CENTERS FOR DISEASE CONTROL

July 17, 1987 / Vol. 36 / No. 27

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

433 Use of Seat Belts – DeKalb County, Georgia, 1986
437 Underreporting of Alcohol-Related Mortality on Death Certificates of Young U.S. Army Veterans
440 Multistate Outbreak of *Shigella sonnei* Gastroenteritis – United States
449 Shigellosis – North Carolina
450 Arboviral Infections of the Central Nervous System – United States, 1986

Perspectives in Disease Prevention and Health Promotion

Use of Seat Belts – DeKalb County, Georgia, 1986

Injuries associated with motor vehicle collisions are the fourth leading cause of death in the United States and the third leading cause of years of potential life lost (*1,2*). The use of seat belts has been shown to reduce the number and severity of such injuries (*3-5*).

To develop local intervention strategies for increasing the use of seat belts in DeKalb County, Georgia (one of several metropolitan Atlanta counties), the DeKalb County Department of Health, the Georgia Department of Human Resources, and CDC conducted two surveys in July 1986. The first was a telephone survey of drivers to determine attitudes regarding the use of seat belts, and the second was an observational survey of automobile occupants to estimate the prevalence of seat-belt use.

Telephone Survey. In the random-digit-dialing telephone survey, the sampling frame included all phone numbers with DeKalb County prefixes. Numbers were selected and called up to two times on the evening of the survey. Interviews were conducted only if a licensed driver (≥16 years of age) was available and if the household was a private residence. Interviewers submitted disposition sheets for 2,196 calls attempted. Of these, 423 (19%) were eligible for inclusion. An additional 1,230 (56%) numbers were ineligible (e.g., business phones), and no one answered (or line busy) at 543 (25%) numbers. Of the 423 eligible residents contacted, 278 completed the interviews. Results from an additional 59 completed interviews for which call disposition sheets were not submitted were also included in the analysis.

To determine the characteristics of persons not reached in the original survey, interviewers later called up to 10 times a random subsample of 120 nonrespondent numbers; 90 (75%) of these numbers were ineligible. Of the 30 eligible residents contacted, 22 completed interviews. Demographic characteristics of the respondents completing interviews were similar in the two surveys. In comparison with data from the U.S. Bureau of the Census, females were overrepresented (61% vs. 53%) in the original survey, but the median age and racial distributions were similar.

For analysis, failure to use seat belts was defined as a respondent's report that he or she used seat belts sometimes, seldom, or never (*3*). Overall, 38% (127/337) of respondents did not use seat belts. The proportion of those not using seat belts was higher among males (40% vs. 36%), nonwhites (49% vs. 34%), and persons with ≤12

Seat Belts – Continued

years of education (45% vs. 33%). Failure to use seat belts was reported by 44% of persons 16-29 years of age, 34% of those 30-59 years of age, and 40% of those >59 years of age. After adjustment was made for the demographic variables, nonwhites were still more likely than whites not to use seat belts (Table 1). Usage rates varied little by daily number of miles driven or presence of children <4 years of age in the respondent's household.

Attitudes regarding use of seat belts are shown in Table 2. Persons who used seat belts were more likely to favor a mandatory-use law than those who did not use seat belts (79% vs. 53%). More users (94%) than nonusers (75%) recognized that wearing a seat belt decreases the risk of injury in a motor vehicle collision.

Reasons cited for failing to use seat belts included travelling a short distance (28%), discomfort (23%), fear of entrapment (13%), not necessary (9%), difficult to wear (6%), and other (21%).

TABLE 1. Characteristics associated with failure to use seat belts* — DeKalb County, Georgia, July 1986

	Telephone Survey				Observational Survey			
	Nonuse				Nonuse			
Characteristic	**No.**	**(%)**	**Adjusted POR†**	**(95% CI§)**	**No.**	**(%)**	**Adjusted POR†**	**(95% CI§)**
Sex								
Female	75	(36)	1.0	¶	603	(65)	1.0	¶
Male	52	(40)	1.4	(0.8,2.2)	915	(74)	1.2	(1.0,1.5)
Age (years)								
16-29	44	(44)	1.3	(0.8,2.2)	429	(73)	1.2	(1.0,1.5)
30-59	58	(34)	1.0	¶	967	(69)	1.0	¶
>59	25	(40)	1.4	(0.8,2.7)	123	(76)	1.7	(1.1,2.4)
Race								
White	85	(34)	1.0	¶	1,089	(66)	1.0	¶
Nonwhite	42	(49)	1.8	(1.1,3.1)	430	(86)	3.2	(2.4,4.2)
Education (years completed)								
≤12	54	(45)	1.5	(0.9,2.5)				
>12	72	(33)	1.0	¶				
Vehicle Size								
Small					337	(62)	1.0	¶
Medium					513	(67)	1.3	(1.0,1.6)
Large					334	(76)	2.0	(1.5,2.7)
Truck/Van					332	(83)	3.0	(2.1,4.1)
Total	**127**	**(38)**			**1,519**	**(70)**		

*For the telephone survey, a report of sometimes, seldom, or never using seat belts. In the observational survey, a report that a driver was not wearing a seat belt.

†POR = prevalence odds ratio, adjusted for the other characteristics listed. For example, in the telephone survey age has been adjusted for race, sex, and education.

§Confidence interval.

¶Referent.

Seat Belts — Continued

Observational Survey. The observational survey was conducted the morning after the telephone survey at 48 randomly selected intersections with timed traffic signals. While vehicles were stopped, observers—beginning with the second vehicle in line—recorded the drivers' use of seat belts. Observers also recorded the use of restraint devices by children who appeared to be <4 years old. During the 2-hour survey, occupants of 2,157 vehicles were observed.

Overall, 70% of drivers were not wearing seat belts. Usage patterns by demographic variables (Table 1) were similar to those reported from the telephone survey. Nonwhites, males, and persons judged to be >59 years of age were at highest risk for not wearing seat belts. The proportion of nonusers also rose as vehicle size increased. Drivers of trucks and vans were three times more likely not to wear seat belts than drivers of small cars (Table 1).

In 61 of the vehicles surveyed, 74 children appeared to be <4 years of age. Of these 74, 36 (49%) were seated in child-restraint devices. More children were restrained (52%) in vehicles in which the driver wore a seat belt than were restrained (13%) in other vehicles.

Reported by: M Smith, GN Bohan, MD, DeKalb County District No. 3, Unit No. 5; T McKinley, RK Sikes, DVM, MPH, State Epidemiologist, Georgia Dept of Human Resources. Div of Injury Epidemiology and Control, Div of Chronic Disease Control, Center for Environmental Health; Div of Nutrition, Center for Health Promotion and Education; Div of Surveillance and Epidemiologic Studies, Div of Field Services, Epidemiology Program Office; Epidemic Intelligence Service Class of 1986, CDC.

Editorial Note: Because of differences in study design, sampling techniques, and the population surveyed, the prevalence estimates of seat-belt use described above differ from those reported in previous studies involving Georgia residents (*6*). In the DeKalb County telephone survey, 62% of the respondents reported using seat belts, compared with 39% of those from Georgia's 1986 Behavioral Risk Factor Survey (*6*).

TABLE 2. Attitudes reported in telephone survey regarding use of seat belts — DeKalb County, Georgia, July 1986

	Seat Belt Nonusers		Seat Belt Users	
	No.	(%)	No.	(%)
Should there be a law requiring seat belts in Georgia?				
Yes	67	(53)	166	(79)
No	51	(40)	33	(16)
No opinion	9	(7)	11	(5)
Total	**127**	**(100)**	**210**	**(100)**
How does wearing a seat belt affect risk of injury?				
Decreases risk	95	(75)	197	(94)
Increases risk	3	(2)	3	(1)
No effect	8	(6)	4	(2)
Not sure	21	(16)	6	(3)
Total	**127**	**(100)** *	**210**	**(100)**

*Sums of percentage values in table may not equal totals because of rounding.

Seat Belts — Continued

Despite such differences, the two surveys reported here identified commonly acknowledged risk factors associated with failure to use seat belts. In previous telephone surveys and direct observational studies of motor vehicle occupants, males, nonwhites, persons in younger (≤24 years) and older (>59 years) age groups, persons with<12 years of education, and drivers of trucks, vans, and large cars have been found less likely to use seat belts (*3,7*).

The proportion of persons failing to use seat belts, as determined by direct observation, was nearly double that estimated from the telephone survey (Table 1). A similar discrepancy between observed and self-reported usage rates has been noted by other investigators (*8,9*). Although self-report surveys, compared with observational surveys, tend to underestimate failure to use seat belts, their use permits the collection of demographic and behavioral data that may aid in the development of intervention strategies (*2*). As illustrated here, demographic variables associated with failure to use seat belts were similar in the telephone and the observational surveys.

Although Georgia does not have a mandatory-use law for older children and adults, over two-thirds of the telephone survey respondents—including a majority of those who reportedly did not use seat belts—were in favor of such a law. The implications of this finding are unclear, but similar results have been reported in other studies, i.e., more respondents have favored passage of mandatory-use laws than have reported that they use seat belts (*9-11*).

Laws mandating the use of seat belts represent one of several strategies developed to reduce the costly morbidity and mortality associated with motor vehicle collisions. Other interventions include use of passive restraints (e.g., air bags), design changes in vehicles and highways, enforcement of existing traffic laws, and public education (*2*).

There is a continuing need to educate the public about the efficacy of seat belts in preventing injuries. Furthermore, as shown here, efforts must be made to dispel certain misconceptions. For example, short-distance travel is not necessarily safer than long-distance travel. It is well known that many motor vehicle collisions occur while the drivers are travelling short distances (*12*). Regarding the fear of entrapment, despite the notion that "being thrown clear" of a vehicle has a protective effect in a collision, fatality rates for occupants ejected from vehicles are 40 times greater than rates for occupants not ejected (*13*).

Since July 1984, a Georgia law has required that child-restraint devices be used for children <4 years of age (or seat belts for those 3-4 years of age). Nonetheless, in this survey observers reported that less than half of the children concerned were seated in restraint devices. Similar usage rates have been reported in other states from 2 to 5 years after enactment of mandatory child-restraint laws (*4,14*). One Public Health Service prevention objective for 1990 is to have health care providers instruct parents in the appropriate use of child-restraint devices (*15*). Physicians have stressed that such instruction should be an integral part of prenatal care (*16*). The results of these surveys indicate that educational efforts should be continued.

References

1. National Center for Health Statistics. Annual summary of births, marriages, divorces, and deaths: United States, 1984. Monthly Vital Statistics Rep 1985;33(13):20-1.
2. CDC. Seat belt use—United States. MMWR 1986;35:301-4.
3. Goldbaum GM, Remington PL, Powell KE, Hogelin GC, Gentry EM, the Behavioral Risk Factor Surveys Group. Failure to use seat belts in the United States: the 1981-1983 Behavioral Risk Factor Surveys. JAMA 1986;255:2459-62.

Seat Belts — Continued

4. Decker MD, Dewey MJ, Hutcheson RH Jr, Schaffner W. The use and efficacy of child restraint devices. JAMA 1984;252:2571-5.
5. Newman RJ. A prospective evaluation of the protective effect of car seatbelts. J Trauma 1986;26:561-4.
6. CDC. Behavioral risk factor surveillance—selected states, 1986. MMWR 1987;36:252-4.
7. Wagenaar AC, Wiviott MBT. Direct observation of seat belt use in Michigan: December 1984. Ann Arbor, Michigan: University of Michigan Transportation Research Institute, 1985.
8. Waller PF, Barry PZ. Seat belts: a comparison of observed and reported use. Chapel Hill, North Carolina: University of North Carolina Highway Safety Research Center, 1969.
9. Mawson AR, Biundo JJ Jr. Contrasting beliefs and actions of drivers regarding seat-belts: a study in New Orleans. J Trauma 1985;25:433-7.
10. Morelock S, Hingson RW, Smith RA, Lederman RI. Mandatory seatbelt law support and opposition in New England—a survey. Public Health Rep 1985;100:357-63.
11. Mortimer RG. Illinois attitudes to seat belts and a seat belt law [Letter]. Am J Public Health 1983;73:922.
12. Kuechenmeister TJ, Morrison AJ, Cohen ME. A comparative analysis of factors impacting on seat belt use. Warrendale, Pennsylvania: Society of Automotive Engineers, 1979; technical report no. 790687.
13. O'Day J, Scott RE. Safety belt use, ejection and entrapment. Health Ed Q 1984;11:141-6.
14. Wagenaar AC, Webster DW. Preventing injuries to children through compulsory automobile safety seat use. Pediatrics 1986;78:662-72.
15. Public Health Service. The 1990 health objectives for the nation: a midcourse review. Washington, DC: US Department of Health and Human Services, 1986.
16. Attico NB, Smith RJ III, FitzPatrick MB, Keneally M, Friedman MA. Auto seat belts: good prenatal, postpartum, and infant care [Letter]. Am J Public Health 1985;75:892-3.

Current Trends

Underreporting of Alcohol-Related Mortality on Death Certificates of Young U.S. Army Veterans

CDC recently evaluated death certificates of young, male U.S. Army veterans to determine to what extent alcohol-related mortality was accurately reported (*1*). As part of the Vietnam Experience Study, CDC obtained death certificates and other available medical and legal records pertaining to the cause of death of 426 veterans who had served in Vietnam, Germany, Korea, or the United States during the Vietnam era (*2,3*). All deaths occurred after the men were discharged from active duty, from 1967 through 1983.

A nosologist, a specialist in the classification of diseases and causes of death, recoded each original death certificate in accordance with the Ninth Revision of the International Classification of Diseases (ICD-9) (*4*). A CDC medical panel, without having access to the original death certificates, completed an abbreviated version of the standard death certificate for each decedent on the basis of only the supplementary medical and legal records. Using ICD-9 codes, the panel assigned 1) an underlying cause of death, i.e., the single disease or injury that directly led to death, and 2) contributory causes of death, i.e., all other significant medical conditions that indirectly led to death.

For the analysis of alcohol-related mortality, both the coded death certificates and the coded findings of the medical panel were examined for alcohol-specific ICD-9

Mortality — Continued

diagnoses (Table 1). Alcohol-related deaths were counted on the basis of multiple-cause-of-death analysis, a method that takes into account all contributory causes as well as the underlying cause of death noted by the death certifier (*5,6*).

In the total count of alcohol-related deaths, a death due to a natural cause (ICD-9 codes 001-799) was included if an alcohol-specific diagnosis, such as alcoholic liver disease, was listed anywhere on the death record. An external-cause death, i.e., death due to injury or poisoning (ICD-9 codes E800-E989), was included if an alcohol-specific diagnosis was cited as a contributory cause of death. For example, a fatal motor vehicle injury was included if an excessive level of alcohol was detected in the blood or if nondependent abuse of alcohol was listed as a contributory cause. An external-cause death was included if unintentional poisoning by alcohol (E860.0-E860.9) was cited as the underlying cause.

The panel determined that there were 133 alcohol-related deaths, or more than six times the number (21 deaths) recorded by the original death certifiers (Table 2). The discrepancy was largely attributable to the omission by the original death certifiers of alcohol-specific contributory causes in deaths due to external causes. The original death certifiers reported 12 alcohol-related external-cause deaths, whereas the

TABLE 1. Alcohol-specific diagnoses and codes according to the International Classification of Diseases, Ninth Revision (ICD-9)

Alcohol Diagnosis	ICD-9 Code(s)
Psychoses	291.0-291.9
Dependence syndrome	303
Nondependent abuse	305.0
Polyneuropathy	357.5
Cardiomyopathy	425.5
Gastritis	535.3
Liver disease	571.0-571.3
Excessive blood level*	790.3
Accidental poisoning	E860.0-E860.9

*The diagnosis of excessive level of alcohol in the blood is not defined quantitatively in the ICD-9 manual. Any detectable blood level reported on a death certificate was coded as excessive blood alcohol by the nosologist, in accordance with the coding practices of the National Center for Health Statistics. The medical panel coded excessive blood alcohol only for concentrations ≥100 mg/dl.

TABLE 2. Alcohol-related deaths among 426 Vietnam-era veterans according to death certificate and medical panel determinations

Cause of Death (ICD-9 Code Range)	Death Certificate	Medical Panel
Natural (001-799)	9	30
Motor vehicle injury (E810-E825)	7	53
Suicide (E950-E959)	0	20
Homicide (E960-E969)	4	15
Other external cause (all other E codes)	1	15
All causes	**21**	**133**

Mortality — Continued

medical panel recorded 103 alcohol-related external-cause deaths, 94 of which were associated with blood alcohol levels ≥100 mg/dl.

Reported by: Biometrics Br, Div of Injury Epidemiology and Control; Agent Orange Projects, Div of Chronic Disease Control, Center for Environmental Health, CDC.

Editorial Note: Reducing alcohol-related mortality is a widely stated public health objective (*7,8*). Interventions are aimed at a variety of diseases and injuries that are associated with heavy alcohol consumption but that are not necessarily attributable to the chronic condition called "alcoholism." A reliable tabulation of the various types of alcohol-related deaths is essential for surveillance purposes and for the evaluation of prevention initiatives.

Official U.S. mortality data traditionally have been compiled by the National Center for Health Statistics according to the underlying cause of death, a tabular system in which only one disease or injury is taken into account (*6*). Reports based on the underlying cause of death alone are thought to underestimate alcohol-related mortality because they do not reflect alcohol-specific contributory conditions. Multiple-cause-of-death analysis has been proposed as a means of providing a more complete assessment of alcohol-related mortality than is available through underlying-cause analysis alone (*9*).

As shown in this study, even when a multiple-cause analysis is applied to official cause-of-death records, alcohol-related deaths are still grossly underestimated. There are shortcomings in official mortality reporting that are more fundamental than the failure to take into account all listed conditions (*10*). Among the problems are the apparent omission of diagnostic information available at the time of death or obtained after death.

The frequent omission of excessive blood alcohol levels was a major shortcoming in the death certificates analyzed by CDC. This omission was particularly significant for a population of young U.S. males, because in this population injury is the leading cause of death (*11*).

In this investigation, almost one-third of a nationwide sample of deaths among young U.S. Army veterans were attributed to alcohol-related causes. An effective public health response must include 1) programs to prevent alcohol-related problems and 2) a reliable system for monitoring trends in all types of alcohol-related mortality. Results of this study suggest that persons who are responsible for certifying the cause of death on death certificates should be encouraged or required to report excessive blood alcohol levels obtained in the postmortem period. More broadly, the results support recommendations for a two-phase, death-certifying process designed to improve the quality of cause-of-death information: a first phase for legal purposes, to allow for disposition of the deceased and initiation of appropriate claims, and a second phase for medical certification, deferred until all antemortem and postmortem diagnostic information has been reviewed (*12,13*).

References

1. Pollock DA, Boyle CA, DeStefano F, Moyer LA, Kirk ML. Underreporting of alcohol-related mortality on death certificates of young U.S. Army veterans. JAMA 1987;258:345-8.
2. CDC. Postservice mortality among Vietnam veterans. JAMA 1987;257:790-5.
3. CDC. Postservice mortality among Vietnam veterans. Atlanta, Georgia: US Department of Health and Human Services, Public Health Service, 1987.
4. World Health Organization. Manual of the international statistical classification of diseases, injuries, and causes of death, ninth revision. Geneva: World Health Organization, 1977.
5. Goodman RA, Manton KG, Nolan TF Jr, Bregman DJ, Hinman AR. Mortality data analysis using a multiple-cause approach. JAMA 1982;247:793-6.

Mortality – Continued

6. Israel RA, Rosenberg HM, Curtin LR. Analytical potential for multiple cause-of-death data. Am J Epidemiol 1986;124:161-79.
7. Public Health Service. Promoting health/preventing disease: objectives for the nation. Washington, DC: US Department of Health and Human Services, 1980.
8. World Health Organization. Problems related to alcohol consumption. Geneva, Switzerland: World Health Organization, 1980. (Technical report series 650).
9. Van Natta P, Malin H, Bertolucci D, Kaelber C. The influence of alcohol abuse as a hidden contributor to mortality. Alcohol 1985;2:535-9.
10. Comstock GW, Markush RE. Further comments on problems in death certification. Am J Epidemiol 1986;124:180-1.
11. Committee on Trauma Research (Commission on Life Sciences, National Research Council), Institute of Medicine. Injury in America: a continuing public health problem. Washington, DC: National Academy Press, 1985.
12. Carter JR. The problematic death certificate [Editorial]. N Engl J Med 1985;313:1285-6.
13. Gay GA. 1989 revisions of the US standard certificates and reports. Am J Public Health 1987;77:602.

Epidemiologic Notes and Reports

Multistate Outbreak of *Shigella sonnei* Gastroenteritis – United States

CDC has received reports that shigellosis outbreaks have occurred in several states, affecting related religious communities. Dates of onset range from November 1986 through June 1987. The largest outbreak was in New York City, and outbreaks in other states began soon after the Passover holiday in April, when many persons visited relatives in New York. Epidemiologic data are incomplete, but in some of these outbreaks new cases continue to occur. A summary of the outbreaks follows.

NEW YORK STATE

New York City. Between December 27, 1986, and May 16, 1987, 1,328 cases of culture-confirmed *Shigella sonnei* gastroenteritis were reported in Brooklyn, New York (Figure 1). On the basis of a sentinel-physician surveillance system, the actual number of cases is likely to have exceeded 13,000. The vast majority of infected persons were tradition-observant Jews belonging to several religious sects. Of the persons with culture-confirmed cases, 55% were <5 years and 85% were <17 years of age; 55% were female.

Since more than 25% of the initial isolates were resistant to ampicillin, trimethoprim-sulfamethoxazole (TMP-SXT) was initially recommended for treatment. One isolate of TMP-SXT-resistant *Shigella* was identified in early January, and TMP-SXT resistance among tested isolates increased from 2% in January to 12% in March. In mid-March, a recommendation was made that patients with mild symptoms should not be treated with antimicrobials.

Person-to-person transmission was thought to be likely, since investigations did not implicate a common source of food or water. With the cooperation of community and religious leaders and physicians, control efforts were directed toward improved sanitation and personal hygiene in schools and homes. Special efforts were made to encourage handwashing with soap and water. The measures were instituted in late March, in anticipation of a large influx of people into these communities to celebrate the Passover holiday during the third week in April.

Culture-confirmed cases decreased after the first week in April, but cases continue to be reported above the expected background rates among these religious groups in

Gastroenteritis — Continued

Brooklyn. The decline in reported *Shigella* isolates reflects the implementation of hygienic control measures starting the third week in March, the closing of the religious schools during the Passover holiday, and a reduced number of stool specimens obtained for culture as a result of preparations for and observance of the holidays.

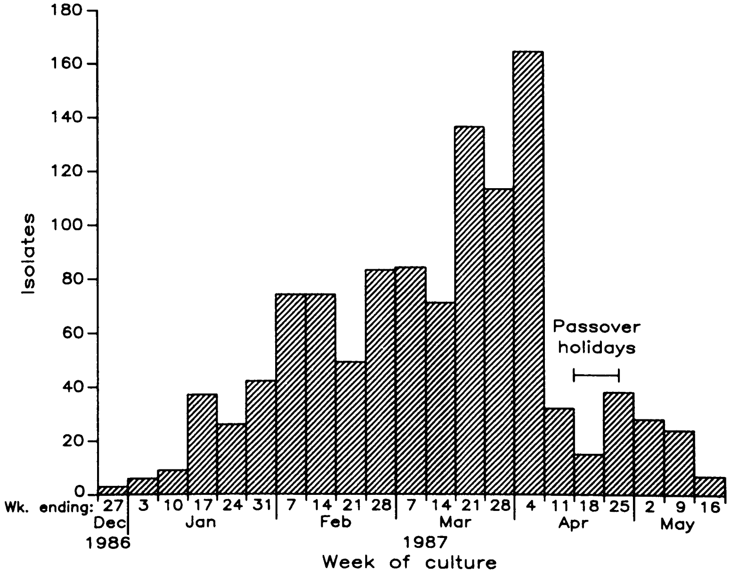
Upstate New York. Outbreaks of *S. sonnei* infections were also recognized in two other tradition-observant Jewish communities in New York State. Approximately 110 culture-confirmed cases were reported in an Orange County community between November 29, 1986, and February 20, 1987. Two-thirds of the patients were <5 years and 95% were <17 years of age. Cases decreased sharply after a shigellosis advisory bulletin written in Hebrew was distributed throughout the community and a hand-washing campaign was directed at school-aged children. A majority of the 110 isolates tested were resistant to ampicillin, but none were resistant to TMP-SXT. Another outbreak with >260 culture-confirmed cases began November 22, 1986, in a Rockland County community. Although control efforts similar to those used in Orange County were attempted, cases continue to be reported in Rockland County; one outbreak in early June affected 100 (77%) of 130 persons at a private party.

The New York State Department of Health has notified camp directors and nurses in children's summer camps serving the affected communities of the potential for further *Shigella* transmission. Recommendations include obtaining cultures from children with diarrhea, isolating or excluding culture-positive children from camp activities, and emphasizing personal hygiene.

NEW JERSEY

Between May 2 and June 3, 1987, 45 cases of febrile gastroenteritis occurred at a private Hebrew day school in northeast New Jersey, affecting 30% of the children

FIGURE 1. Reported isolates of *Shigella sonnei,* by week of culture — Brooklyn, New York, December 27, 1986-May 16, 1987



Gastroenteritis — Continued

enrolled; half of the affected children had bloody diarrhea, and one child was hospitalized because of convulsions. *S. sonnei* was isolated from 33 stool specimens. Interviews suggested that the source of the outbreak was a tradition-observant Jewish community in Brooklyn to which many schoolchildren return on weekends. The first cases occurred at the nursery and kindergarten levels, and person-to-person spread appeared to cause cases among other schoolchildren as well as among family members. It was recommended that any child with two loose bowel movements per day or a positive stool culture should remain at home until he or she was asymptomatic for at least 2 days. Teachers and parents were instructed to teach the children to wash their hands thoroughly after defecation and before handling food and playing with other children.

(Continued on page 448)

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

Disease	27th Week Ending			Cumulative, 27th Week Ending		
	July 11, 1987	July 5, 1986	Median 1982-1986	July 11, 1987	July 5, 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	143	184	N	9,216	6,320	N
Aseptic meningitis	266	171	180	3,020	2,684	2,501
Encephalitis: Primary (arthropod-borne & unspec)	22	24	24	447	421	481
Post-infectious	2	2	2	60	61	61
Gonorrhea: Civilian	11,794	16,809	15,370	403,438	435,677	438,414
Military	247	264	374	8,364	8,268	10,900
Hepatitis: Type A	428	394	385	12,734	11,319	10,985
Type B	428	449	405	13,161	13,116	12,853
Non A, Non B	56	58	N	1,606	1,847	N
Unspecified	51	91	101	1,635	2,443	2,918
Legionellosis	17	16	N	417	298	N
Leprosy	-	5	5	99	144	131
Malaria	20	35	34	366	466	430
Measles: Total*	107	150	65	2,763	4,372	1,904
Indigenous	103	143	N	2,456	4,146	N
Imported	4	7	N	307	220	N
Meningococcal infections: Total	23	35	35	1,747	1,544	1,699
Civilian	23	35	35	1,746	1,542	1,696
Military	-	-	-	1	2	6
Mumps	59	164	40	9,389	2,550	2,122
Pertussis	30	58	45	898	1,414	983
Rubella (German measles)	17	6	13	226	327	429
Syphilis (Primary & Secondary): Civilian	443	390	423	17,207	13,260	14,388
Military	2	-	4	86	94	176
Toxic Shock syndrome	3	5	N	154	180	N
Tuberculosis	330	412	377	10,515	10,796	10,810
Tularemia	6	2	7	72	52	95
Typhoid Fever	1	5	5	145	136	163
Typhus fever, tick-borne (RMSF)	36	32	37	251	266	352
Rabies, animal	71	67	98	2,559	2,942	2,942

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1987		Cum. 1987
Anthrax	-	Leptospirosis (N.C. 1)	9
Botulism: Foodborne	4	Plague	3
Infant	31	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Upstate N.Y. 1, Mont. 1, Oreg. 1)	50
Brucellosis (Tex. 2)	54	Rabies, human	-
Cholera	-	Tetanus (Tenn. 1, Mich. 1)	17
Congenital rubella syndrome	3	Trichinosis	26
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine) (Tex. 1)	15
Diphtheria	1		

*Two of the 107 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 11, 1987 and July 5, 1986 (27th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis(Viral), by type				Legionel-losis	Leprosy
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum. 1987	1987	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1986	1987	1987	1987	1987	1987	Cum. 1987
UNITED STATES	9,216	266	447	60	403,438	435,677	428	428	56	51	17	99
NEW ENGLAND	404	10	19	2	12,589	9,836	25	18	-	4	-	10
Maine	13	1	1	-	375	468	1	3	-	-	-	-
N.H.	11	-	-	-	209	256	-	-	-	-	-	2
Vt.	4	2	3	-	105	141	-	1	-	-	-	-
Mass.	249	2	10	1	4,507	4,240	9	11	-	3	-	7
R.I.	33	-	3	1	1,058	867	-	-	-	-	-	-
Conn.	94	5	2	-	6,335	3,864	15	3	-	1	-	1
MID. ATLANTIC	2,451	27	59	5	64,945	72,615	54	58	5	2	2	5
Upstate N.Y.	353	8	22	3	8,716	8,558	36	18	3	-	2	-
N.Y. City	1,325	1	5	-	33,936	42,177	10	28	-	1	-	5
N.J.	517	18	7	-	8,415	9,403	8	12	2	1	-	-
Pa.	256	-	25	2	13,878	12,477	-	-	-	-	-	-
E.N. CENTRAL	617	29	126	11	58,792	60,101	40	45	6	2	5	3
Ohio	112	9	50	5	13,296	14,354	14	22	5	1	5	1
Ind.	43	2	10	-	4,689	6,420	9	7	-	-	-	-
Ill.	312	4	19	6	18,095	15,733	-	-	-	-	-	-
Mich.	106	14	38	-	17,829	17,347	17	16	1	1	-	1
Wis.	44	-	9	-	4,883	6,247	-	-	-	-	-	1
W.N. CENTRAL	206	5	15	-	16,582	18,939	10	8	-	-	1	-
Minn.	54	1	9	-	2,590	2,574	1	-	-	-	-	-
Iowa	15	1	1	-	1,600	1,916	1	1	-	-	-	-
Mo.	96	1	-	-	8,577	9,666	3	5	-	-	-	-
N. Dak.	1	-	-	-	139	175	-	-	-	-	-	-
S. Dak.	2	1	-	-	299	378	-	-	-	-	1	-
Nebr.	11	1	3	-	1,101	1,371	-	-	-	-	-	-
Kans.	27	-	2	-	2,276	2,859	5	2	-	-	-	-
S. ATLANTIC	1,505	46	54	18	105,942	111,285	17	83	15	4	4	5
Del.	9	-	1	1	1,605	1,782	-	-	1	-	-	-
Md.	192	6	9	4	12,666	13,033	1	27	1	-	1	2
D.C.	209	-	-	-	7,205	8,457	1	2	-	-	-	-
Va.	107	-	19	2	7,758	8,942	-	-	-	-	-	-
W. Va.	12	4	6	-	804	1,194	-	-	1	-	-	-
N.C.	71	6	9	-	15,813	16,875	3	10	1	1	2	-
S.C.	37	2	-	-	8,864	9,988	2	10	1	1	-	1
Ga.	242	6	-	-	18,237	19,587	1	13	4	-	-	-
Fla.	626	22	10	11	32,990	31,427	9	21	6	2	1	2
E.S. CENTRAL	108	23	23	4	30,081	35,528	4	35	3	-	2	-
Ky.	21	7	12	1	3,022	4,043	3	12	1	-	-	-
Tenn.	11	-	4	-	10,515	13,812	-	10	1	-	2	-
Ala.	64	15	7	-	9,686	10,006	1	11	1	-	-	-
Miss.	12	1	-	3	6,858	7,667	-	2	-	-	-	-
W.S. CENTRAL	921	29	47	3	45,927	52,649	39	38	2	18	2	4
Ark.	22	-	-	1	4,686	4,871	-	-	-	-	-	-
La.	120	1	6	-	8,535	9,568	1	15	-	-	-	-
Okla.	50	12	12	1	4,992	5,919	6	8	-	-	1	-
Tex.	729	16	29	1	27,714	32,291	32	15	2	18	1	4
MOUNTAIN	256	13	13	3	10,609	12,940	76	30	3	2	1	1
Mont.	2	-	-	-	270	363	2	-	-	-	-	-
Idaho	4	1	-	-	395	445	10	4	-	-	-	-
Wyo.	2	-	-	-	228	291	-	-	1	-	-	-
Colo.	110	7	1	-	2,271	3,373	16	5	1	1	-	-
N. Mex.	15	1	1	-	1,158	1,308	10	6	-	-	1	-
Ariz.	77	4	9	1	3,697	4,305	31	11	1	1	-	-
Utah	15	-	-	2	332	565	-	1	-	-	-	-
Nev.	31	-	2	-	2,258	2,290	7	3	-	-	-	1
PACIFIC	2,748	84	91	14	57,971	61,784	163	113	22	19	-	71
Wash.	114	-	8	2	4,286	4,800	22	14	4	2	-	3
Oreg.	61	-	-	-	2,179	2,490	17	9	-	-	-	-
Calif.	2,515	78	79	12	50,135	52,299	123	78	18	17	-	53
Alaska	8	3	2	-	900	1,498	1	1	-	-	-	-
Hawaii	50	3	2	-	471	697	-	11	-	-	-	15
Guam	-	-	-	-	106	82	-	-	-	1	-	-
P.R.	73	2	1	1	1,138	1,214	-	1	1	4	-	5
V.I.	-	-	-	-	126	123	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	240	184	-	-	-	-	-	38
Amer. Samoa	-	-	-	-	47	26	-	-	-	-	-	-

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 11, 1987 and July 5, 1986 (27th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986
UNITED STATES	366	103	2,456	4	307	4,372	1,747	59	9,389	30	898	1,414	17	226	327
NEW ENGLAND	26	10	99	-	149	63	152	2	23	1	24	84	-	1	9
Maine	-	-	3	-	-	7	9	-	-	-	4	2	-	1	-
N.H.	1	2	51	-	102	28	15	-	8	-	2	40	-	-	1
Vt.	-	2	9	-	14	-	8	-	2	-	3	3	-	-	1
Mass.	9	6	21	-	27	24	74	2	3	1	6	22	-	-	4
R.I.	5	-	1	-	1	2	14	-	2	-	1	1	-	-	2
Conn.	11	-	14	-	5	2	32	-	8	-	8	16	-	-	1
MID. ATLANTIC	34	8	470	-	43	1,310	211	1	153	4	114	106	-	10	28
Upstate N.Y.	15	1	24	-	9	54	75	1	73	3	86	70	-	8	20
N.Y. City	4	7	407	-	14	329	15	-	-	-	-	3	-	1	5
N.J.	8	-	18	-	3	905	44	-	39	-	6	8	-	1	3
Pa.	7	-	21	-	17	22	77	-	41	1	22	25	-	-	-
E.N. CENTRAL	17	2	255	-	18	879	250	8	5,498	4	105	217	7	27	52
Ohio	7	-	1	-	4	10	85	1	77	1	35	80	-	-	-
Ind.	2	-	-	-	-	2	26	-	756	3	4	22	-	-	-
Ill.	1	2	106	-	12	551	56	-	2,405	-	5	28	-	19	47
Mich.	7	-	29	-	-	31	68	5	809	-	28	22	7	8	4
Wis.	-	-	119	-	2	280	15	2	1,451	-	33	65	-	-	1
W.N. CENTRAL	11	1	192	-	21	262	77	13	1,191	1	50	68	-	1	10
Minn.	5	-	15	-	19	48	25	7	677	-	9	28	-	-	-
Iowa	2	-	-	-	-	66	3	3	361	-	9	9	-	1	1
Mo.	4	1	177	-	1	23	22	1	20	-	18	5	-	-	1
N. Dak.	-	-	-	-	-	25	1	-	6	-	1	3	-	-	1
S. Dak.	-	-	-	-	-	-	1	-	80	-	2	11	-	-	-
Nebr.	-	-	-	-	-	1	3	1	3	1	1	2	-	-	-
Kans.	-	-	-	-	1	99	22	1	44	-	10	10	-	-	7
S. ATLANTIC	65	1	78	3	9	486	288	9	215	7	180	530	-	12	3
Del.	1	-	27	-	-	1	4	-	-	-	-	219	-	2	-
Md.	15	-	2	2†	2	29	26	-	19	-	5	145	-	2	-
D.C.	8	-	-	-	1	-	5	-	-	-	-	-	-	-	-
Va.	12	-	1	-	-	54	46	3	64	-	38	19	-	1	-
W. Va.	2	-	-	-	-	2	-	1	28	1	38	10	-	-	-
N.C.	7	-	1	-	1	2	40	2	14	6	71	20	-	-	-
S.C.	3	-	-	-	-	301	28	1	12	-	-	9	-	-	-
Ga.	3	-	-	1§	1	82	56	-	40	-	17	75	-	1	-
Fla.	14	1	47	-	4	15	83	2	38	-	11	33	-	6	3
E.S. CENTRAL	4	-	2	-	-	46	82	10	1,190	3	20	22	-	3	1
Ky.	1	-	-	-	-	-	15	-	210	-	1	1	-	2	1
Tenn.	1	-	-	-	-	44	29	9	929	-	6	5	-	1	-
Ala.	-	-	-	-	-	-	32	1	51	3	9	16	-	-	-
Miss.	2	-	2	-	-	2	6	N	N	-	4	-	-	-	-
W.S. CENTRAL	25	44	243	-	3	570	117	7	691	1	60	97	-	5	53
Ark.	1	-	-	-	-	283	14	-	278	1	4	7	-	2	-
La.	-	-	-	-	-	2	10	2	199	-	13	6	-	-	-
Okla.	4	-	1	-	1	12	17	N	N	-	43	56	-	-	-
Tex.	20	44	242	-	2	273	76	5	214	-	-	28	-	3	53
MOUNTAIN	15	9	446	-	15	295	63	1	180	-	86	126	-	19	17
Mont.	-	1	123	-	1	7	3	-	4	-	3	6	-	3	1
Idaho	2	-	-	-	-	1	5	-	3	-	26	27	-	1	-
Wyo.	-	-	-	-	2	-	-	-	-	-	5	1	-	1	-
Colo.	5	-	5	-	-	7	19	-	28	-	21	36	-	-	1
N. Mex.	-	-	294	-	9	31	3	N	N	-	7	14	-	-	-
Ariz.	6	8	22	-	1	243	21	-	134	-	23	28	-	4	2
Utah	-	-	-	-	1	6	8	-	8	-	1	14	-	10	10
Nev.	2	-	2	-	1	-	4	1	3	-	-	-	-	-	3
PACIFIC	169	28	671	1	49	461	507	8	248	9	259	164	10	148	154
Wash.	14	24	29	1§	1	130	63	1	35	2	37	56	-	-	8
Oreg.	4	-	2	-	33	7	23	N	N	-	14	9	-	1	-
Calif.	147	4	640	-	11	304	410	6	194	3	106	93	2	92	144
Alaska	3	-	-	-	-	-	4	-	6	-	3	2	-	1	-
Hawaii	1	-	-	-	4	20	7	1	13	4	99	4	8	54	2
Guam	-	-	2	-	-	5	4	-	5	-	-	-	-	1	2
P.R.	1	-	569	-	-	18	3	-	5	-	12	7	-	2	58
V.I.	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-
Pac. Trust Terr.	-	-	1	-	-	-	1	-	5	-	1	-	-	1	-
Amer. Samoa	-	-	-	-	-	2	-	-	3	-	-	-	-	-	1

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

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

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 11, 1987 and July 5, 1986 (27th Week)

Reporting Area	Syphilis (Civilian) (Primary& Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1987
UNITED STATES	17,207	13,260	3	10,515	10,796	72	145	251	2,559
NEW ENGLAND	274	263	-	320	343	-	15	3	2
Maine	1	15	-	17	27	-	1	-	1
N.H.	3	10	-	8	11	-	-	-	-
Vt.	1	6	-	7	10	-	1	-	-
Mass.	129	137	-	171	160	-	10	2	-
R.I.	7	16	-	25	24	-	1	-	1
Conn.	133	79	-	92	111	-	2	1	-
MID. ATLANTIC	3,222	1,856	-	1,776	2,179	-	17	5	188
Upstate N.Y.	105	94	-	263	317	-	7	3	14
N.Y. City	2,326	1,047	-	855	1,103	-	-	-	-
N.J.	350	344	-	337	390	-	10	1	6
Pa.	441	371	-	321	369	-	-	1	168
E.N. CENTRAL	479	545	-	1,283	1,318	1	18	33	84
Ohio	55	71	-	239	221	1	6	28	3
Ind.	33	63	-	127	143	-	4	-	11
Ill.	259	294	-	525	601	-	5	1	30
Mich.	95	91	-	333	291	-	2	4	12
Wis.	37	26	-	59	62	-	1	-	28
W.N. CENTRAL	75	128	-	318	302	25	8	27	589
Minn.	8	21	-	70	78	-	3	-	140
Iowa	11	6	-	18	22	3	2	-	164
Mo.	37	68	-	181	150	15	3	11	32
N. Dak.	-	3	-	1	4	-	-	-	73
S. Dak.	8	2	-	17	14	4	-	-	136
Nebr.	7	11	-	12	5	1	-	-	15
Kans.	4	17	-	19	29	2	-	16	29
S. ATLANTIC	5,946	3,946	-	2,275	2,069	4	11	84	693
Del.	45	27	-	20	25	1	-	-	-
Md.	318	225	-	194	154	-	2	28	244
D.C.	183	171	-	77	70	-	-	-	28
Va.	154	206	-	232	181	1	1	4	212
W. Va.	6	11	-	64	60	-	1	4	29
N.C.	322	261	-	255	287	1	1	18	3
S.C.	381	331	-	220	268	-	-	21	34
Ga.	831	782	-	350	295	-	-	9	104
Fla.	3,706	1,932	-	863	729	1	6	-	39
E.S. CENTRAL	1,003	897	1	846	973	3	2	28	190
Ky.	8	43	-	229	245	1	1	3	96
Tenn.	421	328	1	191	293	1	1	16	51
Ala.	252	286	-	258	299	-	-	7	43
Miss.	322	240	-	168	136	1	-	2	-
W.S. CENTRAL	2,193	2,754	-	1,231	1,347	22	9	60	381
Ark.	122	146	-	151	180	10	1	2	77
La.	385	456	-	133	228	2	-	-	11
Okla.	83	74	-	118	121	10	2	51	18
Tex.	1,603	2,078	-	829	818	-	6	7	275
MOUNTAIN	353	325	1	239	245	9	7	9	197
Mont.	8	6	-	9	13	1	-	7	100
Idaho	3	6	-	17	10	1	-	-	-
Wyo.	1	-	-	-	-	-	-	1	44
Colo.	56	81	1	12	18	2	-	-	3
N. Mex.	32	43	-	48	53	1	7	-	1
Ariz.	168	132	-	134	116	3	-	-	42
Utah	15	9	-	6	20	1	-	1	2
Nev.	70	48	-	13	15	-	-	-	5
PACIFIC	3,662	2,546	1	2,227	2,020	8	58	2	235
Wash.	46	79	-	131	102	3	5	-	-
Oreg.	133	56	-	58	68	3	1	-	-
Calif.	3,472	2,391	1	1,895	1,715	1	49	2	232
Alaska	2	-	-	34	27	1	-	-	3
Hawaii	9	20	-	109	108	-	3	-	-
Guam	2	1	-	25	31	-	-	-	-
P.R.	521	428	-	160	147	-	-	-	37
V.I.	3	-	-	2	1	-	-	-	-
Pac. Trust Terr.	111	147	-	94	28	-	16	-	-
Amer. Samoa	2	-	-	-	3	-	1	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending July 11, 1987 (27th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	709	482	126	62	23	16	47
Boston, Mass.	219	135	37	30	8	9	25
Bridgeport, Conn.	51	31	11	5	3	1	-
Cambridge, Mass.	27	23	3	1	-	-	1
Fall River, Mass.	22	17	3	2	-	-	-
Hartford, Conn.	73	50	15	5	3	-	4
Lowell, Mass.	28	19	6	2	1	-	-
Lynn, Mass.	21	16	5	-	-	-	2
New Bedford, Mass.	44	38	4	1	1	-	1
New Haven, Conn.	48	27	14	5	1	1	3
Providence, R.I.§	52	40	8	1	1	2	2
Somerville, Mass.	12	9	1	2	-	-	-
Springfield, Mass.	44	29	7	4	2	2	8
Waterbury, Conn.	23	16	4	3	-	-	1
Worcester, Mass.	45	32	8	1	3	1	-
MID. ATLANTIC	2,762	1,821	524	273	76	65	132
Albany, N.Y.	51	34	9	4	1	3	2
Allentown, Pa.	12	6	4	2	-	-	2
Buffalo, N.Y.	135	98	21	8	2	6	9
Camden, N.J.	44	29	11	3	-	-	1
Elizabeth, N.J.	36	29	7	-	-	-	1
Erie, Pa.†	26	20	3	1	1	1	2
Jersey City, N.J.	54	35	9	5	2	3	3
N.Y. City, N.Y.	1,333	842	249	174	44	24	54
Newark, N.J.	70	31	15	16	3	3	1
Paterson, N.J.	28	15	6	2	2	3	2
Philadelphia, Pa.	494	354	86	33	10	11	27
Pittsburgh, Pa.†	72	46	20	3	1	2	-
Reading, Pa.	31	25	5	-	1	-	1
Rochester, N.Y.	142	92	34	8	3	5	11
Schenectady, N.Y.	34	22	7	2	2	1	2
Scranton, Pa.†	39	27	10	2	-	-	1
Syracuse, N.Y.	89	61	18	5	2	3	8
Trenton, N.J.	33	24	5	4	-	-	3
Utica, N.Y.	13	12	1	-	-	-	2
Yonkers, N.Y.	26	19	4	1	2	-	-
E.N. CENTRAL	2,332	1,504	513	169	71	75	58
Akron, Ohio	56	35	14	5	1	1	-
Canton, Ohio	41	28	8	3	2	-	3
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	103	61	29	4	4	5	3
Cleveland, Ohio	185	113	47	15	2	8	-
Columbus, Ohio	140	87	29	10	9	5	-
Dayton, Ohio	124	77	35	4	6	2	1
Detroit, Mich.	272	156	64	30	13	9	9
Evansville, Ind.	52	38	11	1	2	-	1
Fort Wayne, Ind.	61	42	12	5	2	-	2
Gary, Ind.	10	6	1	3	-	-	-
Grand Rapids, Mich.	85	61	11	7	3	3	4
Indianapolis, Ind.	157	107	30	10	3	7	3
Madison, Wis.	34	17	10	3	2	2	2
Milwaukee, Wis.	154	105	30	9	5	5	1
Peoria, Ill.	48	37	3	3	2	3	4
Rockford, Ill.	53	44	8	1	-	-	4
South Bend, Ind.	38	22	12	1	1	2	2
Toledo, Ohio	96	62	24	6	3	1	2
Youngstown, Ohio	59	44	10	4	1	-	1
W.N. CENTRAL	802	562	146	46	22	26	63
Des Moines, Iowa	63	42	15	2	2	2	1
Duluth, Minn.	17	16	1	-	-	-	-
Kansas City, Kans.	32	22	4	2	2	2	4
Kansas City, Mo.	74	48	17	3	2	4	4
Lincoln, Nebr.	21	17	2	1	1	-	1
Minneapolis, Minn.	182	133	32	9	6	2	16
Omaha, Nebr.	113	79	23	8	2	1	10
St. Louis, Mo.	140	97	26	8	2	7	19
St. Paul, Minn.	72	48	12	7	1	4	1
Wichita, Kans.	88	60	14	6	4	4	7

ReportingArea	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-84	25-44	1-24	<1	Total
S. ATLANTIC	1,296	763	302	137	49	45	42
Atlanta, Ga.	133	81	32	12	6	2	3
Baltimore, Md.	301	173	78	29	7	14	8
Charlotte, N.C.	66	39	14	5	1	7	4
Jacksonville, Fla.	80	54	16	7	2	1	6
Miami, Fla.	169	89	43	25	11	1	6
Norfolk, Va.	57	26	16	4	7	4	3
Richmond, Va.	84	51	21	7	4	1	1
Savannah, Ga.	52	33	12	5	1	1	2
St. Petersburg, Fla.	69	52	9	4	1	3	2
Tampa, Fla.	48	36	9	-	2	1	4
Washington, D.C.	216	114	48	37	7	10	3
Wilmington, Del.	21	15	4	2	-	-	-
E.S. CENTRAL	755	484	155	57	26	33	30
Birmingham, Ala.	109	71	22	10	2	4	1
Chattanooga, Tenn.	75	50	16	4	4	1	1
Knoxville, Tenn.	71	49	13	5	1	3	3
Louisville, Ky.	98	53	27	6	6	6	3
Memphis, Tenn.	183	118	37	12	6	10	15
Mobile, Ala.	73	43	17	6	4	3	3
Montgomery, Ala.	41	28	6	1	2	4	2
Nashville, Tenn.	105	72	17	13	1	2	2
W.S. CENTRAL	1,386	855	308	130	49	44	48
Austin, Tex.	77	52	16	6	3	-	5
Baton Rouge, La.	20	14	4	1	-	1	-
Corpus Christi, Tex.	50	30	12	4	2	2	-
Dallas, Tex.	179	92	47	20	8	12	6
El Paso, Tex.	55	31	13	3	4	4	2
Fort Worth, Tex	105	71	21	8	4	1	5
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	83	52	18	9	2	2	4
New Orleans, La.	136	78	36	13	5	4	-
San Antonio, Tex.	182	114	41	17	6	4	7
Shreveport, La.	85	65	6	10	1	3	5
Tulsa, Okla.	106	80	20	5	1	-	7
MOUNTAIN	727	433	152	76	37	29	37
Albuquerque, N. Mex.	81	58	11	6	5	1	7
Colo. Springs, Colo.	31	18	5	5	3	-	5
Denver, Colo.	119	74	19	13	6	7	9
Las Vegas, Nev.	124	64	40	11	4	5	5
Ogden, Utah	21	15	6	-	-	-	-
Phoenix, Ariz.	174	97	35	23	10	9	5
Pueblo, Colo.	21	18	2	1	-	-	2
Salt Lake City, Utah	39	14	12	7	3	3	-
Tucson, Ariz.	117	75	22	10	6	4	4
PACIFIC	2,038	1,300	378	212	72	64	94
Berkeley, Calif.	28	22	3	1	-	2	3
Fresno, Calif.	86	53	19	6	1	7	6
Glendale, Calif.	23	20	2	1	-	-	2
Honolulu, Hawaii	68	47	9	7	3	2	6
Long Beach, Calif.	170	97	46	14	7	6	1
Los Angeles Calif.	634	389	119	72	27	15	22
Oakland, Calif.	72	43	10	14	4	1	1
Pasadena, Calif.	52	35	6	7	-	4	2
Portland, Oreg.	123	78	21	12	7	5	3
Sacramento, Calif.	142	89	29	12	6	6	2
San Diego, Calif.	131	75	28	10	10	8	12
San Francisco, Calif.	139	79	29	24	3	4	7
San Jose, Calif.	121	89	21	7	1	3	16
Seattle, Wash.	144	101	23	18	1	1	3
Spokane, Wash.	65	49	10	5	1	-	6
Tacoma, Wash.	40	34	3	2	1	-	2
TOTAL	12,807††	8,204	2,604	1,162	425	397	551

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

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

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

TABLE V. Estimated years of potential life lost before age 65 and cause-specific mortality, by cause of death — United States, 1985

Cause of mortality (Ninth Revision ICD)	YPLL for persons dying in 1985*	Cause-specific mortality, 1985† (rate/100,000)
ALL CAUSES (Total)	11,844,475	874.8
Unintentional injuries§ (E800-E949)	2,235,064	38.6
Malignant neoplasms (140-208)	1,813,245	191.7
Diseases of the heart (390-398,402,404-429)	1,600,265	325.0
Suicide, homicide (E950-E978)	1,241,688	20.1
Congenital anomalies (740-759)	694,715	5.5
Prematurity¶ (765, 769)	444,931	2.9
Sudden infant death syndrome (798)	313,386	2.0
Cerebrovascular disease (430-438)	253,044	64.0
Chronic liver diseases and cirrhosis (571)	235,629	11.2
Pneumonia and influenza (480-487)	168,949	27.9
Acquired immunodeficiency syndrome (AIDS)**	152,595	2.3
Chronic obstructive pulmonary diseases (490-496)	129,815	31.2
Diabetes mellitus (250)	128,229	16.2

*For details of calculation, see footnotes to Table V, *MMWR* 1987;36:56.
†Cause-specific mortality rates as reported in the National Center for Health Statistics' *Monthly Vital Statistics Report* are compiled from a 10% sample of all deaths.
§Equivalent to accidents and adverse effects.
¶Category derived from disorders relating to short gestation and respiratory distress syndrome.
**Reflects CDC surveillance data.

Gastroenteritis – Continued

OHIO

Five cases of confirmed *S. sonnei* infections have occurred at a Jewish Orthodox school in Ohio. The student with the earliest confirmed case had illness onset on May 14, but school attendance records indicate that absenteeism for diarrheal illness began a week after the Passover holiday. Preschool and kindergarten children are now being supervised in handwashing after the use of toilet facilities and before meals. Parents have been advised that children with diarrheal illness will be excluded from school. The outbreak is being investigated to establish a possible relationship to the New York City outbreak.

MARYLAND

On May 26, 1987, the Baltimore County Health Department was notified that shigellosis cases were occurring among students and families associated with four private Jewish schools in Baltimore County, Maryland. In the period April 7-June 14, 42 culture-confirmed and 54 probable cases of *S. sonnei* gastroenteritis occurred in 33 families residing in northwest Baltimore City and adjacent Baltimore County. Of the 87 persons affected whose age was known, 43% were <6 years old. Symptoms included diarrhea (98.9%), fever (73.6%), abdominal cramps (62.6%), vomiting (21.8%), and bloody diarrhea (10.3%). Index-case children had attended one day-care center, three day-care homes, four private Jewish schools, and one public school. All *S. sonnei* isolates tested have been resistant to ampicillin but sensitive to TMP-SXT and tetracycline.

No common source for the Baltimore outbreak has been identified, and person-to-person transmission appears likely. Although visiting with friends and family from New York was commonly reported, no cases have been linked directly to confirmed cases in New York. Inspections have been performed, and hygiene has been emphasized in schools, day-care facilities, summer camps, pools, restaurants, and food stores in an effort to prevent transmission.

Reported by: SK Schulman, MD, Brooklyn, New York; A Werzberger, MD, Monroe, New York; S Schultz, MD, City Epidemiologist, New York City Dept of Health; LD Budnick, MD, DL Morse, MD, MS, State Epidemiologist, New York State Dept of Health. H Ragazzoni, DVM, MPH, M Teter, DO, WE Parkin, DVM, DrPH, State Epidemiologist, New Jersey State Dept of Health. LK Giljahn, MPH, T Kramer, TJ Halpin, MD, MPH, State Epidemiologist, Ohio Dept of Health. D Dwyer, MD, J Baumgardner, D Glasser, MD, MPH, Baltimore City Health Dept; E Hopf, MD, Baltimore County Health Dept; E Israel, MD, MPH, State Epidemiologist, Maryland State Dept of Health and Mental Hygiene. Div of Field Svcs, Epidemiology Program Office; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: *Shigella sonnei* has become the predominant serotype that causes community outbreaks of shigellosis (*1*). Children 1-5 years of age are at highest risk of infection; their lack of hygienic practices, combined with the low infectious dose, the frequency of mild illness, and the acquisition of antimicrobial resistance, all predispose to transmission in day-care and preschool settings and to spread within the community (*2,3*). The community outbreaks reported here appear to be linked, beginning in New York, extending over an 8-month period, and expanding into several states following the Passover holidays; continued transmission is likely. The long duration of the outbreak and the large proportion of cases involving children are consistent with person-to-person transmission, although the limited epidemiologic data obtainable do not clearly define the routes of transmission. In a recent investigation of an outbreak of hepatitis A in one of the communities affected by this

Gastroenteritis — Continued

shigellosis outbreak, many opportunities for person-to-person transmission were identified (*4*).

Devising successful control measures for shigellosis remains a challenge. Handwashing with soap after defecation and before eating has been shown to reduce secondary transmission of shigellosis (*5*). Although control strategies that emphasize effective handwashing are often difficult to implement among children and families at highest risk, they may interrupt chains of transmission. Creative interventions should be encouraged, including handwashing protocols, posters, and counseling sensitive to local language and custom. Antimicrobial treatment of persons infected with *Shigella* has also been used to decrease morbidity and the secondary spread of infection (*6*). However, the appearance of antimicrobial-resistant strains of *Shigella*, as observed in New York City, has repeatedly complicated the use of antimicrobials in controlling shigellosis (*7*). The decision to use antimicrobials in treating patients with mild, self-limited illness should be weighed against the risk of producing resistant strains of *Shigella*. Because resistance patterns may change, the selection of antimicrobials should be based on ongoing monitoring of local antimicrobial resistance of *Shigella* strains.

Outbreaks of *Shigella* gastroenteritis may occur at any time of the year, but they are most common in summertime (*8*). *Shigella* infection should be suspected in outbreaks of diarrheal illness affecting gatherings of young children. If stool specimens are obtained and state and local health departments are informed of culture-confirmed cases, outbreaks of shigellosis can be recognized, and appropriate control measures can be instituted.

References

1. Blaser MJ, Pollard RA, Feldman RA. *Shigella* infections in the United States, 1974-1980. J Infect Dis 1983;147:771-5.
2. Tauxe RV, Johnson KE, Boase JC, Helgerson SD, Blake PA. Control of day care shigellosis: a trial of convalescent day care in isolation. Am J Public Health 1986;76:627-30.
3. Weissman JB, Schmerler A, Weiler P, Filice G, Godbey N, Hansen I. The role of preschool children and day-care centers in the spread of shigellosis in urban communities. J Pediatr 1974;84:797-802.
4. Smith PF, Grabau JC, Werzberger A, Kondracki SF, Gallow RJ, Morse DL. Hepatitis A in a Hasidic Jewish community, upstate New York [Abstract]. Atlanta, Georgia: CDC, 1986; Epidemic Intelligence Service 35th Annual Conference, April 14-18, 1986.
5. Khan MU. Interruption of shigellosis by hand washing. Trans R Soc Trop Med Hyg 1982;76: 164-8.
6. Weissman JB, Gangarosa EJ, Dupoint HL. Shigellosis: to treat or not to treat? JAMA 1974;229:1215-6.
7. Ross S, Contronі G, Khan W. Resistance of shigellae to ampicillin and other antibiotics: its clinical and epidemiological implications. JAMA 1972;221:45-7.
8. Black RE, Craun GF, Blake PA. Epidemiology of common-source outbreaks of shigellosis in the United States, 1961-1975. Am J Epidemiol 1978;108:47-52.

Epidemiologic Notes and Reports

Shigellosis — North Carolina

The North Carolina Division of Health Services has received reports of a large outbreak of diarrheal disease among persons attending the annual Rainbow Family gathering, held this year at the Nantahala National Forest. Most of the participants

Shigellosis — Continued

attended the gathering between July 1 and July 7. National Forest Service personnel estimate a peak attendance, on July 4, of approximately 12,000 persons. Attendees came from states throughout the country. Anecdotal reports from attendees suggest that the attack rate of acute diarrheal illness may have been >50%. *Shigella sonnei* has been isolated from 25 persons from nine states (California, Georgia, Illinois, Massachusetts, Michigan, Ohio, North Carolina, Tennessee, and West Virginia) following their attendance at the gathering. Of those isolates with known antimicrobial resistance, 18/18 are resistant to ampicillin, 8/9 to trimethoprim-sulfamethoxazole, and 5/5 to tetracycline. Poor hygiene, insufficient potable water, inadequate trench latrines, and frequent rainfall during the event may have contributed to the propagation and transmission of infection. The transmission of other enteric diseases has not been excluded. Physicians should be aware of the potential for diarrheal disease in participants at this gathering and should obtain appropriate diagnostic specimens. Culture-confirmed cases of enteric diseases should be reported to local and state health departments.

Reported by: Communicable Disease Control Br, Div of Health Svcs, North Carolina Dept of Human Resources. Tennessee Dept of Health and Environment. Div of Field Svcs, Epidemiology Program Office; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Current Trends

Arboviral Infections of the Central Nervous System — United States, 1986

In 1986, 115 arboviral infections of the central nervous system (CNS) were reported to CDC (Figures 1, 2). Infections from California serogroup viruses, occurring chiefly in endemic areas of the upper Midwest, accounted for 64 cases. Hyperendemic and epidemic transmission of St. Louis encephalitis (SLE) virus in Texas and Louisiana communities on the Gulf of Mexico accounted for 37 cases, including a focal outbreak in Harris County, Texas (*1*). Six other SLE cases occurred sporadically in the Midwest and in southern California, and seven western equine encephalitis (WEE) cases were reported from endemic areas of the Texas panhandle, northern Colorado, and California. One case of eastern equine encephalitis (EEE) was reported from Florida.

Sporadic WEE cases in 44 horses were reported from western states; 94 EEE cases in equines were reported from eastern, principally coastal states (Figure 1).

St. Louis Encephalitis

An outbreak in Harris County, Texas, accounted for 28 cases, five of them fatal. The outbreak was centered in Baytown, where 23 cases occurred (attack rate for Baytown = 37/100,000). In five cases, patients had been exposed in Houston. The attack rate rose concurrently with age, and all five of the persons who died were >55 years old. A case-control study disclosed that risk of acquiring SLE was associated with residences poorly sealed against mosquitoes, indicating that exposure may have

Arboviral Infections — Continued

occurred indoors. Nine additional SLE cases, two of them fatal, were reported from other coastal cities in Texas and Louisiana (Figure 3).

California Serogroup Viruses

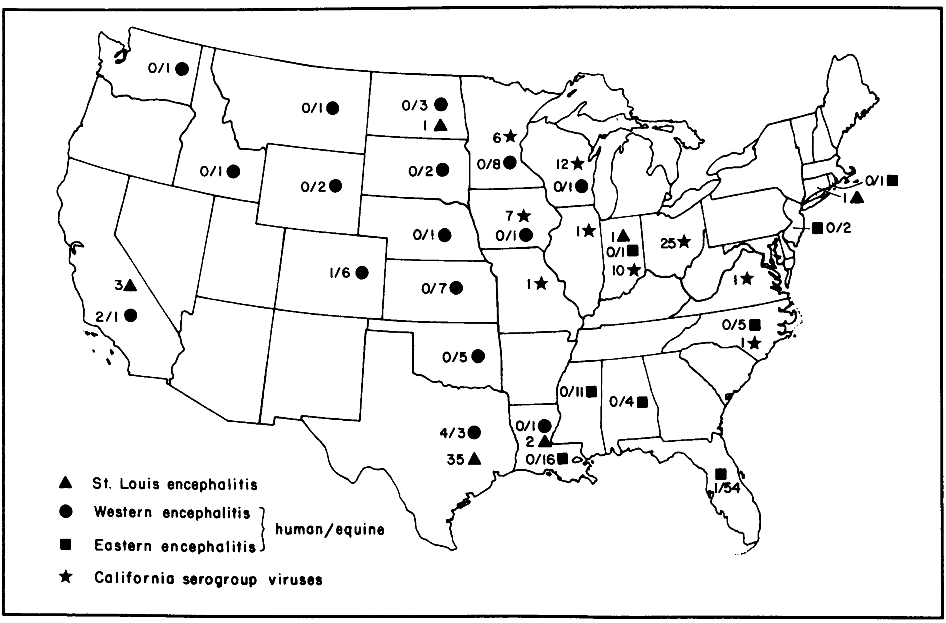
LaCrosse virus was the presumed cause of 62 reported CNS infections, and cross-neutralization tests showed that Jamestown Canyon virus caused two cases. Of the persons with LaCrosse virus infections, 46 (74%) were males, 44 of whom were <18 years of age, and the others were girls, all <18 years of age. The incidence of CNS infections from LaCrosse virus for the resident population <18 years in Iowa, Ohio, Wisconsin, Minnesota, Indiana, and Illinois was 0.51/100,000 (range=0.87 [Iowa] to 0.03/100,000 [Illinois]). The two persons with Jamestown Canyon virus infections were a 39-year-old man and a 10-year-old girl, both Indiana residents.

Western Equine Encephalitis

Four of the seven persons with WEE were infants <6 months of age. Two infants presented with clinical manifestations of aseptic meningitis or encephalitis, initially suggesting an enteroviral infection. Another infant was believed to have a poliovirus infection resulting from immunization. The other patients were a 16-year-old girl and a 37-year-old woman.

Reported by: E Hughes, Mobile County Health Dept; L Lauerman, DVM, Alabama State Dept of Agriculture and Industries; WE Birch, DVM, State Epidemiologist, Alabama State Dept of Public Health. J Doll, PhD, M Wright, R Cheshier, PhD, W Stromberg, PhD, GG Caldwell, MD, State Epidemiologist, Arizona Dept of Health Svcs. TC McChesney, DVM, State Epidemiologist, Arkansas Div of Health. Microbiology Reference Laboratory, Long Beach; Long Beach City Health Dept; Arbovirus Research Unit, School of Public Health, University of California, Berkeley; Epidemiology, Laboratory, and Vector Control Svcs, County of Los Angeles Dept of Health Svcs; Orange County Health Care Agency; County of Riverside; R Emmons, MD, Viral and Rickettsial Disease Laboratory Section, R Murray, PhD, R Roberto, MD, Infectious Disease

FIGURE 1. Arboviral infections of the central nervous system, by state — United States, 1986



Arboviral Infections — Continued

Editorial Note: St. Louis encephalitis is the principal cause of epidemic encephalitis in the United States, leading to periodic widespread outbreaks in the Mississippi Valley (*2,3*). The cluster of cases occurring on the Gulf Coast in 1986 was remindful of events in 1980, when outbreaks in New Orleans, the Houston Standard Metropolitan Statistical Area, and the coastal counties of Victoria and Nueces, Texas, accounted for 78 cases (Texas Department of Health, unpublished data). In 1986, the case-fatality ratio in Houston and other Gulf Coast cities where cases were not actively sought was 3/14 (21%). From 1971 through 1982, in the United States, where there also was no active case finding, the case-fatality ratio for SLE was 6.5%, suggesting that in the 1986 outbreak only the most severe cases were reported and that more extensive transmission escaped detection. Since 1971, when county-based surveillance data became available, Harris County has reported the most SLE cases of any county in the United States (CDC, unpublished data).

LaCrosse virus infections are endemic in the eastern United States and are most prevalent in the upper Midwest (*3*). Cases occur principally in children. Boys, who account for two-thirds of cases, are at highest risk because of their greater outdoor exposure. In the decade between 1977 and 1986, the average number of cases per year reported to CDC was 83. In the upper Midwest states mentioned above, the average annual incidence for this period (based on reported cases) was 0.7/100,000 population <18 years. However, LaCrosse virus infections may be significantly underreported. A population-based study of Olmsted County, Minnesota, showed that LaCrosse virus was the most frequently diagnosed cause of viral encephalitis in the county from 1950 through 1981 (*4*). Extrapolations from this report indicate that the annual incidence for LaCrosse encephalitis in the county may have been 3/100,000. Although LaCrosse encephalitis is rarely fatal (<0.5% of cases), residual convulsive disorders occur in 5%-15% of patients (*3*). Viewed from this perspective, LaCrosse virus infections are an important public health concern as a cause of CNS morbidity among children in endemic areas.

Jamestown Canyon virus infections recently have been prevalent in the Midwest, with a point seroprevalence rate of 28% in one study of Michigan residents (*5*). Aseptic meningitis, which occurs principally in adults, is the most common clinical presentation (*6*). *Aedes albopictus*, an Asian mosquito recently introduced into the United States (*7*), has been shown experimentally to transmit both LaCrosse and Jamestown Canyon viruses (*8*). No naturally infected mosquitoes or instances of human infections with California viruses have been attributed to this vector. However, the spread of this mosquito to the midwestern states, where it may reproduce and enter the maintenance cycle of these viruses, has raised concern that an increase in California serogroup CNS infections may result.

Although a major WEE epidemic occurred in the United States as recently as 1975, most WEE cases occur sporadically in the western United States (*3*). The age-specific incidence is highest in children <5 years of age; 78% of the persons affected are males, who are more likely than females to encounter the vector mosquito, *Culex tarsalis*, in rural agricultural areas.

EEE is a rare disease in the United States, with fewer than 20 cases reported in most years. However, in the last decade, 30% of the cases have been fatal.

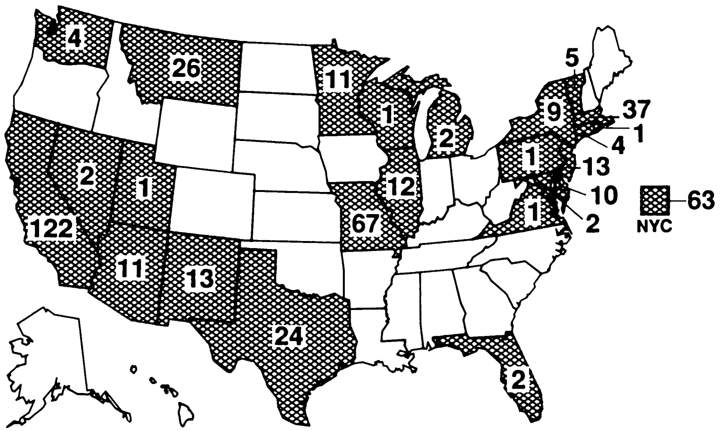
References

1. CDC. St Louis encephalitis—Baytown and Houston, Texas. MMWR 1986;35:693-5.
2. Monath TP. Epidemiology. In: Monath TP, ed. St Louis encephalitis. Washington, DC: American Public Health Association, 1980:239-312.

Arboviral Infections — Continued

3. Tsai TF, Monath TP. Viral diseases in North America transmitted by arthropods or from vertebrate reservoirs. In: Feigin R, Cherry J, eds. Textbook of pediatric infectious diseases, vol II. 2nd ed. Philadelphia: Saunders Co, 1987:1417-56.
4. Beghi E, Nicolosi A, Kurland LT, Mulder DW, Hauser WA, Shuster L. Encephalitis and aseptic meningitis, Olmsted County, Minnesota, 1950-1981—I: epidemiology. Ann Neurol 1984;16: 283-94.
5. Grimstad PR, Calisher CH, Harroff RN, Wentworth BB. Jamestown Canyon virus (California serogroup) is the etiologic agent of widespread infection in Michigan humans. Am J Trop Med Hyg 1986;35:376-86.
6. Srihongse S, Grayson MA, Diebel R. California serogroup viruses in New York State: the role of subtypes in human infections. Am J Trop Med Hyg 1984;33:1218-27.
7. CDC. Update: *Aedes albopictus* infestation—United States. MMWR 1986;35:649-51.
8. Shroyer, DA. *Aedes albopictus* and arboviruses: a concise review of the literature. J Am Mosq Control Assoc 1986;2:424-8.

FIGURE I. Reported measles cases — United States, weeks 23-26, 1987



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

☆U.S. Government Printing Office: 1987-730-145/60013 Region IV

DEPARTMENT OF
HEALTH & HUMAN SERVICES
Public Health Service
Centers for Disease Control
Atlanta, GA 30333

Official Business
Penalty for Private Use $300

Postage and Fees Paid
U.S. Dept. of H.H.S.
HHS 396

Z4 *HCRU9FISD22 8721
DANIEL B FISHBEIN, MD
CID, VRL
7-B44 G13

X

 Redistribution using indicia is illegal.