kansas City, Kans. Kansas City, Mo. Lincoln, Nebr. Minneapolis, Minn. Omaha, Nebr. St. Louis, Mo. St. Paul, Minn. Wichita, Kans. | 722 51 27 26 101 16 186 79 123 60 53 | 504 30 16 16 58 11 144 56 83 44 | 13 7 5 12 2 16 10 19 | 52 3 2 7 3 14 9 10 3 1 | 19 1 2 3 5 1 6 | 22 1 1 1 3 - 7 3 5 1 | 33 4 2 1 5 2 13 4 | San Frañcisco, Calit San Jose, Calif. Santa Cruz, Calif. Seattle, Wash. Spokane, Wash. Tacoma, Wash. | | 79 115 20 109 43 62 | 24 24 5 26 5 21 | 22 16 3 18 9 3 1,319 | 3 2 1 410 | 2 4 1 2 284 | 20 17 2 2 4 4 660 | |

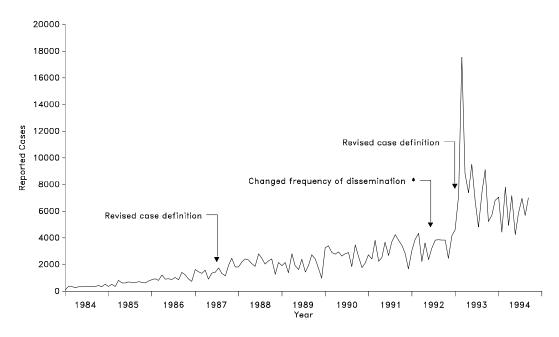
^{*}Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†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.
U: Unavailable.

FIGURE II. Acquired immunodeficiency syndrome cases, by 4-week period of report — United States, 1984–1994



^{*}Change to reflect Notice to Readers, Vol. 41, No. 18, pg. 325.

FIGURE III. Tuberculosis cases, by 4-week period of report — United states, 1984–1994

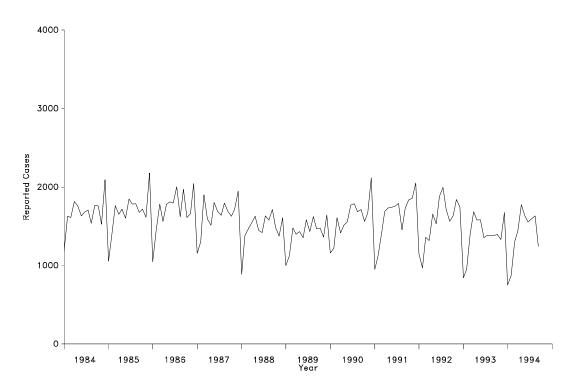


FIGURE IV. Gonorrhea cases, by 4-week period of report — United States, 1984–1994

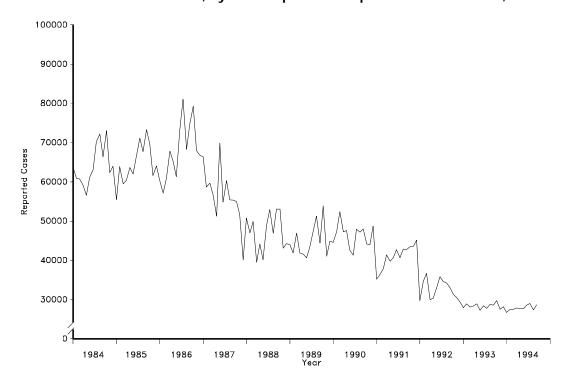
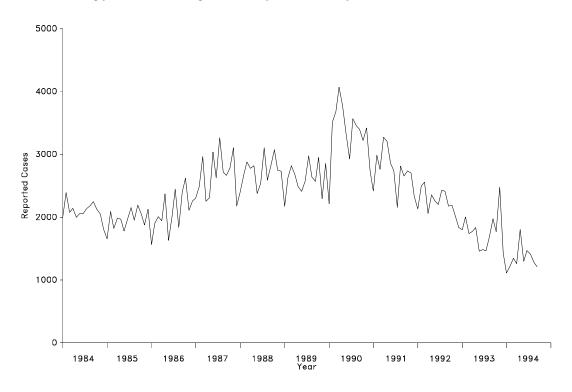


FIGURE V. Syphilis cases, by 4-week period of report — United States, 1984-1994



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