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MORBIDITY AND MORTALITY WEEKLY REPORT

Surveillance for Injuries and Illnesses and Rapid Health-Needs Assessment Following Hurricanes Marilyn and Opal, September–October 1995

Hurricanes rated a category three or greater (on a scale of one to five) strike the United States or its territories approximately once every 1.5 years (*1*). In 1995, both a category two and category three hurricane struck the United States within 18 days, causing approximately 40 deaths (*2*). This report summarizes the surveillance for injuries and illnesses and a rapid health-needs assessment conducted after the storms.

MORBIDITY SURVEILLANCE

Hurricane Marilyn, September 1995

During September 15–16, Hurricane Marilyn struck the U.S. Virgin Islands (USVI), passing over St. Croix (1990 population: 50,139) on September 15, with sustained winds of 80 mph, and over St. Thomas (1990 population: 48,166) on September 15–16, with sustained winds of 100 mph and gusts of 125 mph. On St. Thomas, 92% of houses were damaged (habitable) or destroyed (uninhabitable); on St. Croix and St. John (1990 population: 3504), 71% and 76%, respectively, of housing units were affected.

On September 16, the USVI Department of Social and Health Services, in collaboration with CDC and the Preventive Medicine Task Force of the Public Health Service National Disaster Medical System, inititated public health surveillance to 1) maintain daily contact with primary health-care facilities, including deployed Disaster Medical Assistance Teams (DMATs); 2) characterize adverse health events during the early post-hurricane phase; 3) coordinate disease outbreak investigations; 4) provide reliable information to health planners for determining priorities; and 5) recommend public health interventions.

Because of the disruption of health-care systems, active posthurricane surveillance was initiated on St. Thomas. Independent surveillance systems were established on each of the three islands. Daily patient summaries were obtained from the Governor Juan F. Luis Hospital and Medical Center, three outpatient treatment clinics, two smaller clinic sites that provided summary information only, and DMATs deployed to provide supplemental health care. Patient logs were abstracted into 20 diagnostic surveillance categories.

Hurricanes Marilyn and Opal — Continued

During September 16–30, a total of 3265 patient visits were recorded at the four primary medical treatment sites (i.e., the hospital and three DMAT sites). Of the 3265 visits, 1084 (33%) were storm-associated injuries involving minor wounds (i.e., abrasions, lacerations, punctures, and foreign-body removal) or trauma to the musculoskeletal system (i.e., fractures, sprains, strains, and dislocations). In addition, eight persons sustained burns while operating or refueling portable power generators. Other problems reported included upper and lower respiratory tract illnesses (383 [12%]) (e.g., sore throat, cough, pneumonia, and asthma) and dermatologic disorders (199 [6%]) (e.g., rashes, sores, and infections). Of the 167 visits for gastrointestinal disorders, 77 were for diarrheal illness (2.4% of total patient visits). The second largest category of visits (23.5%) was grouped as miscellaneous and was for problems unrelated to the storm (e.g., blood pressure and blood glucose screening, prescription refills, vaccinations, and other health-care services).

Hurricane Opal, October 1995

On October 4, Hurricane Opal made landfall at Navarre, Florida, approximately 20 miles east of Pensacola, with sustained winds of 115 mph. The storm caused extensive damage along the 100 miles of coastline from Navarre east to Mexico Beach. Efforts to evaluate the impact of the hurricane on the health of residents in the affected area included review of records of emergency department (ED) visits to the two hospitals serving one of the most severely affected counties. The frequencies of 20 conditions were determined for the 6 days after the hurricane (i.e., posthurricane) (October 4–9) and were compared with those observed for the 6 days before the storm (i.e., prehurricane) (September 27–October 3) (Table 1).

EDs treated 996 patients during the prehurricane period and 1135 during the posthurricane period. For both periods, the proportion of ED visits were similar for lacerations, puncture wounds, musculoskeletal injuries, rashes, and gastrointestinal or respiratory illnesses. During the posthurricane period, the proportion of visits for in-

TABLE 1. Number and percentage of persons reporting injuries or illnesses before and after Hurricane Opal, by condition and phase of hurricane — Bay County, Florida, October 1995

Condition	Prehurricane* (n=996) No.	(%)	Posthurricane† (n=1135) No.	(%)
Injury				
Laceration/wound	80	(8.0)	70	(6.2)
Sprain/strain/fracture	79	(7.9)	77	(6.8)
Motor-vehicle–related injury	37	(3.7)	18	(1.6)
Insect bite	2	(0.2)	19	(1.7)
Other	38	(3.8)	23	(2.0)
Illness				
Gastrointestinal	44	(4.4)	45	(4.0)
Respiratory	3	(0.3)	11	(1.0)
Skin rash	19	(1.9)	14	(1.2)
Psychiatric symptoms	18	(1.8)	5	(0.4)

*During the 6 days before the hurricane struck land.
†During the 6 days after the hurricane struck land.

Hurricanes Marilyn and Opal — Continued

sect bites increased from 0.2% to 1.7% (p<0.05). These findings were shared with local health officials and emergency management officials coordinating disaster relief.

HEALTH NEEDS ASSESSMENT

Population-based surveys were conducted on St. Thomas on September 23, 1 week after Hurricane Marilyn. Based on maps and population data, the island was divided into four population zones, which then were subdivided into clusters. In each of the 30 clusters, a survey team interviewed an adult member of selected households. Respondents were asked about the number and age of residents, number of sick and injured persons, supply of food and water, water purification and access to sanitary toilets, extent of damage to housing, access to telephone and electricity, availability of transportation, and monitoring of local radio broadcasts. One week after the initial survey, the process was repeated. A similar clustering technique was used on St. Croix and St. John and on the Florida panhandle following Hurricane Opal.

For Hurricane Marilyn, most (93%–99%) respondents reported having drinking water that had been purified, access to a motor vehicle (77%–89%), and having listened to a local radio station (79%–99%) (Table 2). For Hurricane Opal, most persons reported having access to electricity (89%), running water (96%), medical care (91%), and transportation (99%).

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TABLE 2. Percentage of persons reporting selected conditions following Hurricane Marilyn, by condition and island* — U.S. Virgin Islands, September 1995†

Condition	St.Thomas (Sept. 23)	St. Thomas (Sept. 30)	St. Croix	St. John
Housing unit completely destroyed	11%	14%	2%	11%
Housing unit damaged but inhabitable	67%	78%	69%	65%
Ill person in household	5%	10%	14%	19%
Injured person in household	2%	4%	3%	9%
Person lacking prescription drugs in household	3%	6%	3%	27%
Purifying drinking water	99%	99%	99%	93%
Symptoms of psychologic stress	12%	60%	25%	42%
Access to a flushing toilet	99%	99%	98%	99%
Listening to a local radio station	98%	99%	79%	79%
Working telephone (including cellular)	12%	9%	54%	24%
Access to electrical power	52%	65%	NA§	45%
Working motor vehicle	86%	89%	77%	79%

*Surveys were conducted on St. Thomas on September 23 and 30, on St. Croix on September 28, and on St. John during September 26–28.

†Because of the hurricane, modification of the sampling frame precluded usual variance estimates.

§Not available.

Hurricanes Marilyn and Opal — Continued

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Editorial Note: Rapid assessment of health needs in populations affected by disasters is an important first step in guiding relief efforts (*3*). The cluster sampling survey method used for hurricanes Marilyn and Opal were based on methods used after Hurricane Andrew in 1992 (*4*) and provided some of the earliest objective data describing the status of affected populations after the storm. Similarly, after hurricanes Marilyn and Opal, the rapid collection of morbidity data from permanent and temporary facilities provided timely and reliable data for assessing the health impact of the disasters.

Increased frequencies of injuries such as those observed after Hurricane Marilyn and illnesses such as skin rashes and heat stress have been documented after recent storms (*5–7*). Most of the injuries reported after Hurricane Marilyn were associated with clean-up and restoration activities, including several burns associated with the use of portable gasoline generators. These findings underscore the need for public awareness campaigns that address the risks related to specific activities, including the use and maintenance of emergency power sources and general safety precautions in the immediate recovery phase.

The objective estimates from the surveys of health needs and from morbidity surveillance enabled conservation of medical and monetary resources. For example, based on survey findings, officials in the USVI decided not to provide door-to-door community outreach health care because a high proportion of the affected population had access to relief information through radio reports and transportation to a central relief location. In addition, following both storms, expensive interventions (e.g., mass aerial spraying for disease vectors and nuisance insects) were determined to be unnecessary.

Scientifically valid information is critical to enable decision making and resource prioritization by health-care providers and emergency management officials during the immediate response phase following disasters. To enhance surveillance in disaster settings, relief officials should 1) refine the statistical methods for estimating the size of affected populations; 2) ensure the availability of trained surveillance workers; 3) establish standardized assessment instruments—including computerized interviewing instruments—and use wireless communications technologies; and 4) modify surveillance data collection to indicate whether an illness or injury was "disaster related."

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Hurricanes Marilyn and Opal — Continued

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Occupational Blood Lead Survey — Armenia, 1991 and 1993

The risk for lead exposure and lead poisoning is a persistent problem for some workers (*1*) and is an important issue in both industrialized and developing countries (*2*). In Armenia, where lead is used widely in industry (*3*), the Armenian Engineers and Scientists of America, Inc. (AESA), and the United Armenian Fund (UAF)* initiated a program in 1991 to use blood lead determinations to investigate lead exposures, identify industries and circumstances associated with lead hazards, and define specific jobs characterized by excessive exposures that increase the risk for lead poisoning of workers. In 1991, team investigators surveyed four factories that use lead; in 1993, one of the factories was resurveyed. Because the capacity of laboratories in Armenia to reliably determine blood lead levels (BLLs) is limited, blood specimens were transported to the United States for lead testing. This report presents the findings of both surveys and establishes the feasibility of sample collection at remote sites for transport to laboratories equipped and certified to process lead specimens.

The Armenian Institute of General Hygiene and Occupational Diseases in Yerevan selected four worksites for the initial survey in November 1991 based on factors including accessibility and operation.† Two sites were printing plants that used cast lead type ("printing plant A" in Yerevan and "printing plant B" in Hoktemberian); one was a research laboratory that periodically used lead compounds in toxicologic experiments ("research institute" in Yerevan); and the fourth was a lead crystal factory that used red lead oxide in the manufacture of decorative glassware ("crystal factory" in Arzni). Participation in the survey was offered to all workers in jobs believed to be at high risk for lead exposure and to some administrators considered not to have substantial exposure. Of the workers who were present on the respective survey days, approximately 75% volunteered and permitted whole blood samples to be obtained. Because extremely high exposures were identified in the crystal factory in 1991, the factory was resurveyed in September 1993. For the 1991 survey, 34 workers at printing plant A participated; 17 at printing plant B; 10 at the research institute; and 38 at the crystal factory. For the 1993 follow-up survey at the crystal factory, 19 workers participated, including 10 from the 1991 survey.

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*AESA is a nonprofit professional organization and UAF is a nonprofit service organization; both are headquartered in Glendale, California.

†The selection of survey sites was primarily dictated by time and external economic constraints; access to energy and raw materials for industry in Armenia had been restricted because of regional political circumstances, which resulted in frequent, unpredictable shutdowns of many factories. Study sites were factories in operation at times that coincided with the investigators' availability.

Occupational Blood Lead Survey — Continued

Blood specimens from workers were collected by venipuncture into lead-free, evacuated tubes containing sodium heparin anticoagulant, stored at cool room temperature, and transported within 7 days to an Occupational Safety and Health Administration (OSHA)-approved laboratory in the United States for lead determination by atomic absorption spectrophotometry (*4*). Analyses were completed within 7 days of sample collection. Wipe samples of surface dust were collected onto lead-free castile soap wipes from 1-sq-ft areas of floors and machinery surfaces (at breathing-zone heights) and from the hands of workers, then were transported to the United States for lead determination by atomic absorption spectrophotometry (*5*). Routine external and internal quality-control measures were applied for blood and environmental analyses.

In 1991, of the 51 workers surveyed at the two printing plants, 50 had BLLs <25 µg/dL; none exceeded 40 µg/dL (Table 1).[§] Among the 10 workers surveyed at the research institute, BLLs ranged from 2 µg/dL to 5 µg/dL. In both the 1991 and 1993 surveys at the glassworks, however, a substantial proportion of the 39 total specimens obtained from the production workers surveyed had elevated BLLs, and some were markedly elevated: 31 (79%) were ≥25 µg/dL, 19 (49%) were >40 µg/dL, and eight (21%) were >65 µg/dL; among administrative and office workers, BLLs as high as 22 µg/dL were recorded.

[§] The cutoff level of ≥25 µg/dL corresponds to the reporting level in many U.S. states (*6*), and 40 µg/dL corresponds to the return-to-work (following medical removal for elevated BLL) criterion in the OSHA general industry lead standard (*7*). An additional cutoff of 65 µg/dL was selected to exceed current permissible levels in the United States and as a level at which overt or clinically observable toxic effects of lead would be expected in adults with chronic occupational exposure.

TABLE 1. Blood lead levels (BLLs)* in workers, by facility — Armenia, 1991 and 1993

Survey/Facility	No. workers	BLL (µg/dL)			Distribution of samples		
		Mean	(SD)	Range	≥25 µg/dL	>40 µg/dL	>65 µg/dL
1991 Survey							
Printing plant A	34	14.5	(± 6.2)	4–31	1	0	0
Printing plant B	17	8.9	(± 4.3)	3–19	0	0	0
Research institute	10	3.4	(± 1.2)	2– 5	0	0	0
Crystal factory							
Administration	13	11.1	(± 4.7)	4–22	0	0	0
Production	25	41.2	(±19.7)	15–89	20	12	3
1993 Survey[†]							
Crystal factory							
Administration	5	6.8	(± 1.3)	5– 8	0	0	0
Production	14	45.8	(±23.2)	8–82	11	7	5

*A BLL ≤9 µg/dL reflects low exposure in adults and is considered "normal." The cutoff level of ≥25 µg/dL corresponds to the reporting level in many states in the United States (*6*); >40 µg/dL corresponds to the return-to-work (following medical removal for elevated BLL) criterion in the Occupational Safety and Health Administration lead standard (29 CFR § 1910.1025) (*7*); and >65 µg/dL substantially exceeds current permissible levels in the United States.

[†] Because extremely high exposures were identified in 1991, the crystal factory was resurveyed in 1993.

Occupational Blood Lead Survey — Continued

A walk-through inspection of the crystal factory in 1993 identified sites characterized by poor housekeeping practices and conditions suggesting substantial airborne exposures.¶ A total of 24 wipe samples were obtained to assay dust: 19 samples were from floors and machinery surfaces in working areas, two from an office hallway, and three from workers' hands (Table 2). All dust samples from processing areas were highly contaminated with lead (levels ranged from 3800 to 415,000 µg/sq ft); in comparison, guidelines for surface lead levels after residential lead abatement in the United States specify levels of 100 µg/sq ft for floors, 500 µg/sq ft for window sills, and 800 µg/sq ft for window wells (*8*). The highest values were detected in the lead oxide mixing area, where spillage of raw material was visible. Remedial measures were recommended to factory management.

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Editorial Note: Controlling workplace lead exposure is essential in reducing the incidence of occupational disease caused by lead; monitoring of BLLs among workers is a necessary component of a comprehensive control strategy. In the United States, occupational lead exposure is regulated according to the provisions of the OSHA inorganic lead standard, which mandates periodic exposure assessment and blood lead monitoring for workers exposed above the action level (30 $\mu g/m^3$) (*7*). Results of blood lead monitoring of workers are gathered by state agencies and compiled by CDC's National Institute for Occupational Safety and Health (NIOSH) (*6*).

Accurate blood lead analysis requires complex instrumentation and careful adherence to protocol; in many countries, the capacity of laboratories to reliably determine BLLs is limited. The findings in this report are the first to document reliable blood lead data reflecting occupational lead exposures in Armenia and establish the technical feasibility of sample collection at remote sites for transport to a laboratory appropriately equipped and certified to process the specimens. Although similar approaches

¶Airborne lead exposures, which are generally the major source of occupational exposure, were not measured in this survey because of technical limitations.

TABLE 2. Dust wipe lead levels at the crystal factory, by site — Armenia, 1993

Site	No. samples	Range of lead levels (µg/sq ft)*
Lead oxide mixing area	4	66,000–415,000
Quartz sand mixing area	4	5,200– 19,800
Potassium nitrate mixing area	2	11,000– 15,500
Glass casting area	2	7,000– 13,700
Artistic engraving	3	10,800– 18,200
Regular engraving	4	3,800– 51,400
Office hallway floor	2	606– 879
Hands of casting workers	3	288– 852†

*No Occupational Safety and Health Administration standard regulates the amount of lead in surface dust. For comparison, recommended clearance levels for lead on surfaces after residential lead abatement in the United States are 100 µg/sq ft for floors, 500 µg/sq ft for window sills, and 800 µg/sq ft for window wells (*8*).
†µg per hand.

Occupational Blood Lead Survey — Continued

may be applicable to the study of occupational lead exposures (and similar occupational health problems) in developing countries, economic constraints and other factors may limit the use of such approaches for routine surveillance.

Because of the small numbers of facilities and workers studied, voluntary participation, and the methods used for selection, the findings in this report are unlikely to be representative of working conditions in Armenia. However, they document conditions in the worksites studied.

Although these findings suggest that some lead-using worksites in Armenia are not associated with excessive risks for exposure, evidence of high risk was detected in one factory. Specifically, the BLLs in workers and environmental monitoring data from the lead crystal manufacturer indicate the need for improvement of conditions (including engineering controls, housekeeping, work practices, and environmental and employee monitoring) at this factory. The high BLLs measured in workers at this factory probably resulted from a combination of high lead levels in dust and presumed high airborne lead concentrations. Such exposures most likely occur in other lead-using industries in Armenia, particularly as a result of ongoing economic and social change. For example, the current severe electricity shortage and other factors reportedly have prompted the establishment of small, unregulated battery shops, in which environmental controls and worker protections probably are inadequate.

Systematic surveys of lead-using facilities—especially in industries associated with high risks for excessive lead exposures—are necessary to characterize lead hazards and to identify workers at risk for lead toxicity. In Armenia and in some other countries, such efforts can be facilitated by establishing local capacity to conduct more complete exposure assessments (including air monitoring) and accurate laboratory analyses of routine blood lead and environmental lead samples.

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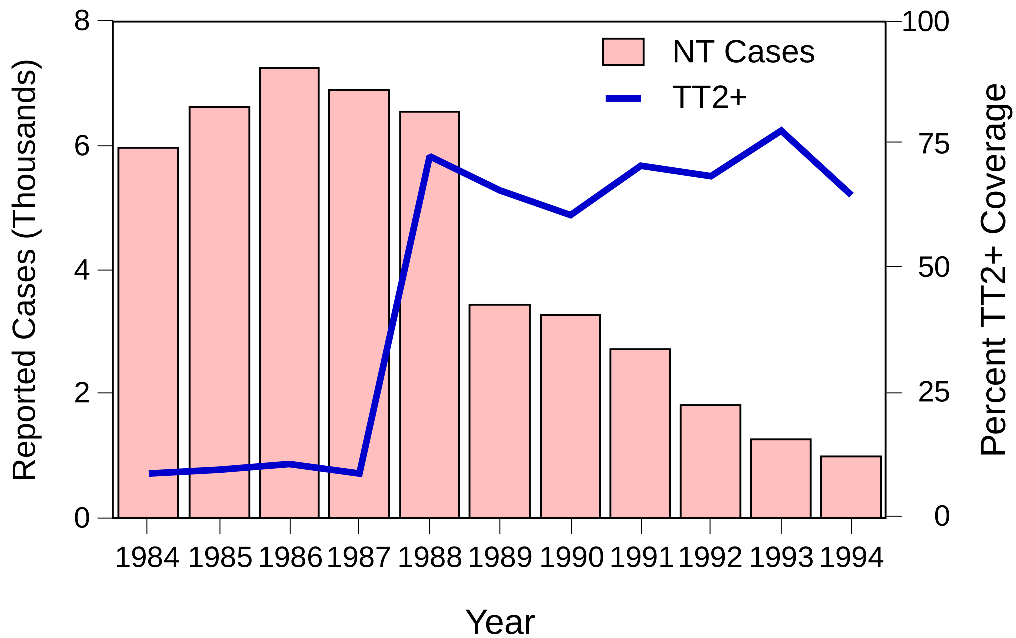
Progress Toward Elimination of Neonatal Tetanus — Egypt, 1988–1994

Neonatal tetanus (NT) is a leading cause of neonatal mortality in many parts of the world and, of vaccine-preventable diseases, is second only to measles worldwide as a cause of childhood mortality (*1*). In Egypt, although tetanus toxoid (TT) vaccination for pregnant women was introduced in 1973, a nationwide survey in 1986 estimated that the NT mortality risk was seven per 1000 live births (*2*); in 1987, only 9% of pregnant women received at least two doses of TT (TT2+) through the routine vaccination program. Consequently, in 1988, the Ministry of Health initiated an aggressive NT elimination program; this program included 1) annual nationwide TT vaccination campaigns during 1988–1993 targeting pregnant women, and 2) supplementary campaigns during 1992–1994 targeting all women of childbearing age in districts where NT rates were highest. This report describes efforts to eliminate NT in Egypt that resulted in an 85% decline in reported cases during 1988–1994.

The annual nationwide TT vaccination campaigns from 1988 through 1993 targeted pregnant women in two rounds 1 month apart during November and December of each year. During each week-long campaign, mass media, community contacts, and mosque announcements were used in all 26 governorates of Egypt to increase public awareness of the need for TT vaccination during pregnancy. During these campaigns, nationwide TT2+ coverage increased from 9% in 1987 (before the vaccination campaigns began) to 73% in 1988 (the first year of the vaccination campaigns) (Figure 1). The increase in TT vaccination activity was sustained by the routine TT vaccination program throughout the year; the mean number of TT doses administered during noncampaign months increased from approximately 30,000 per month during 1987 and 1988 to 78,000 per month during 1989 and 1990.

FIGURE 1. Number of reported cases of neonatal tetanus (NT) and percentage of pregnant women receiving at least two doses of tetanus toxoid (TT2+), by year — Egypt, 1984–1994



Neonatal Tetanus — Continued

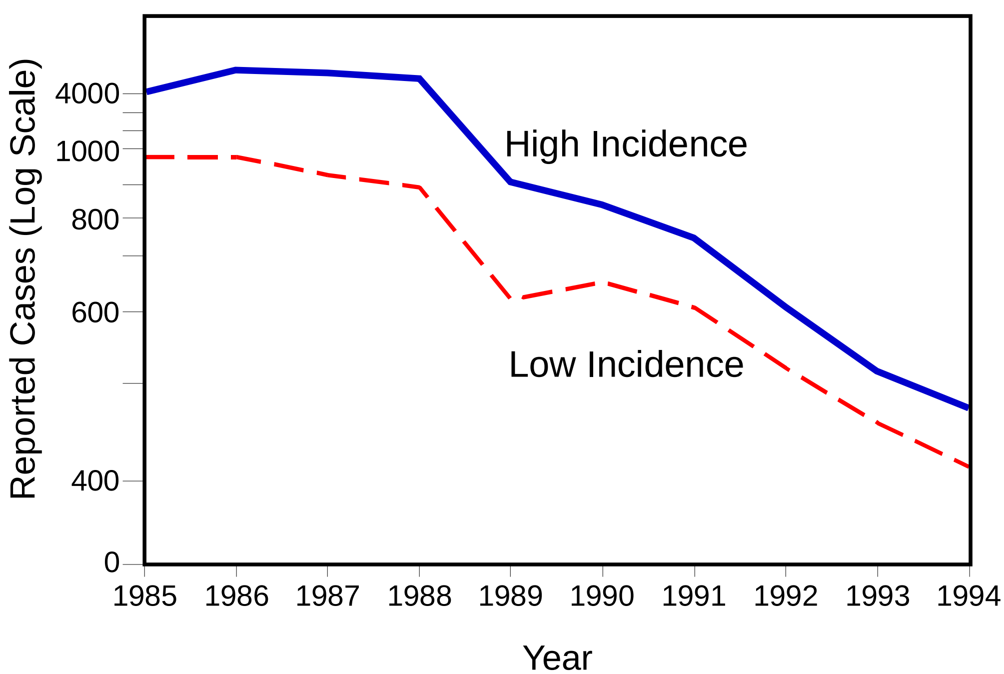
Reported NT cases declined from 6554 cases in 1988 to 3448 cases in 1989. Despite a sustained reduction in the national reported NT incidence from 3.7 cases per 1000 live births (LB) in 1987 to 1.6 cases per 1000 LB in 1991, the governorates with the highest reported NT incidence before the campaigns (>4 NT cases per 1000 LB) accounted for a disproportionate percentage of cases during 1988–1991 (Figure 2). For example, in 1991, 66% of NT cases were reported from eight governorates that contained only 32% of the total population.

To improve coverage in these high-incidence governorates, the target population for both routine vaccination and the annual TT vaccination campaigns during 1992–1993 was expanded from pregnant women to include all married women of childbearing age in these governorates. Subsequently, the number of TT doses administered per campaign increased from an average of 485,000 doses in 1990 and 1991 (before the target group was expanded) to 873,000 doses in 1992 and 1993. Although the eight governorates reported 58% of the total NT cases in 1994, the reported incidence of NT was <1.5 cases per 1000 LB in all eight governorates and <1 case per 1000 LB in six governorates.

Because of the difficulty in reaching the highest incidence populations with both routine TT vaccination services and vaccination campaigns, in 1992 a "high-risk" NT elimination strategy was introduced. High-risk districts in the 26 governorates* were those with an annual reported NT rate of ≥1 case per 1000 LB; these districts were targeted for supplementary vaccination activities in addition to the annual TT vaccination campaigns. During 1992–1994, two rounds of TT vaccination were conducted

*The total number of districts in Egypt were 214 in 1992, 218 in 1993, and 223 in 1994.

FIGURE 2. Number of reported cases of neonatal tetanus (NT), by incidence rate in the reporting governorate* and year — Egypt, 1985–1994



*Governorates with reported NT rates of >4 cases per 1000 live births in 1988 were classified as high incidence (n=eight of the 26 governorates).

Neonatal Tetanus — Continued

1 month apart using mobile teams, supplementary vaccination sites, and intensive news media promotion of vaccination to reach all women of childbearing age. The number of supplementary vaccination activities increased from 12 in 1992 to 24 in 1993 and to 40 in 1994.

To improve assessment of the impact of the NT elimination program, ongoing efforts have been made to strengthen NT surveillance. In 1992, standardized NT case investigation forms and procedures were instituted nationwide, a daily telephonic notification system was introduced, and surveillance and vaccination data were analyzed at the national level by district. Even though surveillance was enhanced, the reported number of NT cases in Egypt decreased 63% from 2728 cases in 1991 (before the enhanced surveillance was established) (1.6 cases per 1000 LB) to 993 cases in 1994 (0.6 cases per 1000 LB). Similarly, the number of districts reporting ≥1 NT cases per 1000 LB declined from 80 in 1992 (the first year for which district-level data were available) to 38 in 1994.

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Editorial Note: In 1994, an estimated 490,000 neonatal deaths worldwide were caused by NT[†]; however, 730,000 neonatal deaths were prevented in developing countries through vaccination of mothers with TT2+ or through clean delivery and cord-care practices (*3*). In 1989, the World Health Organization (WHO) adopted a resolution to eliminate NT worldwide (*4*), and in 1993—when the estimated global NT death rate was 6.5 cases per 1000 LB and global TT2+ coverage among pregnant women was 45%—WHO defined the elimination of NT as a reduction in incidence to <1 case per 1000 LB in each health district of every country (*1,5*). To achieve and maintain NT elimination, ≥80% of infants need to be protected at birth through vaccination of their mothers with TT2+ or through clean delivery and cord-care practices (*4*). In addition, effective surveillance is necessary to enable detection and timely investigation of cases.

Efforts to eliminate NT in Egypt reflect the experiences of other countries with a high incidence of NT and illustrate options for improving these efforts (*6*). For example, the annual nationwide TT vaccination campaigns resulted in rapid increases in national TT2+ coverage, while improvements in surveillance indicated that NT cases were clustered in areas with limited access to clean childbirth and vaccination services. This persistent clustering of cases required targeted vaccination activities in high-risk districts to reach persons who consistently were missed by both routine vaccination services and the national TT campaigns. Efforts to provide supplementary TT vaccination at the district level have been implemented successfully in other countries (e.g., Indonesia and Thailand) (*7,8*). Because of the mortality caused by NT in developing countries and the difficulty in reaching "high risk" areas that are consistently missed by the routine TT vaccination program, specific strategies guided by surveillance data should be designed and implemented to reach those populations and geographic areas associated with the highest risks for NT.

[†]Estimates of NT deaths are derived 1) from national mortality data, 2) from NT death rates from NT surveys, or 3) in the absence of surveys, by assuming that rates are similar for countries with similar socioeconomic conditions, then adjusting for TT coverage levels.

Neonatal Tetanus — Continued

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Notice to Readers

Vaccines for International Travel **Satellite Videoconference**

Vaccines for International Travel, a satellite videoconference, will be broadcast live to sites nationwide over the Public Health Training Network from CDC in Atlanta on March 8, 1996, from 12 noon until 3:30 p.m. eastern standard time. Toll-free telephone lines will be available for participants to ask questions about travel vaccination. The course is aimed at persons who are responsible for providing health care to international travelers. Additional information is available from state immunization coordiators or from Pam Reese, University of North Carolina School of Public Health, telephone (919) 966-1104; e-mail pam_reese@unc.edu.

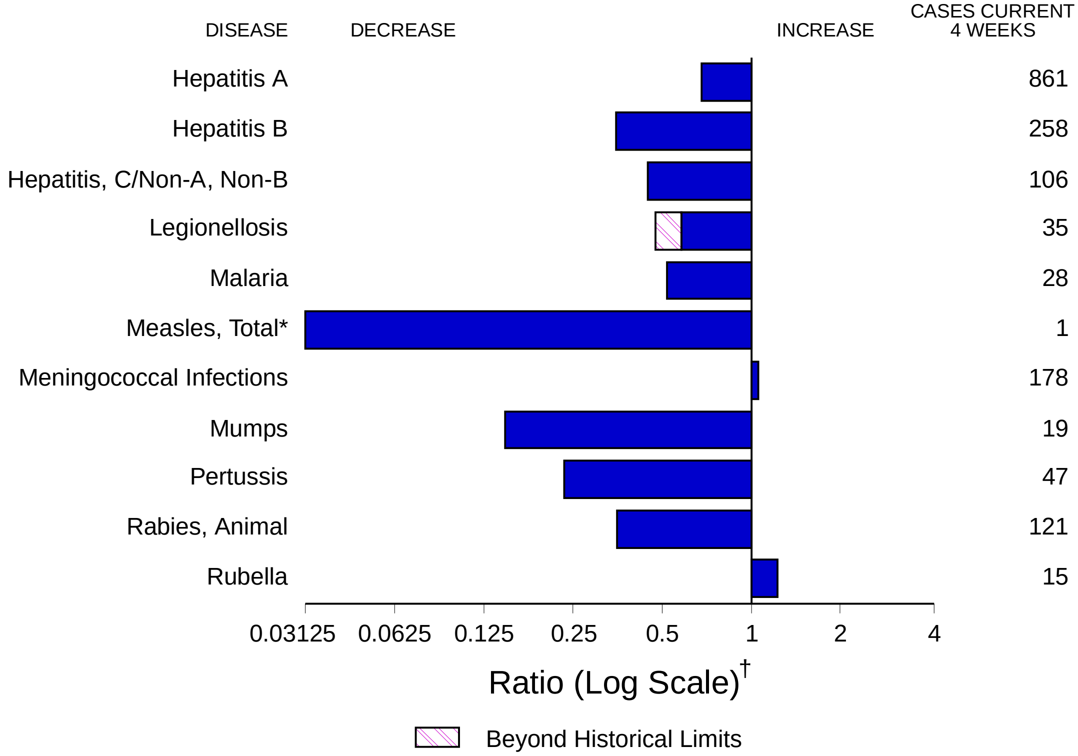
Notice to Readers

Course in Hospital Epidemiology

CDC, the Society for Healthcare Epidemiology of America (SHEA), and the American Hospital Association will cosponsor a hospital epidemiology training course May 18–21, 1996, in New York City. The course, designed for infectious disease fellows, new hospital epidemiologists, and infection-control practitioners, provides hands-on exercises to improve skills in detection, investigation, and control of epidemiologic problems encountered in the hospital setting and lectures and seminars on fundamental aspects of hospital epidemiology.

Additional information is available from SHEA Meetings Department, 875 Kings Highway, Suite 200, Woodbury, NJ 08095-3172; telephone (609) 845-1720; fax (609) 853-0411.

FIGURE I. Selected notifiable disease reports, comparison of 4-week totals ending January 27, 1996, with historical data — United States



*The large apparent decrease in the number of reported cases of measles (total) reflects dramatic fluctuations in the historical baseline. (Ratio [log scale] for week 4 measles [total] is .0077922.)
†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 selected notifiable diseases, United States, cumulative, week ending January 27, 1996 (4th Week)

	Cum. 1996		Cum. 1996
Anthrax	-	HIV infection, pediatric*§	-
Brucellosis	3	Plague	-
Cholera	-	Poliomyelitis, paralytic¶	-
Congenital rubella syndrome	-	Psittacosis	1
Cryptosporidiosis*	44	Rabies, human	-
Diphtheria	-	Rocky Mountain spotted fever (RMSF)	1
Encephalitis: California*	-	Streptococcal toxic-shock syndrome*	-
eastern equine*	-	Syphilis, congenital**	-
St. Louis*	-	Tetanus	-
western equine*	-	Toxic-shock syndrome	7
Hansen Disease	3	Trichinosis	2
Hantavirus pulmonary syndrome*†	-	Typhoid fever	6

*Not notifiable in all states.
†Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§Updated monthly to the Division of HIV/AIDS Prevention, National Center for Prevention Services (NCPS).
¶No suspected cases of polio reported for 1996.
**Updated quarterly from reports to the Division of STD Prevention, NCPS. First quarter 1996 is not yet available.
-: no reported cases

TABLE II. Cases of selected notifiable diseases, United States, weeks ending January 27, 1996, and January 28, 1995 (4th Week)

Reporting Area	AIDS*		Chlamydia	*Escherichia coli* O157:H7 NETSS†	*Escherichia coli* O157:H7 PHLIS§	Gonorrhea		Hepatitis C/NA,NB		Legionellosis	
	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995
UNITED STATES	-	5,082	6,900	37	7	18,922	28,428	158	145	46	78
NEW ENGLAND	-	290	670	8	1	452	349	-	-	2	-
Maine	-	-	-	1	-	3	3	-	-	-	-
N.H.	-	5	45	1	1	7	7	-	-	-	-
Vt.	-	-	-	-	-	11	2	-	-	-	-
Mass.	-	191	483	4	-	192	279	-	-	2	-
R.I.	-	9	142	1	-	44	38	-	-	-	-
Conn.	-	85	-	1	-	195	20	-	-	N	N
MID. ATLANTIC	-	1,511	836	1	-	701	2,956	11	18	3	10
Upstate N.Y.	-	39	N	-	-	-	173	9	5	-	1
N.Y. City	-	909	-	-	-	-	1,054	1	-	-	1
N.J.	-	334	836	-	-	245	373	-	8	-	4
Pa.	-	229	-	N	-	456	1,356	1	5	3	4
E.N. CENTRAL	-	451	1,747	5	1	3,813	6,515	22	24	21	34
Ohio	-	31	-	3	-	394	2,205	1	1	11	14
Ind.	-	37	-	1	-	621	590	-	-	4	7
Ill.	-	243	-	1	-	1,517	1,316	-	9	-	6
Mich.	-	134	1,667	-	-	1,210	1,812	21	14	6	1
Wis.	-	6	80	N	1	71	592	-	-	-	6
W.N. CENTRAL	-	100	677	6	1	811	1,694	15	6	1	8
Minn.	-	25	-	2	1	-	248	-	-	-	-
Iowa	-	4	-	1	-	-	85	15	1	1	2
Mo.	-	50	623	-	-	592	1,027	-	2	-	6
N. Dak.	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	54	-	-	6	12	-	1	-	-
Nebr.	-	12	-	-	-	-	59	-	1	-	-
Kans.	-	9	-	3	-	213	263	-	1	-	-
S. ATLANTIC	-	1,201	1,654	5	-	9,357	9,227	5	14	7	15
Del.	-	30	-	-	-	124	175	-	-	-	-
Md.	-	172	215	N	-	926	1,344	-	-	2	4
D.C.	-	36	N	-	-	278	528	-	-	-	-
Va.	-	130	832	N	-	604	793	-	-	1	1
W. Va.	-	4	-	N	-	45	73	3	5	1	1
N.C.	-	4	-	2	-	1,210	2,036	1	6	3	5
S.C.	-	73	-	1	-	3,695	885	1	1	-	-
Ga.	-	234	-	-	-	2,012	1,868	-	-	-	4
Fla.	-	518	607	-	-	463	1,525	-	2	-	-
E.S. CENTRAL	-	93	354	2	-	1,931	3,523	-	27	6	3
Ky.	-	7	-	-	-	328	435	-	1	2	1
Tenn.	-	34	349	N	-	440	507	-	26	2	1
Ala.	-	34	-	1	-	1,107	1,899	-	-	-	-
Miss.	-	18	5	1	-	56	682	-	-	2	1
W.S. CENTRAL	-	368	-	2	3	358	1,558	44	3	-	-
Ark.	-	20	-	1	-	14	238	-	-	-	-
La.	-	90	-	N	3	344	1,062	1	-	-	-
Okla.	-	35	-	1	-	-	44	41	3	-	-
Tex.	-	223	-	-	-	-	214	2	-	-	-
MOUNTAIN	-	162	206	4	-	404	639	39	12	2	4
Mont.	-	-	-	-	-	2	8	2	2	-	1
Idaho	-	5	87	1	-	5	5	8	1	-	-
Wyo.	-	1	51	-	-	5	4	10	4	-	-
Colo.	-	74	-	2	-	164	231	3	3	2	-
N. Mex.	-	7	-	-	-	81	80	10	-	-	-
Ariz.	-	36	-	N	-	121	188	3	2	-	1
Utah	-	5	68	-	-	26	11	3	-	-	-
Nev.	-	34	-	1	-	-	112	-	-	-	2
PACIFIC	-	906	756	4	1	1,095	1,967	22	41	4	4
Wash.	-	90	695	-	1	219	168	-	2	-	-
Oreg.	-	52	-	3	-	9	29	2	3	-	-
Calif.	-	706	-	-	-	809	1,647	19	29	4	2
Alaska	-	18	N	-	-	40	84	1	-	-	-
Hawaii	-	40	61	N	-	18	39	-	7	-	2
Guam	-	-	-	N	-	-	6	-	-	-	-
P.R.	-	62	N	N	U	5	47	2	1	-	-
V.I.	-	-	N	N	U	-	-	-	-	-	-
Amer. Samoa	-	-	-	N	U	-	3	-	-	-	-
C.N.M.I.	-	-	N	N	U	-	-	-	-	-	-

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

*Updated monthly to the Division of HIV/AIDS Prevention, National Center for Prevention Services, last update December 15, 1995.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending January 27, 1996, and January 28, 1995 (4th Week)

Reporting Area	Lyme Disease		Malaria		Meningococcal Disease		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995
UNITED STATES	97	215	40	56	250	226	578	1,165	455	737	164	409
NEW ENGLAND	7	-	2	2	13	13	11	12	16	8	28	117
Maine	-	-	-	-	3	2	-	-	4	-	-	-
N.H.	-	-	-	-	1	6	-	-	-	-	1	17
Vt.	-	-	-	-	1	-	-	-	-	-	1	15
Mass.	4	-	2	-	2	3	6	6	3	1	10	61
R.I.	3	-	-	2	-	-	-	-	4	2	5	-
Conn.	-	-	-	-	6	2	5	6	5	5	11	24
MID. ATLANTIC	78	164	1	13	5	26	13	104	30	54	25	110
Upstate N.Y.	1	12	-	2	2	10	-	5	-	5	17	67
N.Y. City	53	27	1	5	1	4	5	80	7	11	-	-
N.J.	-	34	-	5	-	8	4	9	10	9	6	19
Pa.	24	91	-	1	2	4	4	10	13	29	2	24
E.N. CENTRAL	1	5	3	13	37	41	141	194	150	97	2	1
Ohio	1	3	-	-	25	10	63	64	15	24	1	1
Ind.	-	1	-	-	3	9	25	11	2	3	-	-
Ill.	-	1	-	10	7	14	44	68	122	50	-	-
Mich.	-	-	3	1	2	4	5	26	11	19	-	-
Wis.	-	-	-	2	-	4	4	25	-	1	1	-
W.N. CENTRAL	4	4	-	1	22	9	16	61	11	21	13	23
Minn.	-	-	-	-	-	-	-	3	2	-	1	-
Iowa	4	-	-	-	10	3	-	4	3	6	12	7
Mo.	-	2	-	1	4	4	16	54	3	7	-	4
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	2
S. Dak.	-	-	-	-	2	-	-	-	-	-	-	7
Nebr.	-	-	-	-	3	1	-	-	-	-	-	-
Kans.	-	2	-	-	3	1	-	-	3	8	-	3
S. ATLANTIC	5	37	11	10	39	38	169	292	23	94	84	114
Del.	-	4	2	-	1	-	4	1	-	2	1	7
Md.	5	25	2	3	6	-	22	28	3	42	32	29
D.C.	-	-	1	-	2	1	7	13	-	9	-	-
Va.	-	-	3	3	3	4	31	37	-	-	24	19
W. Va.	-	4	-	-	-	-	-	-	4	8	1	4
N.C.	-	3	2	1	6	6	48	86	11	6	11	26
S.C.	-	1	-	-	9	2	33	55	5	10	4	10
Ga.	-	-	1	1	8	13	14	42	-	17	11	14
Fla.	-	-	-	2	4	12	10	30	-	-	-	5
E.S. CENTRAL	-	1	-	1	18	7	180	292	52	50	3	14
Ky.	-	-	-	-	6	1	19	18	5	5	-	2
Tenn.	-	-	-	-	-	-	38	45	-	18	-	6
Ala.	-	-	-	1	10	4	44	54	19	27	3	6
Miss.	-	1	-	-	2	2	79	175	28	-	-	-
W.S. CENTRAL	-	-	-	-	28	10	41	145	9	7	1	11
Ark.	-	-	-	-	4	-	20	43	-	-	-	8
La.	-	-	-	-	6	1	21	82	-	-	-	1
Okla.	-	-	-	-	2	1	-	6	9	7	1	2
Tex.	-	-	-	-	16	8	-	14	-	-	-	-
MOUNTAIN	1	1	5	4	23	19	6	17	9	16	2	5
Mont.	-	-	-	1	-	-	-	-	-	-	-	3
Idaho	-	-	-	-	3	2	-	-	1	1	-	-
Wyo.	1	-	-	-	-	-	-	-	-	-	2	-
Colo.	-	-	3	1	3	7	5	7	-	-	-	-
N. Mex.	-	-	1	2	7	4	-	4	1	4	-	-
Ariz.	-	-	-	-	8	6	1	2	7	11	-	2
Utah	-	-	1	-	2	-	-	1	-	-	-	-
Nev.	-	1	-	-	-	-	-	3	-	-	-	-
PACIFIC	1	3	18	12	65	63	1	48	155	390	6	14
Wash.	-	-	-	-	3	2	-	1	14	22	-	-
Oreg.	1	-	2	1	16	9	1	1	5	2	-	-
Calif.	-	3	16	10	44	51	-	46	124	346	4	14
Alaska	-	-	-	1	1	-	-	-	6	7	2	-
Hawaii	-	-	-	-	1	1	-	-	6	13	-	-
Guam	-	-	-	-	-	-	-	-	-	4	-	-
P.R.	-	-	-	-	-	1	10	17	-	-	1	6
V.I.	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	1	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-

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

TABLE III. Cases of selected notifiable diseases preventable by vaccination, United States, weeks ending January 27, 1996, and January 28, 1995 (4th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (viral), by type				Measles (Rubeola)			
			A		B		Indigenous		Imported[†]	
	Cum. 1996*	Cum. 1995	Cum. 1996	Cum. 1995	Cum. 1996	Cum. 1995	1996	Cum. 1996	1996	Cum. 1996
UNITED STATES	80	105	1,221	1,436	345	479	-	-	-	1
NEW ENGLAND	5	1	19	10	2	16	-	-	-	-
Maine	-	-	2	3	-	1	-	-	-	-
N.H.	4	-	1	-	-	-	-	-	-	-
Vt.	-	1	-	-	-	-	-	-	-	-
Mass.	1	-	9	2	1	2	-	-	-	-
R.I.	-	-	2	2	1	2	-	-	-	-
Conn.	-	-	5	3	-	11	-	-	-	-
MID. ATLANTIC	6	11	66	56	44	36	-	-	-	-
Upstate N.Y.	3	2	2	6	6	6	-	-	-	-
N.Y. City	1	1	56	16	32	7	-	-	-	-
N.J.	-	3	-	17	-	14	-	-	-	-
Pa.	2	5	8	17	6	9	-	-	-	-
E.N. CENTRAL	13	30	98	286	39	72	-	-	-	-
Ohio	13	18	66	146	9	5	-	-	-	-
Ind.	-	2	9	20	1	12	-	-	-	-
Ill.	-	9	-	68	2	24	-	-	-	-
Mich.	-	1	23	33	27	28	-	-	-	-
Wis.	-	-	-	19	-	3	-	-	-	-
W.N. CENTRAL	6	3	75	57	24	47	-	-	-	-
Minn.	-	-	-	3	-	-	-	-	-	-
Iowa	5	1	32	4	20	5	-	-	-	-
Mo.	1	2	22	44	1	40	-	-	-	-
N. Dak.	-	-	1	-	-	-	-	-	-	-
S. Dak.	-	-	6	-	-	-	-	-	-	-
Nebr.	-	-	4	2	-	2	-	-	-	-
Kans.	-	-	10	4	3	-	-	-	-	-
S. ATLANTIC	11	20	50	57	68	73	-	-	-	-
Del.	-	-	1	1	-	1	-	-	-	-
Md.	1	4	17	14	19	14	-	-	-	-
D.C.	-	-	-	1	1	6	-	-	-	-
Va.	-	3	2	19	4	12	-	-	-	-
W. Va.	-	-	2	2	3	5	-	-	-	-
N.C.	2	9	11	7	36	26	-	-	-	-
S.C.	-	-	6	1	4	1	-	-	-	-
Ga.	8	4	-	-	-	-	-	-	-	-
Fla.	-	-	11	12	1	8	-	-	-	-
E.S. CENTRAL	1	1	42	24	4	39	-	-	-	-
Ky.	-	-	4	7	-	10	-	-	-	-
Tenn.	-	-	-	6	-	23	-	-	-	-
Ala.	1	1	7	9	4	6	-	-	-	-
Miss.	-	-	31	2	-	-	-	-	-	-
W.S. CENTRAL	4	-	110	40	9	9	-	-	-	-
Ark.	-	-	33	-	2	-	-	-	-	-
La.	-	-	3	-	1	1	-	-	-	-
Okla.	4	-	60	29	6	7	-	-	-	-
Tex.	-	-	14	11	-	1	-	-	-	-
MOUNTAIN	7	9	211	222	64	34	-	-	-	-
Mont.	-	-	6	4	-	2	-	-	-	-
Idaho	1	-	37	21	10	2	-	-	-	-
Wyo.	-	-	1	3	-	-	-	-	-	-
Colo.	1	-	14	55	9	9	-	-	-	-
N. Mex.	2	2	45	75	25	12	-	-	-	-
Ariz.	1	6	28	32	6	5	-	-	-	-
Utah	1	-	63	21	8	-	-	-	-	-
Nev.	1	1	17	11	6	4	U	-	U	-
PACIFIC	27	30	550	684	91	153	-	-	-	1
Wash.	-	-	11	11	3	2	-	-	-	-
Oreg.	2	4	113	142	1	10	-	-	-	-
Calif.	24	25	419	519	87	139	-	-	-	-
Alaska	-	-	-	9	-	1	-	-	-	-
Hawaii	1	1	7	3	-	1	-	-	-	1
Guam	-	-	-	-	-	-	U	-	U	-
P.R.	-	-	11	-	8	3	-	-	-	-
V.I.	-	-	-	-	-	-	U	-	U	-
Amer. Samoa	-	-	-	1	-	-	U	-	U	-
C.N.M.I.	-	-	-	-	-	-	U	-	U	-

*Of 17 cases among children aged <5 years, serotype was reported for 5 and of those, 1 was type B.
[†]For imported measles, cases include only those resulting from importation from other countries.
N: Not notifiable U: Unavailable -: no reported cases

TABLE III. (Cont'd.) Cases of selected notifiable diseases preventable by vaccination, United States, weeks ending January 27, 1996, and January 28, 1995 (4th Week)

	Measles (Rubeola), cont'd. Total		Mumps			Pertussis			Rubella		
Reporting Area	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995	1996	Cum. 1996	Cum. 1995
UNITED STATES	1	20	5	29	53	17	45	188	2	11	6
NEW ENGLAND	-	2	-	-	-	4	7	10	2	2	-
Maine	-	-	-	-	-	1	1	5	-	-	-
N.H.	-	-	-	-	-	1	1	-	-	-	-
Vt.	-	-	-	-	-	-	1	2	-	-	-
Mass.	-	-	-	-	-	2	4	3	-	-	-
R.I.	-	2	-	-	-	-	-	-	-	-	-
Conn.	-	-	-	-	-	-	-	-	2	2	-
MID. ATLANTIC	-	-	1	1	2	3	3	8	-	-	-
Upstate N.Y.	-	-	1	1	2	3	3	3	-	-	-
N.Y. City	-	-	-	-	-	-	-	3	-	-	-
N.J.	-	-	-	-	-	-	-	2	-	-	-
Pa.	-	-	-	-	-	-	-	-	-	-	-
E.N. CENTRAL	-	-	2	11	12	-	4	17	-	-	-
Ohio	-	-	-	5	7	-	-	14	-	-	-
Ind.	-	-	-	-	-	-	-	-	-	-	-
Ill.	-	-	-	-	-	-	-	-	-	-	-
Mich.	-	-	2	6	5	-	4	2	-	-	-
Wis.	-	-	-	-	-	-	-	1	-	-	-
W.N. CENTRAL	-	-	2	2	7	-	-	9	-	-	-
Minn.	-	-	-	-	-	-	-	-	-	-	-
Iowa	-	-	-	-	1	-	-	1	-	-	-
Mo.	-	-	-	-	6	-	-	3	-	-	-
N. Dak.	-	-	2	2	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-
Kans.	-	-	-	-	-	-	-	5	-	-	-
S. ATLANTIC	-	-	-	1	6	4	6	32	-	-	-
Del.	-	-	-	-	-	-	-	1	-	-	-
Md.	-	-	-	-	1	4	4	-	-	-	-
D.C.	-	-	-	-	-	-	-	1	-	-	-
Va.	-	-	-	-	2	-	-	-	-	-	-
W. Va.	-	-	-	-	-	-	-	-	-	-	-
N.C.	-	-	-	-	3	-	-	30	-	-	-
S.C.	-	-	-	1	-	-	1	-	-	-	-
Ga.	-	-	-	-	-	-	1	-	-	-	-
Fla.	-	-	-	-	-	-	-	-	-	-	-
E.S. CENTRAL	-	-	-	1	3	-	1	1	-	-	-
Ky.	-	-	-	-	-	-	-	-	-	-	-
Tenn.	-	-	-	-	-	-	-	-	-	-	-
Ala.	-	-	-	1	2	-	1	1	-	-	-
Miss.	-	-	-	-	1	-	-	-	N	N	N
W.S. CENTRAL	-	-	-	1	1	-	1	-	-	-	-
Ark.	-	-	-	-	1	-	1	-	-	-	-
La.	-	-	-	1	-	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	-	-	-	-	-
Tex.	-	-	-	-	-	-	-	-	-	-	-
MOUNTAIN	-	18	-	6	2	3	10	92	-	-	-
Mont.	-	-	-	-	-	-	-	1	-	-	-
Idaho	-	-	-	-	-	-	-	32	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-
Colo.	-	15	-	-	-	-	-	14	-	-	-
N. Mex.	-	3	N	N	N	3	7	3	-	-	-
Ariz.	-	-	-	-	-	-	-	42	-	-	-
Utah	-	-	-	-	1	-	-	-	-	-	-
Nev.	-	-	U	6	1	U	3	-	U	-	-
PACIFIC	1	-	-	6	20	3	13	19	-	9	6
Wash.	-	-	-	-	1	1	1	-	-	-	-
Oreg.	-	-	N	N	N	2	12	-	-	-	-
Calif.	-	-	-	4	19	-	-	17	-	9	6
Alaska	-	-	-	-	-	-	-	-	-	-	-
Hawaii	1	-	-	2	-	-	-	2	-	-	-
Guam	-	-	U	-	-	U	-	-	U	-	-
P.R.	-	-	-	-	-	-	-	-	-	-	-
V.I.	-	-	U	-	-	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	-	-	U	-	-	U	-	-

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

TABLE IV. Deaths in 121 U.S. cities,* week ending January 27, 1996 (4th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	661	481	114	43	14	9	33
Boston, Mass.	190	128	41	7	8	6	2
Bridgeport, Conn.	52	37	13	1	1	-	-
Cambridge, Mass.	23	20	2	1	-	-	2
Fall River, Mass.	21	16	4	1	-	-	1
Hartford, Conn.	53	34	12	5	1	1	1
Lowell, Mass.	32	19	9	4	-	-	4
Lynn, Mass.	13	11	2	-	-	-	1
New Bedford, Mass.	25	21	1	2	1	-	3
New Haven, Conn.	34	22	6	5	1	-	-
Providence, R.I.	50	41	6	3	-	-	3
Somerville, Mass.	8	6	1	1	-	-	-
Springfield, Mass.	39	31	1	6	-	1	4
Waterbury, Conn.	52	43	7	2	-	-	7
Worcester, Mass.	69	52	9	5	2	1	5
MID. ATLANTIC	2,772	1,834	521	312	44	61	186
Albany, N.Y.	56	43	4	4	-	5	6
Allentown, Pa.	17	17	-	-	-	-	-
Buffalo, N.Y.	79	63	9	4	2	1	2
Camden, N.J.	32	21	7	2	1	1	2
Elizabeth, N.J.	25	17	7	1	-	-	1
Erie, Pa.§	48	32	10	5	1	-	6
Jersey City, N.J.	45	34	8	3	-	-	3
New York City, N.Y.	1,458	924	293	182	24	35	73
Newark, N.J.	80	36	14	21	3	6	7
Paterson, N.J.	36	17	12	6	1	-	-
Philadelphia, Pa.	400	256	81	47	9	7	23
Pittsburgh, Pa.§	77	52	12	9	2	2	8
Reading, Pa.	21	15	2	3	-	1	6
Rochester, N.Y.	123	90	23	8	1	1	17
Schenectady, N.Y.	30	23	4	3	-	-	3
Scranton, Pa.§	39	30	6	3	-	-	4
Syracuse, N.Y.	108	86	19	2	-	1	13
Trenton, N.J.	55	41	6	7	-	1	7
Utica, N.Y.	21	18	2	1	-	-	1
Yonkers, N.Y.	22	19	2	1	-	-	4
E.N. CENTRAL	2,124	1,417	392	184	61	69	151
Akron, Ohio	71	55	13	2	1	-	-
Canton, Ohio	43	38	2	-	2	1	4
Chicago, Ill.	529	295	109	73	15	36	48
Cincinnati, Ohio	61	43	12	2	2	2	6
Cleveland, Ohio	166	103	32	19	6	6	5
Columbus, Ohio	175	130	22	13	3	7	15
Dayton, Ohio	152	112	28	11	1	-	4
Detroit, Mich.	258	157	54	30	11	6	6
Evansville, Ind.	56	43	11	1	-	1	3
Fort Wayne, Ind.	58	46	9	2	1	-	4
Gary, Ind.	8	4	3	-	1	-	1
Grand Rapids, Mich.	64	42	9	5	2	6	11
Indianapolis, Ind.	U	U	U	U	U	U	U
Madison, Wis.	52	33	11	6	-	2	4
Milwaukee, Wis.	167	122	36	8	1	-	15
Peoria, Ill.	38	26	6	-	5	1	5
Rockford, Ill.	53	40	8	4	1	-	5
South Bend, Ind.	37	27	4	-	5	1	4
Toledo, Ohio	136	101	23	8	4	-	11
Youngstown, Ohio	U	U	U	U	U	U	U
W.N. CENTRAL	799	588	133	38	17	23	65
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	39	31	7	1	-	-	6
Kansas City, Kans.	52	35	14	2	-	1	4
Kansas City, Mo.	U	U	U	U	U	U	U
Lincoln, Nebr.	32	21	7	1	1	2	1
Minneapolis, Minn.	296	225	48	12	5	6	28
Omaha, Nebr.	104	77	16	1	4	6	9
St. Louis, Mo.	118	83	14	13	3	5	14
St. Paul, Minn.	69	53	11	3	2	-	2
Wichita, Kans.	89	63	16	5	2	3	1
S. ATLANTIC	1,275	824	249	151	31	20	82
Atlanta, Ga.	220	139	44	29	3	5	7
Baltimore, Md.	147	84	38	17	5	3	19
Charlotte, N.C.	54	41	5	6	2	-	2
Jacksonville, Fla.	175	118	35	15	4	3	12
Miami, Fla.	115	68	25	20	2	-	-
Norfolk, Va.	72	40	19	8	4	1	5
Richmond, Va.	U	U	U	U	U	U	U
Savannah, Ga.	84	61	12	9	2	-	8
St. Petersburg, Fla.	73	56	12	3	-	2	1
Tampa, Fla.	174	123	29	16	3	3	23
Washington, D.C.	149	86	26	28	6	3	5
Wilmington, Del.	12	8	4	-	-	-	-
E.S. CENTRAL	1,085	735	212	94	26	16	72
Birmingham, Ala.	168	98	43	15	5	5	9
Chattanooga, Tenn.	111	76	22	9	2	2	8
Knoxville, Tenn.	103	67	19	11	2	4	12
Lexington, Ky.	64	45	14	5	-	-	6
Memphis, Tenn.	255	176	46	27	6	-	-
Mobile, Ala.	118	93	12	8	3	2	15
Montgomery, Ala.	82	60	16	4	1	1	6
Nashville, Tenn.	184	120	40	15	7	2	16
W.S. CENTRAL	1,863	1,271	308	187	53	43	142
Austin, Tex.	110	68	22	16	2	2	13
Baton Rouge, La.	58	34	11	8	5	-	1
Corpus Christi, Tex.	97	76	13	4	-	4	5
Dallas, Tex.	245	153	46	29	14	3	6
El Paso, Tex.	114	93	12	6	1	2	8
Ft. Worth, Tex.	171	108	34	16	8	5	24
Houston, Tex.	483	306	87	64	11	14	49
Little Rock, Ark.	86	62	11	8	2	3	2
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	282	213	38	23	3	5	15
Shreveport, La.	70	48	14	3	4	1	6
Tulsa, Okla.	147	110	20	10	3	4	13
MOUNTAIN	1,006	684	167	99	33	23	99
Albuquerque, N.M.	125	79	23	19	3	1	3
Colo. Springs, Colo.	59	39	11	4	3	2	5
Denver, Colo.	116	70	23	19	1	3	12
Las Vegas, Nev.	169	112	36	16	4	1	16
Ogden, Utah	24	18	3	-	2	1	3
Phoenix, Ariz.	234	168	26	23	11	6	31
Pueblo, Colo.	29	24	3	-	1	1	2
Salt Lake City, Utah	96	56	20	12	2	6	9
Tucson, Ariz.	154	118	22	6	6	2	18
PACIFIC	1,576	1,123	259	120	38	34	196
Berkeley, Calif.	20	13	4	2	-	1	4
Fresno, Calif.	107	68	17	8	7	6	16
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	93	72	16	3	-	1	11
Long Beach, Calif.	91	73	8	5	4	1	10
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	U	U	U	U	U	U	U
Portland, Oreg.	151	101	24	17	7	2	17
Sacramento, Calif.	183	132	37	7	3	4	36
San Diego, Calif.	219	162	24	25	3	5	44
San Francisco, Calif.	146	88	33	21	1	3	14
San Jose, Calif.	209	158	29	12	7	3	24
Santa Cruz, Calif.	32	28	2	1	1	-	6
Seattle, Wash.	162	114	31	12	4	1	4
Spokane, Wash.	67	45	15	4	1	2	4
Tacoma, Wash.	96	69	19	3	-	5	6
TOTAL	13,161¶	8,957	2,355	1,228	317	298	1,026

*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 -: no reported cases

Monthly Immunization Table

To track progress toward achieving the goals of the Childhood Immunization Initiative (CII), CDC publishes monthly a tabular summary of the number of cases of all diseases preventable by routine childhood vaccination reported during the previous month and year-to-date (provisional data). In addition, the table compares provisional data with final data for the previous year and highlights the number of reported cases among children aged <5 years, who are the primary focus of CII. Data in the table are reported through the National Electronic Telecommunications System for Surveillance (NETSS).

Number of reported cases of diseases preventable by routine childhood vaccination — United States, December 1994 and 1994–1995*

Disease	No. cases, December 1995	Total cases January–December 1994	Total cases January–December 1995	No. cases among children aged <5 years† January–December 1994	No. cases among children aged <5 years† January–December 1995
Congenital rubella syndrome	1	**7**	**7**	7	6
Diphtheria	0	**2**	**0**	1	0
Haemophilus influenzae§	99	**1,174**	**1,176**	329	271
Hepatitis B¶	1196	**12,517**	**10,176**	128	81
Measles	8	**963**	**294**	246	107
Mumps	85	**1,537**	**850**	250	153
Pertussis	611	**4,617**	**4,509**	2,477	2,445
Poliomyelitis, paralytic**	0	**1**	**0**	1	0
Rubella	7	**227**	**149**	28	19
Tetanus	6	**51**	**37**	0	2

*Data for 1994 are final, and for 1995 are provisional.
†For 1994 and 1995, age data were available for ≥93% cases.
§Invasive disease; *H. influenzae* serotype is not routinely reported to the National Notifiable Diseases Surveillance System. Of 271 cases among children aged <5 years, serotype was reported for 63 cases, and of those, 38 were type b, the only serotype of *H. influenzae* preventable by vaccination.
¶Because most hepatitis B virus infections among infants and children aged <5 years are asymptomatic (although likely to become chronic), acute disease surveillance does not reflect the incidence of this problem in this age group or the effectiveness of hepatitis B vaccination in infants.
**One case with onset in July 1994 has been confirmed; this case was vaccine-associated. An additional six suspected cases are under investigation. In 1993, three of 10 suspected cases were confirmed; two of the confirmed cases were vaccine-associated, and one was imported. The imported case occurred in a 2-year-old Nigerian child brought to the United States for care of his paralytic illness; no poliovirus was isolated from the child.

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