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Deaths Associated with Hurricane Georges — Puerto Rico, September 1998

On the evening of September 21, 1998, Hurricane Georges struck Puerto Rico with estimated maximum winds of 115 mph (Category 3). It made multiple landfalls throughout the Caribbean, including Antigua, the U.S. Virgin Islands, Hispaniola, and Cuba. On September 25, Hurricane Georges struck the U.S. mainland near Key West, Florida, and made final landfall on September 27 in Biloxi, Mississippi, as a Category 2 hurricane. This report presents preliminary data about deaths resulting from the hurricane in Puerto Rico.

On September 23, all 78 civil divisions in Puerto Rico reported damage to homes, and 416 government-run shelters were housing approximately 28,000 persons. Approximately 700,000 persons were without water, and 1 million had no electricity.

The medical examiner (ME) at the Institute of Forensic Sciences provided information about the number and causes of deaths associated with Hurricane Georges. The ME determined whether a death was hurricane-related, including deaths during the impact phase of the storm (i.e., associated with high winds, storm surge, or flash flooding), and during the post-impact phase (i.e., associated with hurricane-related effects such as structural damage, power outages, and injuries incurred during clean-up).

Case Reports

Case 1. On September 23, a 28-year-old woman from Ponce died inside her home from carbon monoxide (CO) poisoning. A gasoline-powered electric generator had been operating inside the home while she was sleeping. Two other family members were hospitalized because of CO poisoning.

Case 2. On September 24, a 46-year-old man from Bayamon was found dead from CO poisoning inside his family store. He had been cleaning the store the night after the hurricane, and a gasoline-powered electric generator was operating outside near an opening where fumes could enter the structure.

Cases 3–6. On September 25, a 27-year-old woman from Caguas and her three children (aged 4, 6, and 7 years) died in a fire in their home. They were using candles to light the home. The mother apparently was asleep when the house caught fire.

Hurricane Georges — Continued

Case 7. On September 25, a 66-year-old man from Utuado died as a result of head trauma sustained on September 22. He was removing water that had entered his home during the hurricane when he fell and struck the back of his head.

Case 8. On September 28, a 49-year-old man in San Juan was electrocuted while repairing a cable damaged by the storm. He was an employee of the electrical company.

Public Health Response

Mortality surveillance in Puerto Rico after Hurricane Georges led directly to public health interventions by the Puerto Rico Department of Health. Public health alerts covering the sources, symptoms, diagnosis, and treatment of CO poisoning were issued to hospital emergency departments across the island. Community education efforts were initiated, and a CO fact sheet was prepared. Emergency departments of the largest hospital system in Puerto Rico instituted surveillance for cases of CO poisoning.

Reported by: LA Alvarez, MD, Institute of Forensic Sciences; C Deseda, MD, State Epidemiologist, Div of Epidemiology, Puerto Rico Dept of Health. Emergency Response Coordination Group, Office of the Director; Environmental Hazards Epidemiology Section, Health Studies Br, Div of Environmental Hazards and Health Effects, National Center for Environmental Health; Div of Applied Public Health Training, Epidemiology Program Office; and an EIS Officer, CDC.

Editorial Note: Preliminary findings of the investigation of deaths in Puerto Rico associated with Hurricane Georges indicate that all deaths occurred during the post-impact phase. Because improvements in hurricane warning systems have greatly decreased deaths during the impact phase of such storms in many areas, additional intervention efforts in these localities should focus on adverse health events in a storm's aftermath, such as those associated with storm damage and clean-up. The two deaths caused by CO poisoning from generators illustrate the growing importance of this toxicant as a cause of morbidity and mortality in post-disaster situations.

These eight deaths, and deaths in similar circumstances after other hurricanes (*1*–*3*), suggest that public health authorities should emphasize worker safety during clean-up and power-restoration activities and the hazards of open flames in homes. In addition, to reduce the risk for CO poisoning, persons should be warned to place generators outside and away from homes and discouraged from operating gasoline-powered items in enclosed areas. In localities with large Spanish-speaking populations, these and other warnings should continue to be in English and Spanish. In the future, mortality surveillance should continue to be conducted during the immediate aftermath of hurricanes and other natural disasters to guide public health activities.

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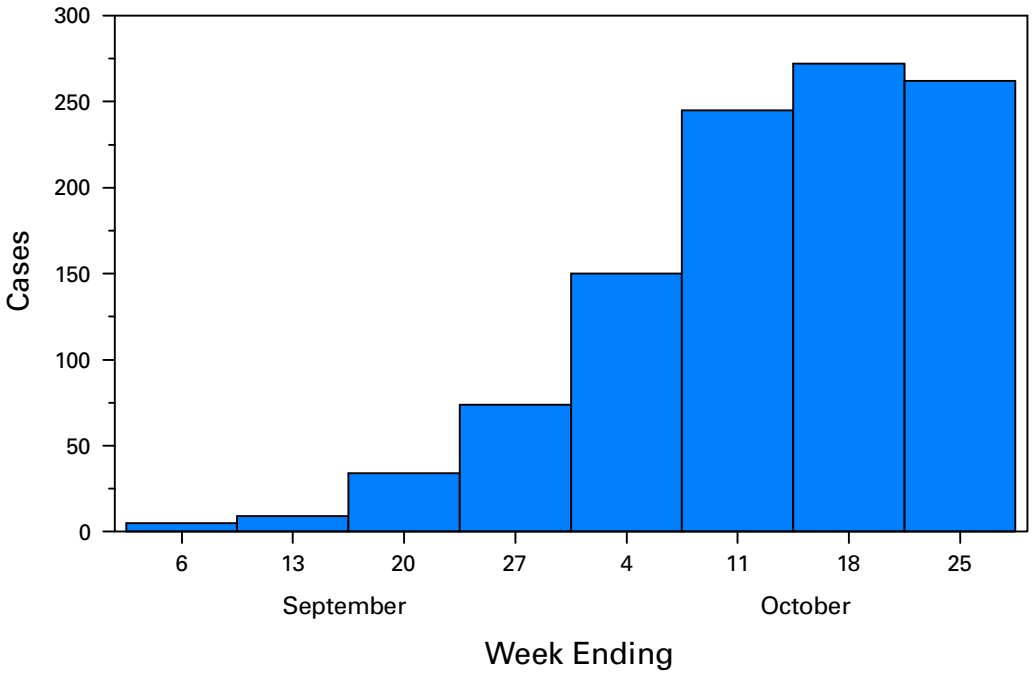
Acute Hemorrhagic Conjunctivitis — St. Croix, U.S. Virgin Islands, September–October 1998

Hurricane Georges struck the U.S. Virgin Islands on September 21, 1998. Immediately thereafter, health authorities on St. Croix (1998 population: approximately 50,000) became aware of increased numbers of cases of conjunctivitis. During September, one of the two public health clinics on the island recorded 88 cases of conjunctivitis, compared with three cases during August. Cases were characterized by periorbital swelling, excessive lacrimation, conjunctival redness with occasional hemorrhages, and foreign-body sensation in the eye. No severe sequelae were reported. Local ophthalmologists considered the symptoms characteristic of viral acute hemorrhagic conjunctivitis (AHC). This report describes the initial findings of an ongoing clinical, epidemiologic, and laboratory investigation of this outbreak.

To identify cases, investigators reviewed medical records at the two Virgin Islands Department of Health clinics and the emergency department of the hospital in St. Croix. A case was defined as physician-diagnosed conjunctivitis since August 31. The number of cases increased substantially in early September before the hurricane, then plateaued during the following weeks (Figure 1). As of October 25, 1051 cases had been identified at these three facilities. Median age of 260 of the initial 273 AHC patients was 13.5 years (range: 3.5 months–81 years); 57 (22%) were aged 0–5 years, 99 (38%) were aged 6–17 years, and 104 (40%) were aged ≥18 years. Sex distribution differed by age group; 78 (50%) of children were female, compared with 84 (78%) of adults who were female. Bilateral ocular involvement was reported among 116 (69%) cases.

FIGURE 1. Acute hemorragic conjunctivitis — St. Croix, Virgin Islands, September–October 1998



Acute Hemorrhagic Conjunctivitis — Continued

To further assess disease burden, investigators contacted approximately 600 households during October 17–21 by calling randomly selected listed telephone numbers. One adult in each household was asked whether any members of the household had developed conjunctivitis (defined as the onset of redness, tearing, swelling, itching, and/or burning around one or both eyes of at least 1 day's duration) within the preceding 8 weeks. Approximately 10% of households reported at least one case of conjunctivitis, and cases were distributed widely across the island. The self-reported average duration of symptoms was 5 days.

Preliminary results from testing of laboratory specimens from St. Croix indicate that the probable agent is coxsackievirus A24 variant (CA24v).

Control measures included disseminating public health information by press release and radio interviews and distribution of fact sheets by physicians' offices, public health clinics, and schools. St. Croix health authorities recommended that residents avoid social contact with persons who have AHC, including indirect contact (e.g., sharing towels or beds), restrict persons with AHC from attending school and work while symptomatic, and increase handwashing.

Reported by: J Poblete, MD, A Bermudez-Walcott, MPH, V Ebbesen-Fludd, MS, J Heyliger, MPH, A Hatcher, US Virgin Islands Dept of Health. Health Studies Br, Div of Environmental Hazards and Health Effects, National Center for Environmental Health; Respiratory and Enteric Viruses Br; Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; and EIS officers, CDC.

Editorial Note: Preliminary results from this ongoing investigation document that an outbreak of AHC occurred in St. Croix during September–October 1998. The role, if any, of Hurricane Georges in the outbreak is under investigation.

Outbreaks of AHC are characterized by high communicability, a short incubation period (1–2 days), and high secondary attack rates within households (*1*). Some outbreaks have been associated with rapid and efficient transmission, affecting ≥50% of persons in communities within a 1–2-month period. Spread of the virus appears to be related to crowding and poor hygiene and is thought to occur primarily by person-to-person contact or contact with fomites (e.g., contaminated towels). Recovery is most often complete within 7 days, and complications, such as neurologic syndromes, related to the virus are extremely rare. Efforts to prevent AHC are particularly important because no effective treatment exists.

Epidemics of AHC began in 1969 in Africa and are primarily caused by enterovirus 70 (EV70) and CA24v. These viruses have caused pandemics of AHC in tropical coastal regions throughout the world (*1*). Outbreaks of AHC have occurred periodically in the Caribbean beginning with EV70 in 1981 and CA24v in 1986 (*2–5*). During 1997, cases of AHC caused by CA24v were reported from several countries in Latin America (CDC, unpublished data, 1997). During September 12–October 17, AHC has been reported from several locations throughout the Caribbean region, including Antigua/Barbuda, Bahamas, British Virgin Islands, St. Christopher/Nevis, and Trinidad and Tobago (Caribbean Epidemiology Center, personal communication, 1998). CA24v has been identified from clinical isolates received from Suriname. Other countries in the Caribbean region could be affected during the current outbreak of CA24v-associated AHC.

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Acute Hemorrhagic Conjunctivitis — Continued

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Prevalence of Diagnosed Diabetes Among American Indians/Alaskan Natives — United States, 1996

Since the early 1960s, diabetes has disproportionately affected American Indians/Alaskan Natives (AIs/ANs) compared with other populations (*1,2*). Diabetes is a major cause of morbidity (such as blindness, kidney failure, lower-extremity amputation, and cardiovascular disease) and premature mortality in this population (*3*). To update information about the prevalence of diabetes among AIs/ANs, data were analyzed from the Indian Health Service (IHS) national outpatient database for 1996 and were compared with the prevalence of diabetes among non-Hispanic whites in the United States. This report presents the findings of this analysis, which indicate that the prevalence of diabetes among AIs/ANs remains high and is approximately three times the prevalence among non-Hispanic whites.

Outpatient data were reported from 141 of the 166 service units in four geographic groups of tribes*; 25 service units (representing 11% of the population served by IHS) were excluded because the reported data were incomplete. The *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) codes 250.0–250.9 were used to identify persons with diabetes. The outpatient database includes unduplicated case reports of persons who attended the service unit one or more times during 1996 and for whom there was a diagnostic code of diabetes. The number of persons residing within the IHS service units were estimated from the U.S. census and birth and death rates. Approximately 60% of the estimated 2.3 million AIs/ANs residing in the United States are eligible to receive IHS services and use IHS medical facilities (*4*). The prevalence of diabetes in the United States was estimated from the 1995 National Health Interview Survey (NHIS) (*5*). Prevalence estimates were adjusted for age by the direct method using the 1980 U.S. population as the standard.

In 1996, an estimated 63,400 AIs/ANs who receive care from IHS had diabetes; 98.3% were aged ≥20 years. Of those aged ≥20 years, 49.7% were aged 45–64 years; 59.0% were women. The prevalence of diabetes increased with age—from 3.5% for persons aged 20–44 years to 21.5% for persons aged ≥65 years. The overall crude prevalence for those aged ≥20 years was 9.0% (Table 1). The prevalence was greater among women (10.1%) than men (7.7%). The age-specific prevalence among AI/AN women was higher than among men, but the age-specific prevalence among non-Hispanic white men was higher than among women.

Among AIs/ANs aged 20–44 years and 45–64 years, the prevalence of diabetes was more than three times that among non-Hispanic whites in the NHIS (3.5% versus 0.9%

*The scope of each geographic group of tribes is as follows: *Woodland tribes*—Alabama, Connecticut, Florida, Kansas, Louisiana, Maine, Michigan, Minnesota, Mississippi, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, and Wisconsin; *Plains tribes*—Iowa, Montana, Nebraska, North Dakota, South Dakota, and Wyoming; *Southwestern tribes*—Arizona, Colorado, Nevada, New Mexico, and Utah; and *Pacific Coastal tribes*—Alaska, California, Idaho, Oregon, and Washington.

Diabetes — Continued

TABLE 1. Prevalence* of diagnosed diabetes among American Indians/Alaskan Natives† and non-Hispanic whites§ aged ≥20 years, by age and sex — United States, 1996

Age group (yrs)	Men		Women		All	
	American Indians/ Alaskan Natives	Non-Hispanic whites	American Indians/ Alaskan Natives	Non-Hispanic whites	American Indians/ Alaskan Natives	Non-Hispanic whites
20–44	3.1	0.6	3.8	1.3	3.5	0.9
45–64	16.7	5.4	21.1	5.1	19.0	5.2
≥65	19.1	11.8	23.3	11.2	21.5	11.4
≥20	**7.7**	**3.9**	**10.1**	**4.5**	**9.0**	**4.2**
Age-adjusted¶	9.7	3.8	12.0	4.0	10.9	3.9

*Per 100 persons.
†American Indians/Alaskan Natives in the 1996 Indian Health Service (IHS) Patient Comprehensive Care file; excludes data from 25 (representing 11% of the population served by IHS) of the 166 IHS service units because the data were incomplete.
§Non-Hispanic whites in the 1995 National Health Interview Survey.
¶To the 1980 U.S. population.

[95% confidence interval (CI)=0.6%–1.2%] for persons aged 20–44 years and 19.0% versus 5.2% [95% CI=4.2%–6.2%] for persons aged 45–64 years). Among persons aged ≥65 years, the prevalence among AIs/ANs (21.5%) was approximately twice that among non-Hispanic whites (11.4% [95% CI=9.7%–13.1%]). The age-adjusted prevalence among persons aged ≥20 years was 2.8 times that among non-Hispanic whites in the same age group (10.9% versus 3.9% [95% CI=3.5%–4.3%]).

The prevalence of diabetes varied by tribal group—12.7% among the Plains tribes, 10.5% among the Southwestern tribes, 9.3% among the Woodland tribes, and 4.5% among the Pacific Coastal tribes. The age-adjusted prevalence of diabetes ranged from 1.5 to 4.1 times the prevalence among non-Hispanic whites. Among the tribes of the Plains and the Southwest, the age-adjusted prevalence of diabetes (15.9% and 13.5%, respectively) was greater than that for the total IHS population and was more than three times that among non-Hispanic whites.

Reported by: Diabetes Program, Indian Health Service. Epidemiology and Statistics Br, Div of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Diabetes is a serious disease associated with severe morbidity and premature death that affects approximately 9% of AI/AN adults. In persons with type 1 or type 2 diabetes, aggressive glycemic control may prevent or delay diabetes-related complications such as retinopathy, nephropathy, or neuropathy (*6,7*). Interventions that promote healthy behaviors may prevent or delay the onset of diabetes in persons at risk for developing type 2 diabetes (also known as noninsulin-dependent or adult-onset diabetes) (*8*). As with other chronic disease prevention interventions, diabetes prevention efforts need to be ongoing and long-term before the impact on morbidity and mortality can be measured.

The findings in this analysis have at least four limitations. First, estimates of the AI/AN population are inaccurate because U.S. census estimates do not account for migration between service units and previously have underreported the number of

Diabetes — Continued

AIs/ANs. Second, these data account only for those persons who are eligible to receive IHS services and use IHS medical facilities. The higher age-specific prevalence of diabetes among AI/AN women may be due to women seeking health care more frequently than men (*4*). Moreover, the data represent diagnosed cases of diabetes being treated and underestimate the true prevalence. Data from the Navajo Health and Nutrition Survey showed that one third of Navajo adults with diabetes had not had diabetes diagnosed (*9*). Third, under the Indian Self-Determination Act†, an increasing number of service units are becoming IHS sites operated by tribal governments that may choose not to report diabetes cases to the IHS outpatient database. Finally, 11% of the total IHS population was excluded from this analysis because of incomplete data.

Effective intervention strategies are needed to control diabetes and its complications among AIs/ANs. CDC provides technical assistance to the IHS Diabetes Program for surveillance of diabetes and its complications. CDC and the National Institute of Diabetes and Digestive and Kidney Disease of the National Institutes of Health are conducting the Diabetes Prevention Program, a clinical trial to evaluate three diabetes prevention interventions—including a program to increase exercise and reduce body weight—in four American Indian communities. CDC and IHS are collaborating to establish the National Diabetes Prevention Center in Gallup, New Mexico, that will 1) provide guidance and technical support in diabetes prevention and control strategies to AI/AN communities throughout the United States and 2) develop, evaluate, and disseminate culturally appropriate community-based interventions. IHS also has granted $30 million to tribal governments in 1998 to help develop and implement innovative interventions to prevent diabetes and its complications.

November is National Diabetes Awareness Month. Additional information about diabetes is available from CDC, telephone (toll-free) (877) 232-3422 ([877] CDC-DIAB); e-mail ccdinfo@cdc.gov; or the World-Wide Web site http://www.cdc.gov/diabetes; by mail to the Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC, 4770 Buford Highway NE, Atlanta, GA 30341-3717; and from state and territorial diabetes control programs. Information about the National Diabetes Education Program, a nationwide partner-based initiative of CDC and the National Institutes of Health (NIH), is available from NIH, telephone (800) 438-5383, and from CDC.

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Diabetes — Continued

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Epidemic of Congenital Syphilis — Baltimore, 1996–1997

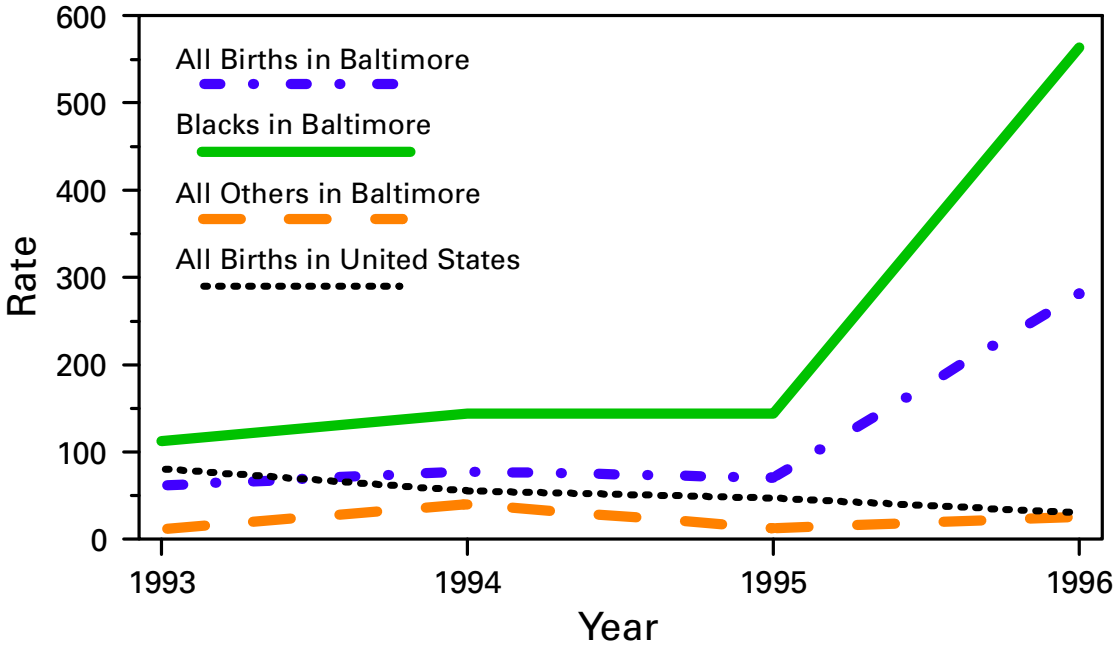
In 1996 and 1997, Baltimore, Maryland, had the highest rate for primary and secondary syphilis among U.S. cities (*1,2*). From 1993 to 1996, the rate for congenital syphilis (CS) in Baltimore increased from 62 to 282 per 100,000 live-born infants. To assess the magnitude of the syphilis epidemic in pregnant women and to identify ways to improve CS prevention, the Baltimore City Health Department (BCHD), the Maryland Department of Health and Mental Hygiene (DHMH), and CDC analyzed CS surveillance data for and reviewed medical records of pregnant women with syphilis. This report summarizes the results of this investigation, which indicated that 90% of cases could have been prevented by adequate prenatal care and more timely syphilis screening and treatment.

BCHD surveillance data and hospital discharge records were reviewed to identify women who had active syphilis during pregnancy and deliveries during January 1, 1996–March 30, 1997, and to assess completeness of surveillance data. To identify factors associated with CS and possible prevention strategies, medical records of pregnant women with syphilis and of their infants were reviewed, and mother-infant pairs were classified as CS cases according to the CDC surveillance case definition for CS (*3*) or as controls.

The CS rate in Baltimore increased from 62 per 100,000 live-born infants in 1993 to 282 in 1996. The increase among blacks was from 113 in 1993 to 564 in 1996 (Figure 1). During the study period, 90 women were identified who had active syphilis during pregnancy and who delivered infants. Of these, 62 (69%) women delivered infants with illnesses meeting the CS case definition; 28 (31%) women (controls) who were adequately treated for syphilis during pregnancy delivered infants who did not have CS. All infants with CS had been reported to BCHD. Of the 62 mothers of case-patients, four (7%) delivered stillborn infants. Mothers of case-patients and mothers of controls had similar demographic characteristics. Of the 90 women, the mean age was 26 years; 86 (96%) were black; 72 (80%) were single; 78 (87%) were unemployed; 28 (31%) had multiple addresses during pregnancy; and six (11%) of 56 mothers tested were HIV-infected. A total of 54 (60%) had either a positive toxicology screen or

Congenital Syphilis — Continued

FIGURE 1. Rates* for congenital syphilis, by race and year — Baltimore and United States, 1993–1996



* Per 100,000 live-born infants.

self-reported cocaine or heroin use during pregnancy; 24 (44%) of 54 had a record of substance-abuse treatment. Of those women tested by toxicology screen at delivery, nine (23%) of 40 mothers of case-patients and 10 (53%) of 19 mothers of controls were positive for cocaine ($p<0.03$), four (10%) of 40 mothers of case-patients and one (5%) of 19 mothers of controls were positive for heroin, and 13 (33%) of 40 mothers of case-patients and one (5%) of 19 mothers of controls ($p<0.05$) were positive for both drugs.

Mothers of case-patients and mothers of controls differed with respect to several prenatal care-related factors. Of the 58 mothers of case-patients, 43 (74%) had a third trimester diagnosis of syphilis compared with eight (29%) of 28 mothers of controls ($p<0.01$). Records of mothers of case-patients were more likely than mothers of controls to include documentation suggesting their pregnancy was unintended (37% versus 14%) ($p<0.05$). Among the 90 mothers, three were allergic to penicillin; none was desensitized and treated with penicillin during pregnancy (*4*). Therefore, the three mothers delivered infants who had illnesses meeting the CS case definition.

Thirty-six (58%) mothers of case-patients had no prenatal care or initiated prenatal care late in the third trimester. Approximately 80% of these women had missed opportunities to be reached and referred during pregnancy: six (17%) had spent time in jail; 22 (61%) had contact with a social worker, and at least 16 (44%) were clients of other social service agencies.

Missed prevention opportunities also were identified for most of the mothers of case-patients who had had early prenatal care. At the time of this investigation, Maryland law required syphilis screening of all pregnant women in the first and third trimesters, but there was no stipulation on the timing of the third trimester test. Of

Congenital Syphilis — Continued

the 54 case-patients whose mothers had entered prenatal care by 28 weeks' gestation, syphilis screening and treatment at 28 weeks' gestation and other routine serologic testing could have prevented 18 (29%) of the 62 cases. An additional six (10%) case-patients were infected too late in pregnancy to prevent CS, including two who seroconverted after delivery.

Reported by: P Beilenson, MD, D Rose, MD, D Dunning, MPH, W Brathwaite, K West, F Meyers, Baltimore City Health Dept; J Krick, PhD, D Akers, R Miazad, MD, A Bhatia, PhD, D Dwyer, MD, State Epidemiologist, Maryland Dept of Health and Mental Hygiene. Epidemiology and Surveillance Br and Program Development and Support Br, Div of Sexually Transmitted Disease Prevention, National Center for HIV, STD, and TB Prevention; and an EIS Officer, CDC.

Editorial Note: Congenital syphilis is one of the most devastating yet preventable outcomes of a sexually transmitted disease (STD). Fetal complications include spontaneous abortions and stillbirths, and infant complications include multisystem disorders and death. Treatment of maternal syphilis with penicillin is highly effective in preventing CS (*5*). However, infants born to inadequately treated mothers can require parenteral therapy at an estimated cost of more than $12,000 per infant (*6*). The findings in this report indicate that adequate prenatal care and timely syphilis screening and treatment could have prevented 90% of CS cases that occurred in Baltimore during the study period.

The CS epidemic in Baltimore occurred despite dramatic declines in syphilis incidence in the United States. Nationally, CS declined 72% from a peak of 107 cases per 100,000 live-born infants in 1991 to 30 in 1996; in Baltimore, the rate was nearly 10-fold higher in 1996 than the national rate. Among blacks, the national rate was 128 per 100,000 live-born infants in 1996 compared with 564 in Baltimore. The large racial differential in CS rates suggests that other factors for which race is often a proxy (e.g., differential access to and quality of health-care services) may be contributing to this epidemic and differentially affecting blacks (*7*).

The prevalence of drug use was high among all women who had syphilis during pregnancy. However, in this investigation, the type of drugs used differed between mothers of case-patients and mothers of controls. For example, heroin use, either alone or in addition to cocaine use, was significantly associated with CS, and cocaine use alone was not significantly associated with CS among this group of women who had syphilis during pregnancy. These results may not be generalizable to other populations.

The findings in this report are subject to at least two limitations. First, most of the data were gathered through record review. As a result, key variables (e.g., unintended pregnancy and detention history) may be underreported. Second, because spontaneous abortions were not included, stillborn infants may be underascertained. Despite these limitations, the finding that lack of adequate prenatal care was associated with CS is consistent with other studies (*8,9*).

Although reducing the risk for CS will ultimately depend on control of adult syphilis, prevention specific to pregnant women with active syphilis is feasible. In response to this epidemic, BCHD has alerted prenatal-care providers and worked with other health-care service providers to initiate screening and treatment programs for women of reproductive age. Through collaborative efforts of DHMH, BCHD, the Maryland Department of Public Safety and Correctional Services, and CDC, a rapid screening and treatment program for detainees and female arrestees was initiated at the Baltimore Central Booking Intake Center. Such interventions have been successful in other

Congenital Syphilis — Continued

settings (*10*). STD clinical services have been strengthened at public STD clinics, including additional clinicians and other staff. In addition, the Maryland regulation on syphilis testing during pregnancy was amended in January 1998 to require a third trimester screening test at 28 weeks' gestation or the first visit thereafter to ensure diagnosis in time to prevent perinatal transmission. A Baltimore City Commissioner's order was also issued mandating syphilis screening at delivery.

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Adult Blood Lead Epidemiology and Surveillance — United States, First Quarter 1998, and Annual 1994–1997

CDC, in collaboration with state and local health departments, monitors laboratory-reported elevated blood lead levels (BLLs) among adults in the United States. During 1998, 27 states* reported surveillance data to the Adult Blood Lead Epidemiology and Surveillance (ABLES) program. This report presents ABLES data for the first quarter of 1998 compared with the first quarter of 1997, annual data for 1997 compared with 1996, and prevalence and incidence of elevated BLLs from 1994 through 1997. The findings indicate that approximately 4000 adults per quarter and an estimated 12,000 adults per year continue to have elevated BLLs; there does not appear to be a trend in these data from 1994 through 1997.

Beginning with the previous ABLES report (*1*), emphasis has been placed on the number of persons with elevated BLLs (prevalence); prior ABLES reports focused primarily on the number of laboratory reports of elevated BLLs (there are often multiple laboratory reports for the same person). The number of new cases of elevated BLLs (incidence) is reported as cumulative annual data.

*Alabama, Arizona, California, Connecticut, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming.

Adult Blood Lead Epidemiology and Surveillance — Continued

States in the ABLES program mandate that laboratories report elevated BLLs for adults to the state health department or another designee. The minimum BLL required to be reported varies among the states; the ABLES definition of an elevated BLL is ≥25 μg/dL. ABLES follow-back procedures for identifying source of exposures and preventing future exposures have been described previously (*2*).

Prevalence is defined as all cases (new plus existing) of persons with at least one BLL ≥25 μg/dL during the year. Incidence is defined as all new cases of persons with at least one BLL ≥25 μg/dL appearing in state surveillance data in the year who were not recorded during the preceding year. Denominators for prevalence and incidence were derived by subtracting the number of persons aged ≥65 years in the state from the total number of persons aged ≥16 years in the state.[†]

First Quarter Reports, 1998

During January 1–March 31, 1998, 3895 persons were reported with BLLs ≥25 μg/dL, representing a 20% decrease compared with 4885 persons reported for the first quarter of 1997 (*3*),[§] and a 3% decrease compared with 4010 reported for the fourth quarter of 1997 (*1*) (Figure 1). Of the 3895, 155 (4%) were reported with BLLs ≥50 μg/dL, the level designated by the Occupational Safety and Health Administration (OSHA) for medical removal from the workplace (*4*), representing a 37% decrease compared with 245 reported for the first quarter of 1997, and a 34% decrease compared with the 236 reported for the fourth quarter of 1997 (Figure 1).

Annual Reports, 1997

The number of persons with BLLs ≥25 μg/dL reported to the ABLES program increased by 5% from 12,073 in 1996 to 12,716 in 1997, with the same 27 states reporting in each year (*3*).[¶] The number of persons with BLLs ≥50 μg/dL decreased by 1% from 787 in 1996 to 777 in 1997.

The reported number of new cases with BLLs ≥25 μg/dL decreased by 12% from 6115 in 1996 to 5397 in 1997, with the same 27 states reporting in each year. New cases with BLLs ≥50 μg/dL decreased by 9% from 456 in 1996 to 417 in 1997.

Prevalence and Incidence, 1994–1997

The number of states reporting to ABLES increased from four in 1987 to 23 in 1994 and 27 in 1997. Because of this increase, comparing current ABLES raw numeric data with raw numeric data from previous years has required adjustment for the number of states reporting. Beginning with this report, prevalence and incidence will be used to facilitate comparisons of ABLES data over time.

Overall prevalence rates ranged from 104 per million adults aged 16–64 years in 1994 to 111 in 1997 (Figure 2). Of the 22 states that reported throughout 1994–1997, 11 had lower prevalence rates in 1997 than in 1994, and 11 had higher rates. Overall incidence ranged from 53 per million adults aged 16–64 years in 1994 to 47 in 1997

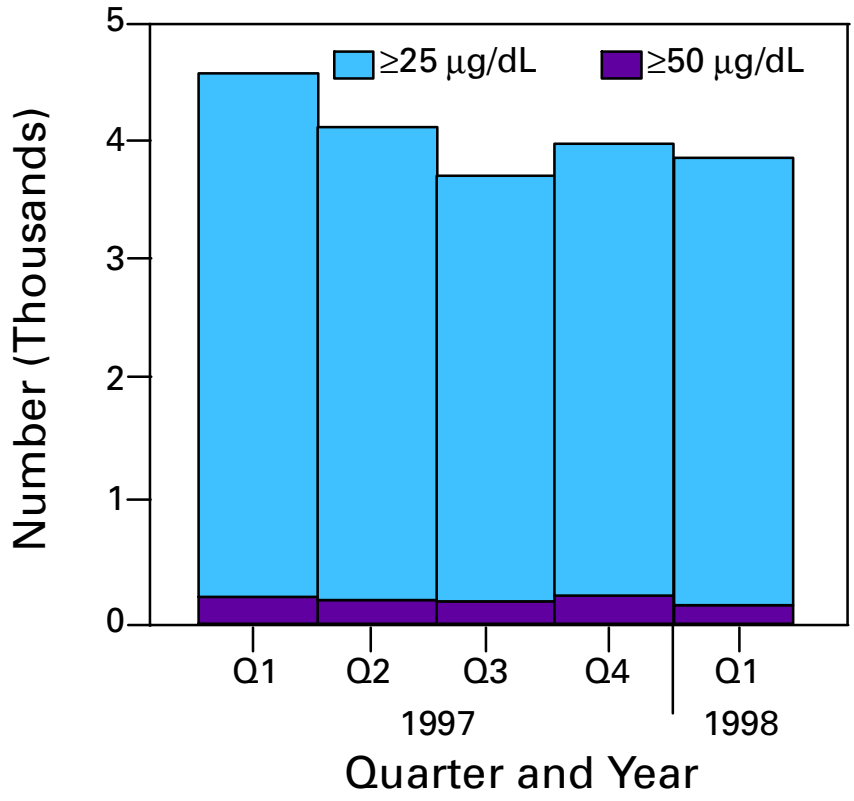
[†]Population figures are available from the World-Wide Web site http://www.census.gov/population/estimates/state/97agesex.txt.

[§]To compare the number of persons for a constant roster of 27 states in 1998 and 1997, an estimate of first quarter 1997 data for Illinois, which discontinued reporting in 1996, was subtracted from previously reported totals for the first quarter of 1997 (*3*).

[¶]To compare data for a constant roster of 27 states in 1996 and 1997, data for 1997 for New Mexico, Rhode Island, and Wyoming were added to the previously reported totals for 1996, and data for 1996 for Illinois (which discontinued reporting at the end of 1996) were subtracted from the previously reported totals for 1996 (*3*). Previously reported 1996 data for Minnesota and Ohio were updated for this report.

Adult Blood Lead Epidemiology and Surveillance — Continued

FIGURE 1. Number of persons* with blood lead levels (BLLs) ≥25 µg/dL, by quarter and year — 27 states,† 1997 and first quarter 1998



*Persons are categorized according to the highest reported BLL for the person during the given quarter. Data for the third and fourth quarter of 1997 and the first quarter of 1998 for New Mexico were missing; third and fourth quarter data for 1996 and first quarter data for 1997, respectively, were used as estimates. An estimate of first quarter 1997 data for Illinois, which discontinued reporting in 1996, was subtracted from previously reported totals for the first quarter of 1997 (*3*).

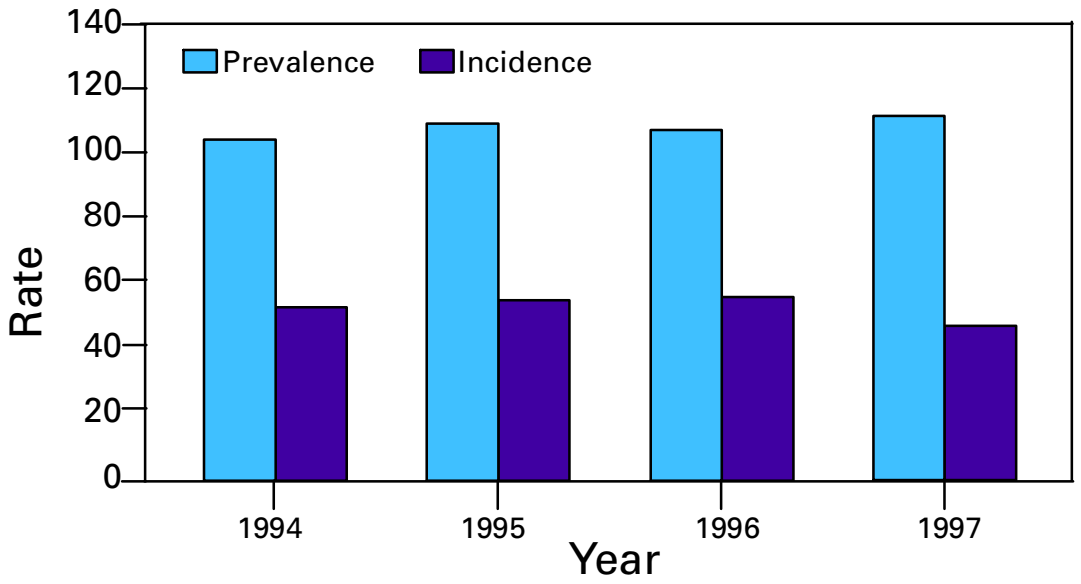
†Alabama, Arizona, California, Connecticut, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming.

(Figure 2). Of the 22 states that reported throughout 1994–1997, the incidence in 1997 compared with 1994 was lower in 13 states, higher in eight states, and unchanged in one.

Reported by: JP Lofgren, MD, Alabama Dept of Public Health. K Schaller, Arizona Dept of Health Svcs. S Payne, MA, Occupational Lead Poisoning Prevention Program, California Dept of Health Svcs. BC Jung, MPH, Div of Environmental Epidemiology and Occupational Health, Connecticut Dept of Public Health. R Gergely, Iowa Dept of Public Health. W Davis, MPA, Occupational Health Program, Bur of Health, Maine Dept of Human Svcs. E Keyvan-Larijani, MD, Lead Poisoning Prevention Program, Maryland Dept of Health and Mental Hygiene. R Rabin, MSPH, Div of Occupational Safety, Massachusetts Dept of Labor and Industries. A Allemier, Dept of Medicine, Michigan State Univ, East Lansing, Michigan. M Falken, PhD, Minnesota Dept of Health. C DeLaurier, Div of Public Health Svcs, New Hampshire State Dept of Health and Human Svcs. B Gerwel, MD, Occupational Disease Prevention Project, New Jersey State Dept of Health. R Prophet, PhD, New Mexico Dept of Health. R Stone, PhD, New York State Dept of Health. S Randolph, MSN, North Carolina Dept of Health and Human Svcs. A Migliozzi, MSN, Bur of

Adult Blood Lead Epidemiology and Surveillance — Continued

FIGURE 2. Prevalence* and incidence† of blood lead levels (BLLs) ≥25 µg/dL among adults§, by year — 1994–1997¶



*Prevalence is defined as all cases (new plus existing) of persons with at least one BLL ≥25 µg/dL during the year.
†Incidence is defined as all new cases of persons with at least one BLL ≥25 µg/dL appearing in state surveillance data in the year who were not recorded in the immediately preceding year.
§Per 1 million adults aged 16–64 years.
¶In 1994 and 1995, adults with BLLs ≥25 µg/dL were reported in the following states: Alabama, Arizona, California, Connecticut, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Texas, Utah, Vermont, Washington, and Wisconsin; in 1996, Minnesota and Ohio were added; and in 1997, New Mexico, Rhode Island, and Wyoming were added and Illinois was subtracted.

Health Risk Reduction, Ohio Dept of Health. E Rhoades, MD, Oklahoma State Dept of Health. A Sandoval, MS, State Health Div, Oregon Dept of Human Resources. J Gostin, MS, Occupational Health Program, Div of Environmental Health, Pennsylvania Dept of Health. M Stoeckel, MPH, Rhode Island Dept of Health. A Gardner-Hillian, Div of Health Hazard Evaluations, South Carolina Dept of Health and Environmental Control. D Salzman, MPH, Bur of Epidemiology, Texas Dept of Health. W Ball, PhD, Bur of Epidemiology, Utah Dept of Health. L Toof, Div of Epidemiology and Health Promotion, Vermont Dept of Health. P Rajaraman, MS, Washington State Dept of Labor and Industries. J Tierney, Wisconsin Dept of Health and Family Svcs. T Klietz, Wyoming Dept of Health. Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: The quarterly data for the 27 ABLES states for the first quarter of 1997 through the first quarter of 1998 show approximately 4000 persons each quarter with BLLs ≥25 µg/dL and approximately 200 persons each quarter with BLLs ≥50 µg/dL.

The annual data for 1997 for the 27 ABLES states show a 5% increase in the number of persons and a 12% decrease in the number of new cases with BLLs ≥25 µg/dL compared with 1996 and adjusted for the increase in the number of participating states in 1997. Based on data for 1994–1997, however, these changes from 1996 to 1997 do not seem to represent a change from the overall pattern of prevalence and incidence during 1994–1997; a recognizable trend in the combined ABLES data during this period is not evident.

Adult Blood Lead Epidemiology and Surveillance — Continued

Variation in the number of detected cases reported to ABLES may reflect 1) changes in the year-to-year efforts of the various participating states, and lead-using industries within them, to identify lead-exposed workers and prevent new lead exposures; 2) changes in occupational exposures to lead; 3) changes in compliance with OSHA requirements regarding blood lead monitoring; and/or 4) changes in the size of the workforce in lead-using industries. Variation in quarterly and annual nationwide reporting totals also might represent normal fluctuations in case reporting, which may result from changes in staffing and funding in state-based surveillance programs, interstate differences in worker BLL testing by lead-using industries, or random variation.

The findings in this report document the continuing hazard of lead exposures as an occupational health problem in the United States. ABLES enhances surveillance for this preventable condition by expanding the number of participating states, exploring ways to increase the usefulness of reporting, and alerting the public to potential new sources of lead exposure.

References

1. CDC. Adult blood lead epidemiology and surveillance—United States, fourth quarter, 1997. MMWR 1998;47:570–3.
2. CDC. Surveillance for occupational lead exposure—United States, 1987. MMWR 1989;38:642–6.
3. CDC. Adult blood lead epidemiology and surveillance—United States, first quarter 1997, and annual 1996. MMWR 1997;46:643–7.
4. US Department of Labor, Occupational Safety and Health Administration. Final standard for occupational exposure to lead. Federal Register 1978;43:52952–3014 (29 CFR 1910.1025).

Notice to Readers

Use of Short-Course Tuberculosis Preventive Therapy Regimens in HIV-Seronegative Persons

In the *MMWR Recommendations and Reports*, *Prevention and Treatment of Tuberculosis Among Patients Infected with Human Immunodeficiency Virus: Principles of Therapy and Revised Recommendations* (*1*), CDC has recommended the use of a 2-month regimen of daily rifampin and pyrazinamide (2RZ) as an alternative to a 12-month regimen of isoniazid for the prevention of tuberculosis in HIV-infected persons with positive tuberculin skin test reactions. This recommendation is based on the results of several randomized, controlled clinical trials in HIV-infected persons. Next year, CDC, in conjunction with the American Thoracic Society, expects to issue new guidelines on screening and preventive therapy for tuberculosis that will include a recommendation on the use of the 2RZ regimen for HIV-negative persons for whom preventive therapy is indicated. This recommendation will note that a comparative trial of the 2RZ regimen in HIV-negative persons has not been conducted and that additional data will be needed on acceptability and toxicity to determine whether it is a cost-effective alternative to longer courses of isoniazid.

Until new guidelines are issued, the regimen for HIV-positive persons can be used for HIV-negative persons, following the same guidelines for HIV-positive persons. This regimen may be useful especially in settings where provision of longer courses of

Notices to Readers — Continued

preventive therapy has not been feasible (e.g., jails). CDC's Division of Tuberculosis Elimination (DTBE), National Center for HIV, STD, and TB Prevention, will collect information on completion of preventive therapy from selected programs using the short-course regimen. Programs interested in working with the DTBE in this effort can contact CDC, telephone (404) 639-8123.

Reference

1. CDC. Prevention and treatment of tuberculosis among patients infected with human immunodeficiency virus: principles of therapy and revised recommendations. MMWR 1998;47 (no. RR-20).

Notice to Readers

Availability of Continuing Education Component in the *MMWR Recommendations and Reports* series, Vol. 47, No. RR-20

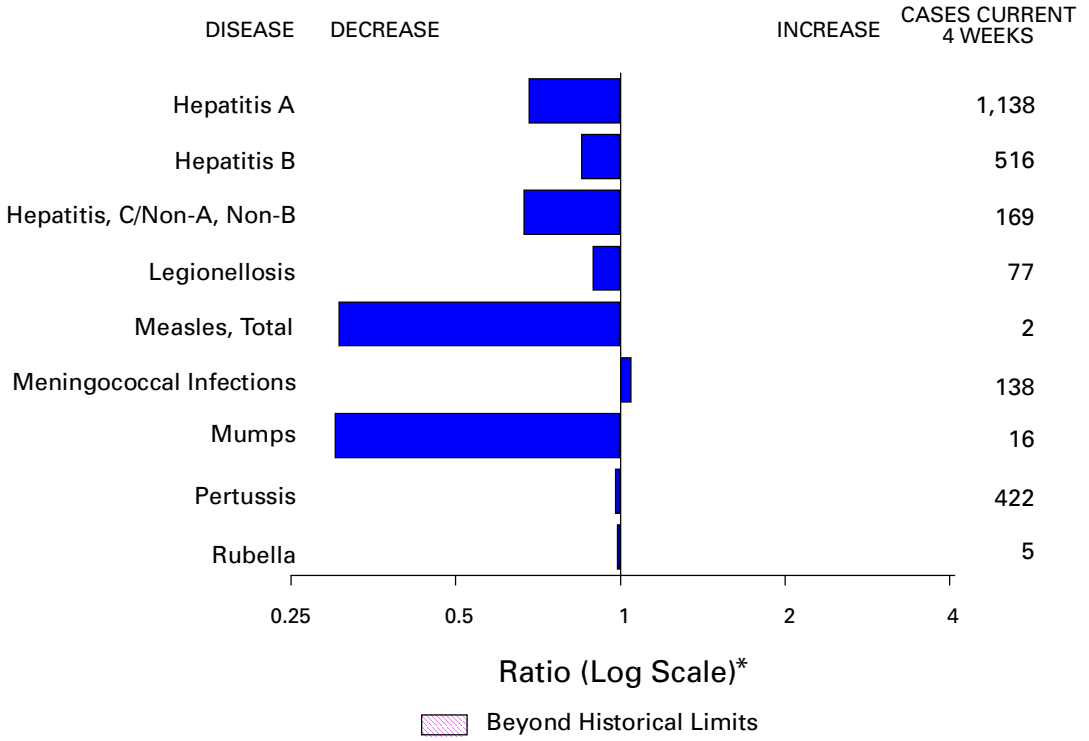
Continuing Medical Education (CME) and Continuing Nursing Education (CNE) components are available in the paper and electronic versions of the October 30, 1998, *MMWR Recommendations and Reports* (Vol. 47, no. RR-20), *Prevention and Treatment of Tuberculosis Among Patients Infected with Human Immunodeficiency Virus: Principles of Therapy and Revised Recommendations*. The CME component was planned and implemented by CDC according to the Essentials and Standards of the Accreditation Council for Continuing Medical Education. CDC is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

CDC designates this educational activity for a maximum of 2.0 hours in category 1 credit toward the American Medical Association's Physician's Recognition Award. CDC also is accredited by the American Nurses Credentialing Center's Commission on Accreditation to provide continuing education for nurses. CDC designates this educational activity for a maximum of 2.4 contact hours of CNE credit.

To register and to receive credit, physicians and nurses must return their responses either electronically to the World-Wide Web site http://www.cdc.gov/epo/mmwr/mmwr.html, then go to Continuing Education Program for Physicians and Nurses, or by a card or letter postmarked by October 30, 1999. There is no fee for participating in this continuing education activity.

CME and CNE components are planned for future *MMWR Recommendations and Reports*.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending October 24, 1998, with historical data — United States



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

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending October 24, 1998 (42nd Week)

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	7
Brucellosis	43	Poliomyelitis, paralytic	1
Cholera	7	Psittacosis	36
Congenital rubella syndrome	3	Rabies, human	-
Cryptosporidiosis*	2,678	Rocky Mountain spotted fever (RMSF)	271
Diphtheria	1	Streptococcal disease, invasive Group A	1,775
Encephalitis: California*	78	Streptococcal toxic-shock syndrome*	44
eastern equine*	4	Syphilis, congenital¶	307
St. Louis*	20	Tetanus	34
western equine*	-	Toxic-shock syndrome	108
Hansen Disease	92	Trichinosis	10
Hantavirus pulmonary syndrome*†	15	Typhoid fever	271
Hemolytic uremic syndrome, post-diarrheal*	61	Yellow fever	-
HIV infection, pediatric*§	178		

-:no reported cases
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update September 27, 1998.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending October 24, 1998, and October 18, 1997 (42nd Week)

Reporting Area	AIDS		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1998	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997
UNITED STATES	35,486	45,134	430,743	374,873	2,446	1,623	258,503	236,724	3,261	2,839
NEW ENGLAND	1,381	1,895	15,141	14,421	284	228	4,336	4,817	71	49
Maine	24	46	825	822	33	-	57	59	-	-
N.H.	28	29	757	651	41	42	75	78	-	-
Vt.	17	31	338	340	18	15	33	44	-	3
Mass.	712	640	6,817	5,865	133	132	1,819	1,720	68	39
R.I.	94	119	1,808	1,626	11	1	299	368	3	7
Conn.	506	1,030	4,596	5,117	48	38	2,053	2,548	-	-
MID. ATLANTIC	9,642	13,768	49,541	46,166	247	65	29,053	30,677	298	260
Upstate N.Y.	1,102	2,133	N	N	188	-	4,969	5,269	234	189
N.Y. City	5,457	7,287	28,264	22,005	7	12	12,600	11,411	-	-
N.J.	1,765	2,742	8,191	8,064	52	43	5,240	6,167	-	-
Pa.	1,318	1,606	13,086	16,097	N	10	6,244	7,830	64	71
E.N. CENTRAL	2,567	3,369	70,146	50,699	378	275	49,991	32,488	415	465
Ohio	540	722	20,734	17,978	103	59	13,452	11,713	7	16
Ind.	414	444	4,656	7,464	80	41	3,782	4,962	5	12
Ill.	993	1,346	19,539	U	95	39	16,354	U	28	76
Mich.	468	648	16,763	16,363	100	62	12,733	11,937	375	336
Wis.	152	209	8,454	8,894	N	74	3,670	3,876	-	25
W.N. CENTRAL	664	902	24,349	26,472	451	342	12,171	11,494	260	50
Minn.	136	156	5,068	5,367	218	181	1,931	1,864	9	3
Iowa	58	85	2,063	3,712	87	49	660	941	8	25
Mo.	312	446	9,850	9,789	40	56	6,967	5,874	238	9
N. Dak.	4	10	616	693	10	15	51	56	-	2
S. Dak.	13	8	1,249	1,082	25	31	189	121	-	-
Nebr.	59	83	1,509	2,145	45	-	508	945	3	2
Kans.	82	114	3,994	3,684	26	10	1,865	1,693	2	9
S. ATLANTIC	9,235	11,113	86,312	75,037	202	138	71,374	74,284	149	202
Del.	112	183	2,079	6	-	2	1,214	985	-	-
Md.	1,304	1,682	6,029	5,698	28	12	7,482	9,426	8	7
D.C.	691	828	N	N	1	-	2,806	3,553	-	-
Va.	688	880	10,912	9,266	N	42	7,337	6,788	11	24
W. Va.	70	88	2,079	2,336	8	6	640	733	6	16
N.C.	638	680	17,547	13,854	46	44	15,296	13,752	19	42
S.C.	604	621	13,833	10,148	11	8	8,720	9,408	5	35
Ga.	972	1,265	18,562	12,561	66	-	15,748	14,734	9	-
Fla.	4,156	4,886	15,271	21,168	42	24	12,131	14,905	91	78
E.S. CENTRAL	1,444	1,554	31,637	28,076	103	36	31,119	28,211	171	294
Ky.	222	292	5,166	5,136	30	-	3,004	3,319	18	12
Tenn.	522	631	10,886	10,186	48	31	9,478	8,874	146	196
Ala.	395	384	8,202	6,934	22	2	10,528	9,657	5	10
Miss.	305	247	7,383	5,820	3	3	8,109	6,361	2	76
W.S. CENTRAL	4,202	4,686	65,179	53,628	103	22	38,859	34,911	403	410
Ark.	159	180	3,017	2,417	10	10	2,573	4,066	13	11
La.	708	813	11,978	7,745	5	6	10,154	7,539	82	179
Okla.	238	240	7,974	6,089	13	6	4,383	3,936	12	7
Tex.	3,097	3,453	42,210	37,377	75	-	21,749	19,370	296	213
MOUNTAIN	1,230	1,290	25,934	23,658	295	207	7,296	6,492	307	255
Mont.	23	35	1,043	863	15	-	32	48	7	20
Idaho	19	41	1,626	1,319	35	22	142	121	87	53
Wyo.	1	13	570	476	53	54	27	44	57	64
Colo.	230	313	6,631	5,743	72	56	1,888	1,841	28	28
N. Mex.	179	141	2,763	3,090	17	13	679	705	82	47
Ariz.	499	317	9,261	8,420	21	26	3,337	2,817	11	25
Utah	101	110	1,709	1,390	71	21	182	224	23	4
Nev.	178	320	2,331	2,357	11	15	1,009	692	12	14
PACIFIC	5,121	6,557	62,504	56,716	383	310	14,304	13,350	1,187	854
Wash.	335	527	8,635	7,356	83	104	1,554	1,561	21	22
Oreg.	138	249	4,714	3,950	96	94	670	596	5	3
Calif.	4,500	5,687	45,762	42,767	199	99	11,442	10,471	1,106	687
Alaska	17	43	1,506	1,213	5	-	253	311	1	-
Hawaii	131	51	1,887	1,430	N	13	385	411	54	142
Guam	-	2	201	193	N	-	24	27	-	-
P.R.	1,246	1,510	U	U	6	U	296	478	-	-
V.I.	24	79	N	N	N	U	U	U	U	U
Amer. Samoa	-	-	U	U	N	U	U	U	U	U
C.N.M.I.	-	1	N	N	N	U	28	20	-	2

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

*Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update September 27, 1998.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending October 24, 1998, and October 18, 1997 (42nd Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998*	Cum. 1997	Cum. 1998
UNITED STATES	968	799	9,970	9,985	1,083	1,497	5,497	6,924	11,657	14,303	5,661
NEW ENGLAND	69	70	2,417	2,653	53	74	62	116	359	355	1,199
Maine	1	3	11	8	5	1	1	-	10	17	186
N.H.	5	7	38	33	5	8	2	-	9	13	69
Vt.	5	11	8	8	1	2	4	-	2	5	56
Mass.	28	25	687	275	16	27	36	58	203	201	422
R.I.	19	7	508	356	8	5	1	2	41	30	80
Conn.	11	17	1,165	1,973	18	31	18	56	94	89	386
MID. ATLANTIC	213	159	6,292	5,725	262	441	217	330	2,281	2,513	1,285
Upstate N.Y.	74	46	3,492	2,371	82	61	33	31	298	341	915
N.Y. City	25	18	19	151	112	277	59	71	1,202	1,275	U
N.J.	11	21	1,402	1,680	44	80	67	134	487	521	170
Pa.	103	74	1,379	1,523	24	23	58	94	294	376	200
E.N. CENTRAL	295	260	110	514	109	141	809	536	1,018	1,438	119
Ohio	111	93	71	35	14	17	116	182	81	228	52
Ind.	61	43	33	25	10	15	166	148	89	124	9
Ill.	27	27	5	12	35	57	316	U	524	747	14
Mich.	65	63	1	24	43	37	160	111	306	249	34
Wis.	31	34	U	418	7	15	51	95	18	90	10
W.N. CENTRAL	64	45	176	116	76	46	104	153	318	453	596
Minn.	6	2	144	88	42	19	7	16	119	120	104
Iowa	10	9	21	5	8	9	-	7	38	46	134
Mo.	22	12	2	16	15	9	79	101	91	183	24
N. Dak.	-	2	-	-	2	3	-	-	8	10	122
S. Dak.	3	2	-	1	-	1	1	-	16	10	130
Nebr.	16	14	3	2	1	1	4	3	13	19	7
Kans.	7	4	6	4	8	4	13	26	33	65	75
S. ATLANTIC	117	99	720	670	266	263	1,994	2,834	1,638	2,686	1,647
Del.	12	10	34	109	3	5	20	17	18	27	17
Md.	24	17	517	435	75	75	539	765	235	249	397
D.C.	6	4	4	7	16	15	63	95	83	78	-
Va.	17	21	56	52	49	63	121	198	222	254	481
W. Va.	N	N	11	7	2	-	2	3	32	47	65
N.C.	11	13	48	31	23	16	608	755	351	344	136
S.C.	10	7	5	2	6	16	240	315	207	272	121
Ga.	8	-	5	1	34	30	234	440	420	494	259
Fla.	27	27	40	26	58	43	167	246	70	921	171
E.S. CENTRAL	55	45	78	80	26	34	1,007	1,452	847	1,050	235
Ky.	24	10	20	14	4	12	87	114	136	154	28
Tenn.	19	25	41	37	14	7	468	628	243	362	121
Ala.	5	3	16	9	6	10	236	365	302	334	84
Miss.	7	7	1	20	2	5	216	345	166	200	2
W.S. CENTRAL	39	26	23	73	27	48	867	1,075	1,776	2,040	131
Ark.	-	1	6	18	1	5	90	130	114	153	31
La.	3	3	4	3	14	12	347	301	200	183	-
Okla.	12	2	2	19	4	6	105	107	140	171	100
Tex.	24	20	11	33	8	25	325	537	1,322	1,533	-
MOUNTAIN	62	53	15	11	50	62	200	141	347	464	188
Mont.	2	1	-	-	1	2	-	-	18	6	47
Idaho	2	2	4	3	8	-	2	1	12	10	-
Wyo.	1	1	1	2	-	2	1	-	4	2	55
Colo.	16	18	5	-	19	27	11	12	U	71	35
N. Mex.	2	2	3	1	12	8	22	8	51	55	5
Ariz.	16	12	-	2	8	11	151	105	155	207	18
Utah	20	10	-	1	1	3	4	5	46	26	26
Nev.	3	7	2	2	1	9	9	10	61	87	2
PACIFIC	54	42	139	143	214	388	237	287	3,073	3,304	261
Wash.	9	7	7	8	17	19	27	9	177	245	-
Oreg.	-	-	20	17	16	19	5	9	117	123	7
Calif.	43	34	111	116	176	338	203	267	2,611	2,732	231
Alaska	1	-	1	2	2	3	1	1	35	61	23
Hawaii	1	1	-	-	3	9	1	1	133	143	-
Guam	2	-	-	-	1	-	1	3	36	13	-
P.R.	-	-	-	-	-	5	155	205	68	164	44
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	-	-	-	-	164	9	77	6	-

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

*Additional information about areas displaying "U" for cumulative 1998 Tuberculosis cases can be found in Notice to Readers, *MMWR* Vol. 47, No. 2, p. 39.

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending October 24, 1998, and October 18, 1997 (42nd Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	1998	Cum. 1998	1998	Cum. 1998	Cum. 1998	Cum. 1997
UNITED STATES	850	874	17,514	22,974	6,561	7,626	-	54	-	21	75	123
NEW ENGLAND	59	50	214	560	137	146	-	1	-	2	3	19
Maine	3	5	16	52	2	6	-	-	-	-	-	1
N.H.	9	9	10	27	16	14	-	-	-	-	-	1
Vt.	7	3	14	11	4	8	-	-	-	1	1	-
Mass.	34	29	84	229	39	61	-	1	-	1	2	16
R.I.	5	2	14	123	58	14	-	-	-	-	-	-
Conn.	1	2	76	118	18	43	-	-	-	-	-	1
MID. ATLANTIC	122	138	1,162	1,713	874	1,099	-	8	-	5	13	26
Upstate N.Y.	49	44	298	275	238	239	-	1	-	1	2	5
N.Y. City	26	37	291	780	230	399	-	-	-	-	-	10
N.J.	42	40	278	246	168	202	U	7	U	1	8	3
Pa.	5	17	295	412	238	259	U	-	U	3	3	8
E.N. CENTRAL	141	143	2,668	2,394	776	1,195	-	11	-	3	14	10
Ohio	45	76	263	266	66	62	-	-	-	1	1	-
Ind.	36	14	140	245	173	85	-	2	-	1	3	-
Ill.	47	36	447	658	130	225	-	-	-	-	-	7
Mich.	7	16	1,676	1,061	378	350	-	9	-	1	10	2
Wis.	6	1	142	164	29	473	-	-	-	-	-	1
W.N. CENTRAL	79	39	1,190	1,814	351	388	-	1	-	-	1	17
Minn.	62	27	110	166	41	35	-	-	-	-	-	8
Iowa	2	5	383	385	60	32	-	1	-	-	1	-
Mo.	8	4	543	927	210	277	-	-	-	-	-	1
N. Dak.	-	-	3	10	4	5	-	-	-	-	-	-
S. Dak.	-	2	28	19	2	1	-	-	-	-	-	8
Nebr.	1	1	36	75	12	12	-	-	-	-	-	-
Kans.	6	-	87	232	22	26	-	-	-	-	-	-
S. ATLANTIC	172	131	1,601	1,532	935	997	-	3	-	5	8	13
Del.	-	-	3	28	3	6	-	-	-	1	1	-
Md.	49	47	262	164	132	138	-	-	-	1	1	2
D.C.	-	-	53	17	11	27	U	-	U	-	-	1
Va.	16	12	174	191	84	104	-	-	-	2	2	1
W. Va.	5	3	6	10	8	14	-	-	-	-	-	-
N.C.	23	20	99	165	174	202	-	-	-	-	-	2
S.C.	3	4	35	93	33	87	-	-	-	-	-	1
Ga.	37	25	509	415	129	110	-	1	-	1	2	1
Fla.	39	20	460	449	361	309	-	2	-	-	2	5
E.S. CENTRAL	48	46	317	506	336	568	-	-	-	2	2	1
Ky.	7	6	19	65	36	34	-	-	-	-	-	-
Tenn.	27	26	192	310	231	359	-	-	-	1	1	-
Ala.	12	12	63	70	67	59	-	-	-	1	1	1
Miss.	2	2	43	61	2	116	-	-	-	-	-	-
W.S. CENTRAL	51	42	3,273	4,709	1,080	1,050	-	1	-	-	1	8
Ark.	-	2	83	188	80	71	-	-	-	-	-	-
La.	23	11	94	191	128	128	-	1	-	-	1	-
Okla.	26	27	497	1,230	71	40	-	-	-	-	-	1
Tex.	2	2	2,599	3,100	801	811	-	-	-	-	-	7
MOUNTAIN	83	73	2,704	3,558	683	721	-	-	-	-	-	8
Mont.	-	-	88	65	5	9	-	-	-	-	-	-
Idaho	-	1	223	115	38	35	-	-	-	-	-	-
Wyo.	1	4	33	28	7	22	-	-	-	-	-	-
Colo.	18	13	277	338	98	129	-	-	-	-	-	-
N. Mex.	7	7	123	295	282	216	-	-	-	-	-	-
Ariz.	45	29	1,697	1,855	155	167	-	-	-	-	-	5
Utah	5	3	169	492	63	77	-	-	-	-	-	1
Nev.	7	16	94	370	35	66	U	-	U	-	-	2
PACIFIC	95	212	4,385	6,188	1,389	1,462	-	29	-	4	33	21
Wash.	9	5	831	545	95	59	-	-	-	1	1	2
Oreg.	36	29	314	316	99	93	-	-	-	-	-	-
Calif.	42	163	3,188	5,167	1,177	1,290	-	5	-	2	7	15
Alaska	1	8	16	26	12	11	-	24	-	1	25	-
Hawaii	7	7	36	134	6	9	-	-	-	-	-	4
Guam	-	-	-	-	2	3	U	-	U	-	-	-
P.R.	2	-	49	238	322	635	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	6	3	1	53	41	U	-	U	-	-	1

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

*Of 199 cases among children aged <5 years, serotype was reported for 98 and of those, 36 were type b.

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

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending October 24, 1998, and October 18, 1997 (42nd Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997
UNITED STATES	2,161	2,656	4	386	513	102	4,699	4,345	-	325	155
NEW ENGLAND	88	168	-	7	8	17	757	781	-	39	1
Maine	6	17	-	-	-	-	5	12	-	-	-
N.H.	4	13	-	-	-	7	95	107	-	-	-
Vt.	5	4	-	-	-	-	65	203	-	-	-
Mass.	41	82	-	4	2	9	544	417	-	9	1
R.I.	7	18	-	1	5	-	9	16	-	1	-
Conn.	25	34	-	2	1	1	39	26	-	29	-
MID. ATLANTIC	192	279	-	21	49	9	453	325	-	130	31
Upstate N.Y.	56	72	-	6	11	9	260	125	-	111	4
N.Y. City	20	46	-	4	3	-	23	59	-	14	27
N.J.	50	57	U	2	7	U	5	13	U	4	-
Pa.	66	104	U	9	28	U	165	128	U	1	-
E.N. CENTRAL	319	406	-	64	63	14	491	461	-	-	6
Ohio	123	144	-	26	24	7	232	128	-	-	-
Ind.	53	45	-	6	9	4	110	50	-	-	-
Ill.	79	123	-	10	10	3	77	67	-	-	2
Mich.	36	58	-	22	16	-	55	50	-	-	-
Wis.	28	36	-	-	4	-	17	166	-	-	4
W.N. CENTRAL	181	185	-	27	14	32	461	342	-	27	-
Minn.	29	29	-	12	5	29	270	221	-	-	-
Iowa	36	40	-	10	7	1	68	33	-	-	-
Mo.	68	81	-	3	-	2	32	57	-	2	-
N. Dak.	5	2	-	2	-	-	2	1	-	-	-
S. Dak.	7	5	-	-	-	-	8	4	-	-	-
Nebr.	9	9	-	-	1	-	15	5	-	-	-
Kans.	27	19	-	-	1	-	66	21	-	25	-
S. ATLANTIC	371	452	-	44	61	6	274	372	-	19	78
Del.	2	5	-	-	-	-	5	1	-	-	-
Md.	25	41	-	-	1	2	51	106	-	1	-
D.C.	1	8	U	-	-	U	1	3	U	-	1
Va.	32	48	-	7	10	2	29	42	-	1	1
W. Va.	13	16	-	-	-	-	1	6	-	-	-
N.C.	50	80	-	10	10	-	89	106	-	13	59
S.C.	49	49	-	6	10	-	25	24	-	-	15
Ga.	84	90	-	1	10	2	24	13	-	-	-
Fla.	115	115	-	20	20	-	49	71	-	4	2
E.S. CENTRAL	207	201	1	14	25	-	106	123	-	3	1
Ky.	28	42	-	-	3	-	45	56	-	-	-
Tenn.	65	67	-	1	4	-	32	33	-	2	-
Ala.	90	68	1	8	8	-	26	24	-	1	1
Miss.	24	24	-	5	10	-	3	10	-	-	-
W.S. CENTRAL	266	261	1	53	72	8	313	223	-	88	4
Ark.	28	30	-	7	1	8	72	35	-	-	-
La.	56	47	1	10	12	-	7	18	-	-	-
Okla.	37	35	-	-	-	-	28	31	-	-	-
Tex.	145	149	-	36	59	-	206	139	-	88	4
MOUNTAIN	127	153	-	33	54	7	866	961	-	5	7
Mont.	4	8	-	-	-	-	9	15	-	-	-
Idaho	10	10	-	4	3	1	240	488	-	-	2
Wyo.	5	2	-	1	1	-	8	7	-	-	-
Colo.	26	42	-	7	3	5	174	294	-	-	-
N. Mex.	26	24	N	N	N	-	86	88	-	1	-
Ariz.	39	39	-	6	32	1	187	34	-	1	5
Utah	11	12	-	5	8	-	128	16	-	2	-
Nev.	6	16	U	10	7	U	34	19	U	1	-
PACIFIC	410	551	2	123	167	9	978	757	-	14	27
Wash.	57	74	1	9	17	4	270	318	-	9	5
Oreg.	74	102	N	N	N	2	93	39	-	-	-
Calif.	271	366	1	90	118	3	589	366	-	3	14
Alaska	3	2	-	2	8	-	14	16	-	-	-
Hawaii	5	7	-	22	24	-	12	18	-	2	8
Guam	1	1	U	2	1	U	-	-	U	-	-
P.R.	6	8	-	1	7	-	3	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	2	4	U	1	-	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending October 24, 1998 (42nd Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	587	421	95	40	10	21	41
Boston, Mass.	143	94	28	11	4	6	15
Bridgeport, Conn.	31	21	4	6	-	-	-
Cambridge, Mass.	21	14	5	2	-	-	6
Fall River, Mass.	28	25	2	1	-	-	1
Hartford, Conn.	56	32	13	5	2	4	1
Lowell, Mass.	30	19	8	3	-	-	3
Lynn, Mass.	10	10	-	-	-	-	-
New Bedford, Mass.	21	18	3	-	-	-	-
New Haven, Conn.	48	30	8	1	2	7	1
Providence, R.I.	48	42	4	2	-	-	2
Somerville, Mass.	7	7	-	-	-	-	-
Springfield, Mass.	50	35	8	5	1	1	1
Waterbury, Conn.	37	30	4	1	-	2	3
Worcester, Mass.	57	44	8	3	1	1	8
MID. ATLANTIC	2,218	1,536	454	150	39	39	110
Albany, N.Y.	44	35	5	2	-	2	5
Allentown, Pa.	16	13	1	2	-	-	-
Buffalo, N.Y.	98	72	16	6	2	2	7
Camden, N.J.	31	15	9	3	3	1	4
Elizabeth, N.J.	7	6	1	-	-	-	-
Erie, Pa.	41	37	2	1	-	1	4
Jersey City, N.J.	33	21	6	5	-	1	-
New York City, N.Y.	1,098	763	242	65	12	16	50
Newark, N.J.	51	24	16	10	1	-	4
Paterson, N.J.	28	18	5	5	-	-	-
Philadelphia, Pa.	399	252	85	38	12	12	20
Pittsburgh, Pa.§	69	53	10	2	3	1	4
Reading, Pa.	28	23	5	-	-	-	2
Rochester, N.Y.	128	101	19	5	3	-	6
Schenectady, N.Y.	23	16	6	1	-	-	1
Scranton, Pa.	23	18	3	2	-	-	-
Syracuse, N.Y.	71	49	15	1	3	3	3
Trenton, N.J.	15	8	6	1	-	-	-
Utica, N.Y.	15	12	2	1	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,079	1,412	416	140	53	52	105
Akron, Ohio	45	31	8	3	1	2	-
Canton, Ohio	36	25	8	1	-	2	-
Chicago, Ill.	382	239	85	36	9	7	27
Cincinnati, Ohio	104	75	21	5	1	2	10
Cleveland, Ohio	149	102	31	7	6	3	2
Columbus, Ohio	167	112	40	8	4	3	9
Dayton, Ohio	123	86	23	10	2	2	5
Detroit, Mich.	198	112	50	23	3	10	8
Evansville, Ind.	58	41	12	2	3	-	1
Fort Wayne, Ind.	59	46	8	5	-	-	7
Gary, Ind.	5	4	-	-	1	-	-
Grand Rapids, Mich.	65	52	7	3	1	2	4
Indianapolis, Ind.	202	127	44	17	9	5	10
Lansing, Mich.	53	35	13	1	4	-	3
Milwaukee, Wis.	119	78	28	3	2	8	9
Peoria, Ill.	49	41	4	2	-	2	2
Rockford, Ill.	64	51	9	2	-	2	3
South Bend, Ind.	47	39	5	2	-	1	-
Toledo, Ohio	99	76	10	5	7	1	5
Youngstown, Ohio	55	40	10	5	-	-	-
W.N. CENTRAL	846	611	141	52	23	11	56
Des Moines, Iowa	75	60	13	1	1	-	7
Duluth, Minn.	52	43	5	3	1	-	3
Kansas City, Kans.	18	10	4	3	1	-	2
Kansas City, Mo.	116	73	15	8	6	6	3
Lincoln, Nebr.	28	20	6	2	-	-	2
Minneapolis, Minn.	226	160	44	14	4	4	24
Omaha, Nebr.	90	59	15	9	7	-	2
St. Louis, Mo.	90	62	16	9	2	1	3
St. Paul, Minn.	88	75	11	1	1	-	8
Wichita, Kans.	63	49	12	2	-	-	2

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,203	768	236	131	35	32	62
Atlanta, Ga.	174	104	34	26	7	3	7
Baltimore, Md.	238	141	58	28	4	7	13
Charlotte, N.C.	95	61	15	9	5	5	7
Jacksonville, Fla.	137	87	28	15	4	3	9
Miami, Fla.	107	68	20	16	1	2	-
Norfolk, Va.	47	36	3	3	2	3	1
Richmond, Va.	U	U	U	U	U	U	U
Savannah, Ga.	69	41	20	4	3	1	4
St. Petersburg, Fla.	65	43	10	7	3	2	7
Tampa, Fla.	150	109	22	12	4	2	10
Washington, D.C.	107	74	22	5	2	4	4
Wilmington, Del.	14	4	4	6	-	-	-
E.S. CENTRAL	773	499	171	65	17	19	46
Birmingham, Ala.	176	118	38	14	1	3	14
Chattanooga, Tenn.	56	40	14	2	-	-	2
Knoxville, Tenn.	83	54	14	8	1	6	9
Lexington, Ky.	67	47	13	6	-	1	4
Memphis, Tenn.	141	88	27	18	7	1	13
Mobile, Ala.	52	29	15	4	2	2	-
Montgomery, Ala.	44	28	8	5	2	1	1
Nashville, Tenn.	154	95	42	8	4	5	3
W.S. CENTRAL	1,410	932	275	131	33	39	66
Austin, Tex.	79	45	18	10	4	2	3
Baton Rouge, La.	28	11	10	5	-	2	1
Corpus Christi, Tex.	46	33	9	2	1	1	1
Dallas, Tex.	175	102	45	19	3	6	6
El Paso, Tex.	73	51	10	5	5	2	1
Ft. Worth, Tex.	119	90	14	10	3	2	8
Houston, Tex.	367	236	83	35	7	6	20
Little Rock, Ark.	62	42	10	6	1	3	1
New Orleans, La.	87	57	18	6	3	3	-
San Antonio, Tex.	201	146	28	20	2	5	11
Shreveport, La.	51	27	12	6	2	4	6
Tulsa, Okla.	122	92	18	7	2	3	8
MOUNTAIN	893	626	150	82	18	16	70
Albuquerque, N.M.	100	71	15	8	3	3	5
Boise, Idaho	38	30	6	1	1	-	4
Colo. Springs, Colo.	69	49	12	7	-	1	6
Denver, Colo.	96	67	11	10	4	4	8
Las Vegas, Nev.	196	126	40	21	6	3	12
Ogden, Utah	29	21	5	3	-	-	4
Phoenix, Ariz.	77	59	13	4	-	-	7
Pueblo, Colo.	27	24	2	1	-	-	3
Salt Lake City, Utah	113	71	20	15	2	5	9
Tucson, Ariz.	148	108	26	12	2	-	12
PACIFIC	1,870	1,342	327	125	38	37	144
Berkeley, Calif.	10	6	4	-	-	-	1
Fresno, Calif.	121	93	16	6	4	2	9
Glendale, Calif.	18	14	4	-	-	-	1
Honolulu, Hawaii	50	34	8	6	-	2	4
Long Beach, Calif.	55	41	11	2	1	-	9
Los Angeles, Calif.	439	284	88	45	11	11	18
Pasadena, Calif.	34	25	6	3	-	-	2
Portland, Oreg.	143	108	22	6	5	2	5
Sacramento, Calif.	197	142	34	10	5	6	25
San Diego, Calif.	140	105	23	5	2	5	20
San Francisco, Calif.	143	102	22	11	5	2	15
San Jose, Calif.	191	137	36	12	2	4	15
Santa Cruz, Calif.	37	34	3	-	-	-	5
Seattle, Wash.	146	95	34	14	2	1	3
Spokane, Wash.	55	48	6	1	-	-	4
Tacoma, Wash.	91	74	10	4	1	2	8
TOTAL	11,879¶	8,147	2,265	916	266	266	700

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

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

Weekly Notifiable Disease Morbidity Data and 122 Cities Mortality Data

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

State Support Team

Robert Fagan
Gerald Jones
Felicia Perry
Carol A. Worsham

CDC Operations Team

Carol M. Knowles
Deborah A. Adams
Willie J. Anderson
Patsy A. Hall
Amy K. Henion
Myra A. Montalbano

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