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Outbreak of Salmonellosis Associated With Beef Jerky — New Mexico, 1995

In February 1995, the New Mexico Department of Health (NMDOH) was notified of cases of salmonellosis in two persons who had eaten beef jerky. An investigation by the New Mexico Environment Department determined that these cases were associated with beef jerky processed at a local plant. An investigation by NMDOH identified 91 additional cases. This report summarizes the investigation of this outbreak.

On January 26, 1995, two men presented to the emergency department of a local hospital after onset of diarrhea and abdominal cramps. On January 24, the men had purchased and consumed carne seca, a locally produced beef jerky. Cultures of leftover beef jerky and stool obtained from one patient grew *Salmonella*. On February 7, NMDOH identified both isolates as *Salmonella* serotype Montevideo.

NMDOH initiated efforts to determine whether other cases of salmonellosis associated with beef jerky had occurred. On February 8, NMDOH issued a news release advising the public not to eat the implicated brand of beef jerky and to contact the local health department if illness had occurred after eating the product. Cases also were identified through a review of NMDOH records for isolates matching those identified in jerky samples. A confirmed case of beef jerky-related salmonellosis was defined as isolation of *Salmonella* from a stool sample obtained from a person who had consumed the implicated jerky. A probable case was defined as onset of diarrhea, abdominal cramps, vomiting, and/or nausea in a person who had consumed the implicated jerky.

Illness in 93 persons met the probable or confirmed case definitions. Ill persons reported purchasing the jerky at the local processing plant and eating the jerky during January 21–February 7; onset of symptoms occurred during January 22–February 11 (Figure 1). Incubation periods for most (89%) persons were ≤3 days. The median age of ill persons was 22 years (range: 2–65 years); 56 (60%) were male. Symptoms of the 93 persons included diarrhea (93%), bloody diarrhea (13%), abdominal cramps (87%), headache (74%), fever (61%), vomiting (43%), and chills (40%). The median duration of illness was 7 days (range: 1–40 days). Five persons (5.4%) were hospitalized.

Of the 93 cases, 40 were culture-confirmed. From the stool samples of these 40 ill persons, three *Salmonella* serotypes were isolated: *Salmonella* Typhimurium (31 persons), *Salmonella* Montevideo (12), and *Salmonella* Kentucky (11). Stool samples from 12 persons yielded two serotypes, and the sample from one patient contained

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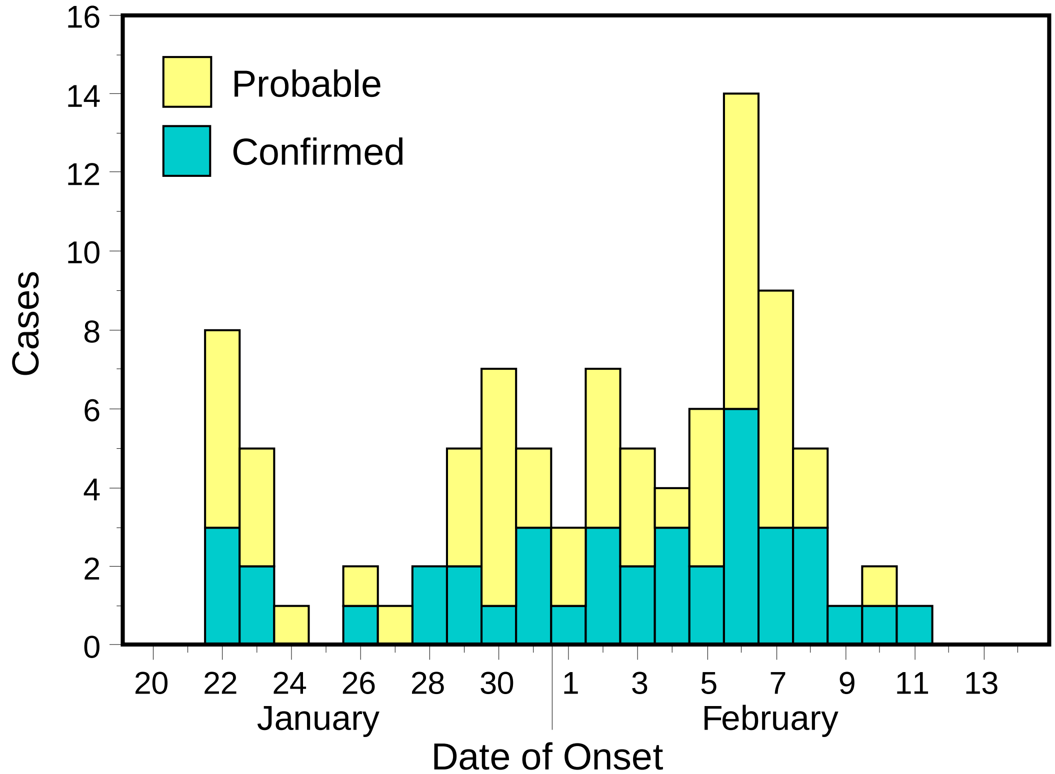
FIGURE 1. Number of probable* and confirmed† cases of beef jerky-related salmonellosis, by date of onset — New Mexico, January 20–Feburary 14, 1995



*Onset of diarrhea, abdominal cramps, vomiting, and/or nausea in a person who had eaten the implicated jerky.

†Isolation of *Salmonella* from a stool sample obtained from a person who had eaten the implicated jerky.

all three serotypes. Samples of leftover beef jerky were obtained from five ill persons and from the manufacturer; 11 of the 12 samples tested contained one or more of the three *Salmonella* serotypes isolated from the patients. Each of the *Salmonella* Typhimurium isolates obtained from 31 persons with culture-confirmed cases and from the beef jerky were the same uncommon phenotypic variant.

The processing plant that manufactured the contaminated beef jerky was inspected by state authorities on January 31. However, because the plant was not in production, processing-stage temperatures could not be obtained. The owner of the plant described the processing to include placement of slices of partially frozen beef on racks in a drying room at 140 F (60 C) for 3 hours, then holding the meat at 115 F (46 C) for approximately 19 hours; however, temperatures of the meat were never measured. After processing, the jerky was placed in uncovered plastic tubs for sale to the public. The plant owner, who performed all the work in the plant, denied a history of recent gastrointestinal illness but declined to provide a stool specimen. The plant voluntarily closed permanently on February 10. *Salmonella* was not isolated from environmental swabs taken from 20 surfaces within the plant on February 20.

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Editorial Note: Although beef jerky and other processed meat products are considered to be ready-to-eat and, therefore, are expected to be pathogen-free, some recent foodborne disease outbreaks have been associated with ready-to-eat meat products, including salami and sausage (*1,2*). In the outbreak described in this report, the isolation of the same *Salmonella* serotype from leftover beef jerky and the stool specimen of an ill person who reported eating the jerky warranted the rapid intervention initiated by NMDOH. Isolation of the combination of uncommon *Salmonella* serotypes from leftover jerky and the stool specimen of one patient confirmed beef jerky as the source of the outbreak. In addition to this outbreak, NMDOH investigated five outbreaks of salmonellosis associated with locally produced beef jerky during 1966–1988 (*3,4*) and one outbreak of staphylococcal food poisoning in 1982; none of the beef jerky implicated in these outbreaks had been shipped to other states.

To determine whether consumption of jerky had been associated with foodborne outbreaks in other states during 1976–1995, NMDOH and CDC during May–August 1995 conducted an electronic mail survey with telephone follow-up of all other state health departments. Of the 47 state health departments that responded, 24 (51%) reported that processors of beef jerky were located within their state; however, only four states reported foodborne disease outbreaks associated with locally produced or homemade jerky during 1976–1995, and these outbreaks were caused by *Trichinella spiralis* and nitrite poisoning. In addition to beef, jerky implicated in these outbreaks had been produced from meat obtained from cougar and bear. Potential explanations for the larger number of jerky-related cases in New Mexico include higher prevalences of consumption of beef jerky, enhanced surveillance for outbreaks, and differences in production methods.

This outbreak underscores the risk for foodborne disease associated with consumption of locally produced beef jerky and the need for preventive measures. Conditions recommended for the prevention of bacterial growth during jerky production include rapid drying at high temperatures (i.e., initial drying temperature >155 F [68.3 C] for 4 hours, then >140 F [60 C] for an additional 4 hours) and decreased water activity (i.e., a_W=0.86) (*5,6*). In 1989, because of several beef jerky-related foodborne outbreaks, the New Mexico Environment Department promulgated regulations regarding the commercial production of jerky made from meat or poultry. The outbreak described in this report is the first jerky-related outbreak to be recognized in New Mexico since the regulations were implemented. As a result of this outbreak, the New Mexico Environment Department plans to evaluate the production processes, including temperatures of meat during drying, of all jerky processors in New Mexico and to assist processors in implementing changes necessary to comply with the regulations.

References

1. CDC. *Escherichia coli* O157:H7 outbreak linked to commercially distributed dry-cured salami—Washington and California, 1994. MMWR 1995;44:157–60.
2. CDC. Community outbreak of hemolytic uremic syndrome attributable to *Escherichia coli* O111:NM—South Australia, 1995. MMWR 1995;44:550–1,557–8.
3. CDC. Salmonellosis associated with carne seca—New Mexico. MMWR 1985;34:645–6.

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4. CDC. Salmonellosis—New Mexico. MMWR 1967;16:70.
5. Holley RA. Beef jerky: viability of food-poisoning microorganisms on jerky during its manufacture and storage. Journal of Food Protection 1985;48:100–6.
6. Holley RA. Beef jerky: fate of *Staphylococcus aureus* in marinated and corned beef during jerky manufacture and 2.5° C storage. Journal of Food Protection 1985;48:107–71.

Blood Lead Levels Among Children — Rhode Island, 1993–1995

Since January 1993, screening of children aged <6 years for elevated blood lead levels (BLLs) has been mandatory in Rhode Island.* Erythrocyte protoporphyrin was eliminated as a method of lead screening in February 1993; since then, all children in the state have been screened for lead poisoning by testing capillary or venous blood samples for lead. From March 1993 through February 1995, results of blood lead tests of 56,379 children aged <6 years were reported to Rhode Island's lead surveillance system. This report summarizes an analysis of these data by the Rhode Island Department of Health (RIDH) to better characterize the burden of childhood lead poisoning in the state.

In Rhode Island, recommendations for screening children aged <6 years adhere to CDC's guidelines (*1*) and are based on a child's risk for lead poisoning and the results of previous blood lead tests. In a previous analysis through September 1994 (*2*), 99% of all children born in Rhode Island during September 1990–August 1991 had at least one BLL recorded in the RIDH screening database. For children who were tested from March 1993 through February 1995, age, sex, and socioeconomic status were reported for >97%, and race/ethnicity was reported for 86%. Race/ethnicity is presented in this report because it is a risk factor for elevated BLLs independent of socioeconomic status (*3*). Venous screening samples were obtained from 10,717 (33%) children screened during March 1993–February 1994 (year 1), and from 11,403 (47%) children screened during March 1994–February 1995 (year 2). These data represent initial screens and do not include follow-up tests. Because capillary samples sometimes may be contaminated with lead dust from incompletely cleaned fingers, resulting in an overestimate of BLLs, this report presents results for the analysis of venous samples only.

From year 1 to year 2, the overall percentage of children with elevated BLLs (≥10 µg/dL) among all age groups declined (Table 1). However, the percentage of children with very high BLLs (i.e., ≥45 µg/dL) was similar for the 2 years. For both years, most children with BLLs ≥10 µg/dL lived in poverty† (66.9%) and were members of racial/ethnic minority groups (63.5%).

From year 1 to year 2, the geometric mean BLL declined from 5.4 µg/dL to 4.1 µg/dL (Table 2). Declines occurred in all racial/ethnic, socioeconomic, and age groups. However, the mean BLL was higher for children who were members of racial/ethnic minority groups and for those living in poverty. In particular, children with BLLs ≥20 µg/dL disproportionately included Hispanics (35% and 33% for years 1 and 2, respectively), who constituted 4.6% of the total population of Rhode Island, blacks

*Rhode Island Rules and Regulations for Lead Poisoning Prevention (R23-24.6-PB) §A.2.3 as amended.

†As determined by the Bureau of the Census, which designates the socioeconomic status of every census tract in the United States.

TABLE 1. Distribution of venous blood lead levels (BLLs)* among children aged <6 years, by age group at testing and year — Rhode Island Childhood Lead Surveillance Program, March 1993–February 1994 (year 1) and March 1994–February 1995 (year 2)

	Age group																			
	<1 yr				1–2 yrs				3–5 yrs				Unknown¶				Total			
BLL	Year 1†		Year 2§		Year 1		Year 2		Year 1		Year 2		Year 1		Year 2		Year 1		Year 2	
(µg/dL)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
<10	946	(88)	1321	(92)	3357	(74)	4168	(84)	3576	(74)	4103	(85)	212	(79)	139	(87)	**8091**	**(76)**	**9731**	**(85)**
≥10	129	(12)	116	(8)	1176	(26)	794	(16)	1266	(26)	742	(15)	55	(21)	20	(13)	**2626**	**(25)**	**1672**	**(15)**
≥15	54	(5)	46	(3)	535	(12)	374	(7)	522	(11)	282	(6)	20	(8)	6	(4)	**1131**	**(11)**	**708**	**(6)**
≥20	24	(2)	19	(1)	252	(6)	188	(4)	239	(5)	119	(3)	7	(3)	3	(2)	**522**	**(5)**	**329**	**(3)**
≥45	1	(<1)	1	(<1)	12	(<1)	12	(<1)	3	(<1)	5	(<1)	0		0		**16**	**(<1)**	**18**	**(<1)**
Total	**1075**		**1437**		**4533**		**4962**		**4842**		**4845**		**267**		**159**		**10,717**		**11,403**	

* Data represent initial screens and do not include follow-up tests.
† Age missing for 267 children.
§ Age missing for 159 children.
¶ Age <72 months, but specific age subset unknown.

Blood Lead Levels — Continued

TABLE 2. Geometric mean venous blood lead levels (BLLs)* among children aged <6 years, by age, race/ethnicity, socioeconomic status, and year, and percentage change from year 1 to year 2 — Rhode Island Lead Surveillance Program, March 1993–February 1994 (year 1) and March 1994–February 1995 (year 2)

	Year 1		Year 2		
Characteristic	No. tested	Geometric mean BLL (μg/dL)	No. tested	Geometric mean BLL (μg/dL)	% Change from year 1 to year 2
Age (yrs)					
<1	1075	4.5	1437	3.4	–24
1	2331	5.3	3142	3.8	–28
2	2202	5.9	1820	4.7	–20
3	2080	5.6	1819	4.4	–21
4	1671	5.6	1679	4.3	–23
5	1091	5.4	1347	4.0	–26
Unknown	267	5.1	159	4.0	–22
Race/Ethnicity					
White, non-Hispanic	5439	4.4	6388	3.3	–25
Black, non-Hispanic	894	8.3	866	7.0	–16
Hispanic	2412	7.1	2000	5.6	–21
Asian/Pacific Islander	586	8.2	389	6.9	–16
American Indian/ Alaskan native	25	9.3	13	7.4	–20
Other	129	6.0	154	4.4	–27
Unknown	1232	5.0	1593	4.2	–16
Socioeconomic status†					
Poverty	4354	7.7	3987	6.3	–18
Low	1401	4.7	1709	3.5	–26
Middle	3658	4.1	4349	3.1	–24
High	1096	4.2	1133	3.0	–29
Unknown	208	4.3	225	3.6	–16
Total	**10,717**	**5.4**	**11,403**	**4.1**	**–24**

*Data represent initial screens and do not include follow-up tests.
†As determined by the Bureau of the Census, which designates the socioeconomic status of every census tract in the United States.

(24% and 29%), who constituted 3.9% of the population, and Asian/Pacific Islanders (11% and 7%), who constituted 1.8% of the state's population. In both years, the highest mean BLLs occurred among children aged 2 years.

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Editorial Note: The findings in this report indicate that, although BLLs were elevated among high proportions of children in Rhode Island, overall mean BLLs and the prevalence of elevated BLLs among children receiving initial venous tests declined during 1993–1995. These declines may have reflected the effect of 1) sampling (i.e., targeting

Blood Lead Levels — Continued

of children at high risk for lead poisoning in year 1 may have resulted in fewer at-risk children undergoing initial testing in the second year); 2) a change in the pattern of use of venous versus capillary methods for initial tests of high-risk children; 3) prevention activities, which may have decreased the number of children exposed to lead hazards; and/or 4) decreases unrelated to current prevention activities.

The patterns of elevated BLLs in Rhode Island are similar to those in the Third National Health and Nutrition Examination Survey (NHANES III) (*3*): BLLs were highest among racial/ethnic minority children and children living in poverty. Despite declines in BLLs in Rhode Island, the persistent high prevalence of elevated BLLs indicates the need for continued screening and prevention activities in the state. The Rhode Island lead surveillance data will assist in ongoing evaluation of the effectiveness of RIDH's intervention and prevention efforts. The Rhode Island lead program provides environmental inspections of homes of children with elevated BLLs, nutritional information, education about approaches to reducing lead exposure to families of children with elevated BLLs, educational materials to the general public and health professionals, funds for the primary lead poisoning treatment clinic in the state, and financial assistance for lead inspection and abatement.

Surveillance for BLLs enables the monitoring of trends and distributions of BLLs among young children. In May 1995, the Council of State and Territorial Epidemiologists added elevated BLLs among children and adults to the National Notifiable Diseases Surveillance System. CDC is collaborating with 24 states to develop laboratory-based surveillance for BLLs among children, which can be used to target resources and assess the effectiveness of intervention efforts.

References

1. CDC. Preventing lead poisoning in young children: a statement by the Centers for Disease Control, October 1991. Atlanta: US Department of Health and Human Services, Public Health Service, 1991.
2. Buchner J, Simon P, Dundulis W, et al. Health by numbers: lead poisoning among Rhode Island preschoolers. Rhode Island Medicine 1995;4:120.
3. Brody DJ, Pirkle JA, Kramer RA, et al. Blood lead levels in the U.S. population: phase 1 of the Third National Health and Nutrition Examination Survey (NHANES III, 1988 to 1991). JAMA 1994;272:277–83.

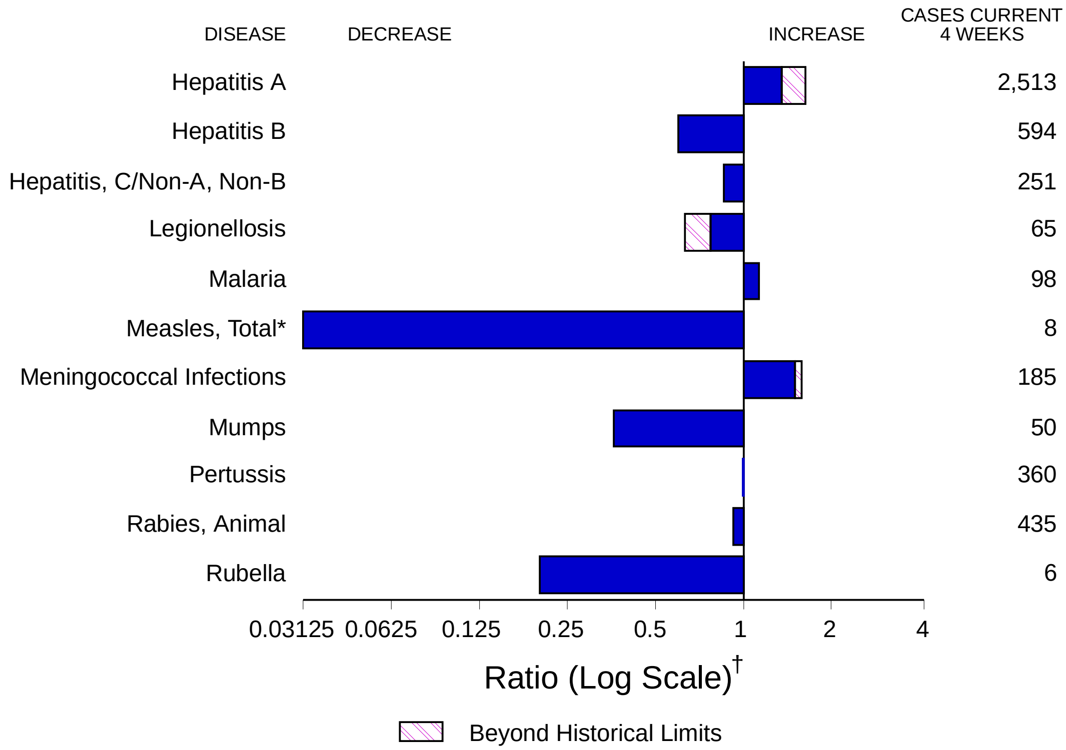
Progress Toward Poliomyelitis Eradication — South East Asia Region, 1988–1994

Since the adoption of the poliomyelitis eradication initiative by the World Health Organization (WHO) in 1988, substantial progress toward the eradication of polio has been achieved in the Region of the Americas and in the Western Pacific Region of WHO (*1–3*). A major step toward global eradication was made in 1994, when polio eradication activities—specifically the implementation of biannual National Immunization Days* (NIDs)—were accelerated in the member countries of the South East Asia

(Continued on page 797)

*Mass campaigns over a short period (days to weeks) in which two doses of oral poliovirus vaccine are administered to all children in the target age group, regardless of prior vaccination history, with an interval of 4–6 weeks between doses.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending October 21, 1995, 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 of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending October 21, 1995 (42nd Week)

	Cum. 1995		Cum. 1995
Anthrax	-	Psittacosis	54
Brucellosis	73	Rabies, human	2
Cholera	14	Rocky Mountain Spotted Fever	472
Congenital rubella syndrome	6	Syphilis, congenital, age < 1 year†	280
Diphtheria	-	Tetanus	26
*Haemophilus influenzae**	941	Toxic shock syndrome	146
Hansen Disease	109	Trichinosis	25
Plague	7	Typhoid fever	286
Poliomyelitis, Paralytic	-		

*Of 922 cases of known age, 223 (24%) were reported among children less than 5 years of age.

†Updated quarterly from reports to the Division of STD Prevention, National Center for Prevention Services. This total through second quarter 1995.

-: no reported cases

TABLE II. Cases of selected notifiable diseases, United States, weeks ending October 21, 1995, and October 22, 1994 (42nd Week)

Reporting Area	AIDS*	Gonorrhea		Hepatitis (Viral), by type: A		Hepatitis (Viral), by type: B		Hepatitis (Viral), by type: C/NA,NB		Legionellosis	
	Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	54,704	277,338	328,217	23,110	19,803	7,702	9,195	3,135	3,295	979	1,265
NEW ENGLAND	2,653	4,810	7,000	245	241	168	275	93	124	30	67
Maine	81	67	74	26	21	7	11	-	-	5	5
N.H.	77	93	93	9	16	18	23	12	9	2	-
Vt.	30	49	29	5	10	1	6	1	12	-	-
Mass.	1,137	2,334	2,604	106	90	68	157	73	83	19	46
R.I.	192	427	380	28	20	8	7	7	20	4	16
Conn.	1,136	1,840	3,820	71	84	66	71	-	-	N	N
MID. ATLANTIC	14,696	27,072	37,214	1,366	1,369	1,026	1,195	369	376	157	205
Upstate N.Y.	1,736	3,846	8,482	361	464	320	317	188	178	42	47
N.Y. City	7,624	9,775	13,984	633	527	304	270	1	1	4	7
N.J.	3,575	3,326	4,229	196	233	249	303	143	166	23	37
Pa.	1,761	10,125	10,519	176	145	153	305	37	31	88	114
E.N. CENTRAL	4,122	60,753	65,415	2,326	1,992	746	956	223	274	259	359
Ohio	852	17,515	17,406	1,513	744	91	137	12	20	127	164
Ind.	429	6,606	7,186	145	324	186	169	6	8	62	36
Ill.	1,736	17,294	20,033	217	491	94	252	33	74	13	33
Mich.	825	14,660	14,500	304	241	330	320	172	172	27	71
Wis.	280	4,678	6,290	147	192	45	78	-	-	30	55
W.N. CENTRAL	1,266	15,832	18,142	1,520	1,000	481	539	106	69	98	84
Minn.	285	2,390	2,620	163	188	50	48	4	14	6	2
Iowa	71	1,295	1,253	53	55	39	24	12	9	19	28
Mo.	564	9,104	9,995	1,082	515	325	408	63	18	47	31
N. Dak.	6	24	34	23	5	4	-	8	1	4	4
S. Dak.	15	141	180	54	31	2	2	1	-	3	1
Nebr.	84	757	1,060	35	113	23	28	6	11	12	13
Kans.	241	2,121	3,000	110	93	38	29	12	16	7	5
S. ATLANTIC	14,155	81,821	87,723	1,090	1,014	1,155	1,663	281	345	163	309
Del.	241	1,828	1,577	7	21	2	13	1	1	2	31
Md.	2,250	7,471	15,124	180	149	212	289	4	17	27	68
D.C.	827	3,809	5,906	21	18	19	43	-	1	4	7
Va.	1,082	8,407	10,866	175	143	93	106	17	21	18	8
W. Va.	86	544	659	21	17	45	33	43	25	4	3
N.C.	816	19,681	23,060	89	112	224	233	47	53	31	24
S.C.	766	9,852	10,918	40	33	43	25	16	8	31	15
Ga.	1,784	13,509	U	52	27	62	517	13	174	14	106
Fla.	6,303	16,720	19,613	505	494	455	404	140	45	32	47
E.S. CENTRAL	1,763	33,861	37,991	1,613	511	664	947	789	764	43	73
Ky.	221	3,974	4,120	36	133	56	69	22	25	10	8
Tenn.	709	11,206	12,365	1,341	230	523	811	765	724	24	36
Ala.	484	13,578	12,573	72	83	85	67	2	15	6	13
Miss.	349	5,103	8,933	164	65	-	-	-	-	3	16
W.S. CENTRAL	4,691	25,285	39,896	3,735	2,575	1,142	1,039	259	263	16	36
Ark.	209	792	5,369	483	158	52	22	4	7	1	6
La.	785	8,938	9,931	110	131	160	142	140	147	3	12
Okla.	206	4,550	3,799	852	293	139	116	37	49	5	11
Tex.	3,491	11,005	20,797	2,290	1,993	791	759	78	60	7	7
MOUNTAIN	1,716	6,909	8,179	3,218	3,953	641	536	344	371	97	73
Mont.	17	59	72	124	18	19	18	13	12	4	14
Idaho	38	99	73	263	294	71	68	41	65	2	1
Wyo.	12	85	68	98	24	20	23	136	138	12	4
Colo.	523	2,329	2,852	449	447	108	85	54	59	35	15
N. Mex.	137	832	823	684	915	248	170	39	45	4	3
Ariz.	545	2,591	2,598	895	1,575	92	59	37	22	9	9
Utah	112	131	227	576	476	54	64	10	16	15	6
Nev.	332	783	1,466	129	204	29	49	14	14	16	21
PACIFIC	9,642	20,995	26,657	7,997	7,148	1,679	2,045	671	709	116	59
Wash.	717	2,227	2,398	682	892	152	190	181	207	20	11
Oreg.	347	249	839	1,982	839	93	131	30	35	-	-
Calif.	8,328	17,809	22,092	5,156	5,184	1,412	1,687	421	462	91	45
Alaska	60	577	736	46	186	9	12	1	-	-	-
Hawaii	190	133	592	131	47	13	25	38	5	5	3
Guam	-	66	111	5	22	1	4	-	-	1	1
P.R.	1,925	470	408	81	53	455	304	18	143	-	-
V.I.	27	6	33	-	3	2	7	-	1	-	-
Amer. Samoa	-	25	25	6	8	-	-	-	-	-	-
C.N.M.I.	-	23	45	15	8	7	1	-	-	-	-

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 September 28, 1995.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 21, 1995, and October 22, 1994 (42nd Week)

Reporting Area	Lyme Disease		Malaria		Measles (Rubeola)						Meningococcal Infections		Mumps	
					Indigenous		Imported*		Total					
	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	1995	Cum. 1995	1995	Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	7,023	10,135	1,007	881	2	250	2	27	277	874	2,428	2,205	662	1,178
NEW ENGLAND	1,657	2,352	41	64	-	7	-	2	9	27	114	104	11	19
Maine	25	18	6	5	-	-	-	-	-	5	9	19	4	3
N.H.	19	25	1	3	-	-	-	-	-	1	20	8	1	4
Vt.	8	15	1	3	-	-	-	-	-	3	8	2	-	-
Mass.	162	157	14	29	-	1	-	1	2	7	40	48	2	3
R.I.	285	347	4	8	-	5	-	-	5	7	-	-	1	2
Conn.	1,158	1,790	15	16	-	1	-	1	2	4	37	27	3	7
MID. ATLANTIC	4,424	6,152	265	171	-	7	-	5	12	221	278	243	94	94
Upstate N.Y.	2,289	3,891	54	44	-	1	-	-	1	26	87	80	24	28
N.Y. City	186	21	140	62	-	2	-	3	5	14	39	30	13	7
N.J.	944	1,211	53	38	-	4	-	2	6	173	73	52	12	13
Pa.	1,005	1,029	18	27	-	-	-	-	-	8	79	81	45	46
E.N. CENTRAL	68	480	92	93	-	7	-	4	11	102	331	325	121	206
Ohio	46	37	11	15	-	1	-	1	2	17	97	95	42	57
Ind.	14	15	15	12	-	-	-	-	-	1	61	41	4	7
Ill.	3	23	32	40	-	-	-	2	2	56	71	107	34	93
Mich.	5	7	21	23	-	4	-	1	5	25	64	47	41	37
Wis.	-	398	13	3	-	2	-	-	2	3	38	35	-	12
W.N. CENTRAL	197	252	23	40	-	2	-	-	2	170	163	140	41	62
Minn.	129	129	4	12	-	-	-	-	-	-	27	13	4	4
Iowa	15	14	2	5	-	-	-	-	-	7	29	18	9	15
Mo.	34	96	8	12	-	1	-	-	1	160	66	68	22	38
N. Dak.	-	-	1	1	-	-	-	-	-	-	1	1	1	4
S. Dak.	-	-	2	-	-	-	-	-	-	-	6	8	-	-
Nebr.	1	3	3	4	-	-	-	-	-	2	14	12	4	1
Kans.	18	10	3	6	-	1	-	-	1	1	20	20	1	-
S. ATLANTIC	435	678	210	188	-	11	-	1	12	65	439	320	89	166
Del.	7	102	1	3	-	-	-	-	-	-	6	5	-	-
Md.	267	216	55	69	-	-	-	1	1	4	33	29	20	50
D.C.	2	7	16	14	-	-	-	-	-	-	5	4	-	-
Va.	48	119	50	29	-	-	-	-	-	3	56	58	21	38
W. Va.	22	21	4	-	-	-	-	-	-	37	8	12	-	3
N.C.	49	75	15	11	-	-	-	-	-	3	68	44	16	35
S.C.	16	7	1	4	-	-	-	-	-	-	53	22	10	7
Ga.	10	116	27	29	-	2	-	-	2	3	79	68	6	9
Fla.	14	15	41	29	-	9	-	-	9	15	131	78	16	24
E.S. CENTRAL	41	39	21	31	-	-	-	-	-	28	150	156	15	20
Ky.	9	22	2	11	-	-	-	-	-	-	48	34	-	-
Tenn.	20	11	8	10	-	-	-	-	-	28	37	29	2	7
Ala.	7	6	8	9	-	-	-	-	-	-	35	62	4	5
Miss.	5	-	3	1	-	-	-	-	-	-	30	31	9	8
W.S. CENTRAL	101	101	48	40	2	28	-	3	31	17	301	260	48	210
Ark.	9	8	2	3	-	2	-	-	2	1	26	39	9	5
La.	6	1	5	8	-	17	-	1	18	1	43	34	12	25
Okla.	43	56	1	6	-	-	-	-	-	-	30	26	-	23
Tex.	43	36	40	23	2	9	-	2	11	15	202	161	27	157
MOUNTAIN	8	14	52	27	-	67	-	1	68	164	167	145	25	146
Mont.	-	-	3	-	-	-	-	-	-	-	2	6	1	-
Idaho	-	3	1	2	-	-	-	-	-	1	9	16	3	7
Wyo.	3	3	-	1	-	-	-	-	-	-	7	7	-	2
Colo.	-	1	23	11	-	26	-	-	26	19	44	28	2	4
N. Mex.	1	5	5	3	-	30	-	1	31	-	32	13	N	N
Ariz.	1	-	10	4	U	10	U	-	10	1	51	49	2	95
Utah	1	1	6	4	-	-	-	-	-	134	15	18	11	25
Nev.	2	1	4	2	-	1	-	-	1	9	7	8	6	13
PACIFIC	92	67	255	227	-	121	2	11	132	80	485	512	218	255
Wash.	10	3	21	28	-	16	-	4	20	3	77	77	12	16
Oreg.	9	6	19	14	-	-	2	3	3	2	92	115	N	N
Calif.	73	58	202	169	-	105	-	3	108	61	304	312	186	218
Alaska	-	-	3	2	-	-	-	-	-	10	8	2	13	4
Hawaii	-	-	10	14	-	-	-	1	1	4	4	6	7	17
Guam	-	-	-	-	U	-	U	-	-	228	3	-	3	6
P.R.	-	-	1	4	-	11	-	-	11	11	23	7	2	2
V.I.	-	-	-	-	U	-	U	-	-	-	-	-	2	4
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	2
C.N.M.I.	-	-	1	1	U	-	U	-	-	29	-	-	-	2

*For imported measles, cases include only those resulting from importation from other countries.
N: Not notifiable U: Unavailable -: no reported cases

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 21, 1995, and October 22, 1994 (42nd Week)

Reporting Area	Pertussis			Rubella			Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	1995	Cum. 1995	Cum. 1994	1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	97	3,237	3,187	3	133	208	11,862	17,189	15,892	17,663	5,677	6,261
NEW ENGLAND	18	441	352	2	47	128	134	178	407	401	1,283	1,570
Maine	11	39	18	-	1	-	2	4	12	23	45	-
N.H.	-	44	68	-	1	-	1	4	18	14	129	171
Vt.	-	62	40	-	-	-	-	-	3	7	150	115
Mass.	3	267	190	-	7	124	51	77	225	206	378	590
R.I.	1	4	5	-	-	2	3	12	40	35	282	40
Conn.	3	25	31	2	38	2	77	81	109	116	299	654
MID. ATLANTIC	2	271	492	-	12	6	668	1,148	3,277	3,643	1,063	1,674
Upstate N.Y.	2	139	201	-	4	5	43	143	405	465	392	1,248
N.Y. City	-	26	107	-	7	-	318	506	1,745	2,104	-	-
N.J.	-	13	13	-	1	1	136	193	627	633	289	226
Pa.	-	93	171	-	-	-	171	306	500	441	382	200
E.N. CENTRAL	2	315	486	-	5	9	2,105	2,521	1,564	1,664	72	55
Ohio	2	123	132	-	-	-	716	955	218	278	12	4
Ind.	-	46	53	-	1	-	224	203	192	147	12	12
Ill.	-	71	93	-	1	1	786	873	770	830	3	19
Mich.	-	63	71	-	3	8	238	232	324	363	37	12
Wis.	-	12	137	-	-	-	141	258	60	46	8	8
W.N. CENTRAL	3	232	148	-	-	2	622	987	464	465	288	182
Minn.	-	122	51	-	-	-	34	39	107	106	20	15
Iowa	3	11	18	-	-	-	39	51	52	48	98	73
Mo.	-	49	39	-	-	2	512	832	180	203	21	20
N. Dak.	-	8	4	-	-	-	-	1	3	9	25	10
S. Dak.	-	11	17	-	-	-	-	1	20	21	81	33
Nebr.	-	9	9	-	-	-	11	11	20	17	5	-
Kans.	-	22	10	-	-	-	26	52	82	61	38	31
S. ATLANTIC	3	291	288	-	25	15	3,057	4,486	2,641	3,106	1,796	1,637
Del.	-	10	3	-	-	-	14	22	41	36	74	52
Md.	1	34	65	-	-	-	137	257	241	272	265	450
D.C.	-	6	8	-	-	-	92	179	87	99	11	2
Va.	-	19	36	-	-	-	486	652	202	255	366	332
W. Va.	-	-	4	-	-	-	9	8	59	68	100	64
N.C.	-	110	58	-	1	-	926	1,386	357	397	396	138
S.C.	1	23	13	-	1	-	485	674	263	311	107	149
Ga.	1	21	24	-	-	2	597	686	322	555	239	314
Fla.	-	68	77	-	23	13	311	622	1,069	1,113	238	136
E.S. CENTRAL	-	261	124	-	-	-	3,092	3,174	1,249	1,290	239	161
Ky.	-	19	59	-	-	-	168	167	240	257	25	20
Tenn.	-	204	22	-	-	-	720	854	336	442	78	34
Ala.	-	35	31	-	-	-	530	551	338	353	127	103
Miss.	-	3	12	N	N	N	1,674	1,602	335	238	9	4
W.S. CENTRAL	6	255	179	-	8	13	1,497	3,741	2,057	2,281	503	551
Ark.	2	34	27	-	1	-	-	390	33	204	-	28
La.	1	16	10	-	-	-	830	1,430	6	15	25	62
Okla.	3	30	25	-	-	4	151	134	321	202	28	31
Tex.	-	175	117	-	7	9	516	1,787	1,697	1,860	450	430
MOUNTAIN	13	457	394	-	5	5	202	209	513	440	152	131
Mont.	-	3	8	-	-	-	4	3	10	9	41	15
Idaho	2	90	45	-	-	-	-	1	12	11	3	3
Wyo.	-	1	-	-	1	-	-	1	11	8	22	19
Colo.	-	84	191	-	-	-	98	107	37	54	9	14
N. Mex.	6	98	20	-	-	-	33	18	66	43	5	6
Ariz.	U	149	98	U	3	-	34	39	257	180	49	52
Utah	5	27	29	-	1	4	4	11	37	41	15	13
Nev.	-	5	3	-	-	1	29	29	83	94	8	9
PACIFIC	50	714	724	1	31	30	485	745	3,720	4,373	281	300
Wash.	31	247	98	-	2	-	12	30	197	213	7	15
Oreg.	16	46	91	1	2	4	7	31	36	90	-	10
Calif.	3	375	518	-	24	22	465	678	3,290	3,811	270	242
Alaska	-	-	-	-	-	-	1	3	59	61	4	33
Hawaii	-	46	17	-	3	4	-	3	138	198	-	-
Guam	U	1	2	U	-	1	8	3	38	69	-	-
P.R.	-	12	2	-	-	-	245	267	195	167	44	68
V.I.	U	-	-	U	-	-	2	26	-	-	-	-
Amer. Samoa	-	-	1	-	-	-	-	1	4	4	-	-
C.N.M.I.	U	-	-	U	-	-	4	1	13	28	-	-

U: Unavailable -: no reported cases

TABLE III. Deaths in 121 U.S. cities,* week ending October 21, 1995 (42nd Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	574	381	108	51	18	16	30
Boston, Mass.	156	89	40	14	7	6	3
Bridgeport, Conn.	32	24	6	2	-	-	-
Cambridge, Mass.	15	7	6	2	-	-	-
Fall River, Mass.	29	25	3	1	-	-	1
Hartford, Conn.	37	20	7	4	3	3	2
Lowell, Mass.	15	9	2	3	1	-	2
Lynn, Mass.	20	15	3	1	1	-	1
New Bedford, Mass.	24	21	2	1	-	-	1
New Haven, Conn.	39	28	5	2	1	3	1
Providence, R.I.	54	37	9	6	1	1	3
Somerville, Mass.	9	5	3	1	-	-	-
Springfield, Mass.	57	35	10	8	1	3	11
Waterbury, Conn.	26	23	1	1	1	-	2
Worcester, Mass.	61	43	11	5	2	-	3
MID. ATLANTIC	2,373	1,535	479	252	57	50	112
Albany, N.Y.	46	30	7	4	4	1	4
Allentown, Pa.	16	12	4	-	-	-	-
Buffalo, N.Y.	104	80	16	6	1	1	5
Camden, N.J.	20	9	4	3	2	2	2
Elizabeth, N.J.	12	6	2	3	-	1	-
Erie, Pa.§	35	32	2	1	-	-	-
Jersey City, N.J.	44	30	8	4	-	2	1
New York City, N.Y.	1,250	783	254	152	32	29	40
Newark, N.J.	71	27	26	12	5	1	7
Paterson, N.J.	17	10	4	3	-	-	-
Philadelphia, Pa.	300	191	67	30	10	2	17
Pittsburgh, Pa.§	95	71	16	6	-	2	3
Reading, Pa.	10	6	2	2	-	-	3
Rochester, N.Y.	119	84	18	9	2	6	16
Schenectady, N.Y.	30	26	1	1	1	1	-
Scranton, Pa.§	24	21	3	-	-	-	1
Syracuse, N.Y.	85	52	26	6	-	1	7
Trenton, N.J.	48	29	12	6	-	1	3
Utica, N.Y.	18	14	3	1	-	-	-
Yonkers, N.Y.	29	22	4	3	-	-	3
E.N. CENTRAL	2,428	1,705	395	192	59	75	112
Akron, Ohio	52	38	7	1	1	5	-
Canton, Ohio	34	28	2	4	-	-	3
Chicago, Ill.	462	277	97	61	13	12	39
Cincinnati, Ohio	169	117	31	9	3	9	15
Cleveland, Ohio	141	81	30	20	5	5	2
Columbus, Ohio	152	109	23	11	3	6	10
Dayton, Ohio	96	75	13	5	1	2	2
Detroit, Mich.	230	134	52	25	8	11	3
Evansville, Ind.	37	23	8	3	2	1	3
Fort Wayne, Ind.	61	51	7	2	-	1	4
Gary, Ind.	14	6	3	1	3	1	-
Grand Rapids, Mich.	57	40	8	5	4	-	3
Indianapolis, Ind.	466	381	54	19	6	6	-
Madison, Wis.	58	41	9	6	-	2	6
Milwaukee, Wis.	105	77	16	3	-	9	6
Peoria, Ill.	38	31	5	2	-	-	1
Rockford, Ill.	49	32	6	7	2	2	6
South Bend, Ind.	51	39	5	1	5	1	2
Toledo, Ohio	90	71	10	5	2	2	3
Youngstown, Ohio	66	54	9	2	1	-	4
W.N. CENTRAL	695	505	110	37	16	16	34
Des Moines, Iowa	40	26	10	1	1	2	4
Duluth, Minn.	41	35	4	2	-	-	3
Kansas City, Kans.	13	7	1	3	1	1	-
Kansas City, Mo.	89	63	8	5	2	-	6
Lincoln, Nebr.	37	30	5	1	1	-	2
Minneapolis, Minn.	203	152	35	8	4	4	8
Omaha, Nebr.	91	61	15	7	3	5	4
St. Louis, Mo.	101	69	17	7	4	4	3
St. Paul, Minn.	53	40	10	3	-	-	4
Wichita, Kans.	27	22	5	-	-	-	-
S. ATLANTIC	1,407	873	280	167	46	38	98
Atlanta, Ga.	190	116	36	27	6	5	8
Baltimore, Md.	250	145	61	36	4	4	25
Charlotte, N.C.	80	53	18	8	1	-	4
Jacksonville, Fla.	158	85	34	18	11	10	18
Miami, Fla.	95	62	19	10	3	1	1
Norfolk, Va.	56	30	9	9	4	4	4
Richmond, Va.	89	57	17	9	2	2	5
Savannah, Ga.	67	46	7	10	2	2	9
St. Petersburg, Fla.	57	45	6	3	3	-	4
Tampa, Fla.	172	126	27	12	3	3	16
Washington, D.C.	181	102	46	20	6	7	4
Wilmington, Del.	12	6	-	5	1	-	-
E.S. CENTRAL	748	503	138	50	28	26	56
Birmingham, Ala.	132	89	29	12	-	2	6
Chattanooga, Tenn.	74	51	14	4	3	2	3
Knoxville, Tenn.	95	65	16	3	6	5	6
Lexington, Ky.	95	65	16	3	6	5	6
Memphis, Tenn.	141	98	22	11	6	4	19
Mobile, Ala.	40	19	11	6	2	2	1
Montgomery, Ala.	41	30	6	4	-	1	1
Nashville, Tenn.	130	86	24	7	5	5	14
W.S. CENTRAL	1,449	897	288	145	70	47	87
Austin, Tex.	87	59	15	7	2	4	5
Baton Rouge, La.	35	22	4	6	2	1	1
Corpus Christi, Tex.	49	28	9	3	3	6	2
Dallas, Tex.	194	116	41	23	7	7	5
El Paso, Tex.	74	46	13	5	2	7	4
Ft. Worth, Tex.	101	42	23	17	16	3	3
Houston, Tex.	364	221	82	42	14	5	31
Little Rock, Ark.	92	61	18	6	5	2	10
New Orleans, La.	110	56	27	14	9	4	-
San Antonio, Tex.	203	141	33	14	8	6	12
Shreveport, La.	51	40	7	3	-	1	5
Tulsa, Okla.	89	65	16	5	2	1	9
MOUNTAIN	1,027	689	184	97	30	26	70
Albuquerque, N.M.	97	74	13	8	1	1	5
Colo. Springs, Colo.	46	24	13	6	2	1	5
Denver, Colo.	109	64	19	17	4	5	7
Las Vegas, Nev.	271	177	59	28	3	4	20
Ogden, Utah	29	23	4	2	-	-	1
Phoenix, Ariz.	184	109	34	21	9	10	19
Pueblo, Colo.	39	28	9	2	-	-	1
Salt Lake City, Utah	118	85	15	8	6	4	8
Tucson, Ariz.	134	105	18	5	5	1	4
PACIFIC	1,392	935	230	149	41	35	116
Berkeley, Calif.	19	13	2	4	-	-	1
Fresno, Calif.	77	48	12	10	4	3	5
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	64	45	13	1	4	1	6
Long Beach, Calif.	64	45	12	5	1	1	5
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	30	20	5	1	1	3	3
Portland, Oreg.	127	82	18	16	7	4	3
Sacramento, Calif.	157	105	25	18	7	2	13
San Diego, Calif.	169	116	29	19	3	2	20
San Francisco, Calif.	164	102	31	27	1	3	18
San Jose, Calif.	223	147	43	18	6	9	20
Santa Cruz, Calif.	30	24	3	2	1	-	5
Seattle, Wash.	112	78	15	13	3	3	4
Spokane, Wash.	51	42	4	4	1	-	2
Tacoma, Wash.	105	68	18	11	2	4	11
TOTAL	12,093¶	8,023	2,212	1,140	365	329	715

*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

Poliomyelitis Eradication — Continued

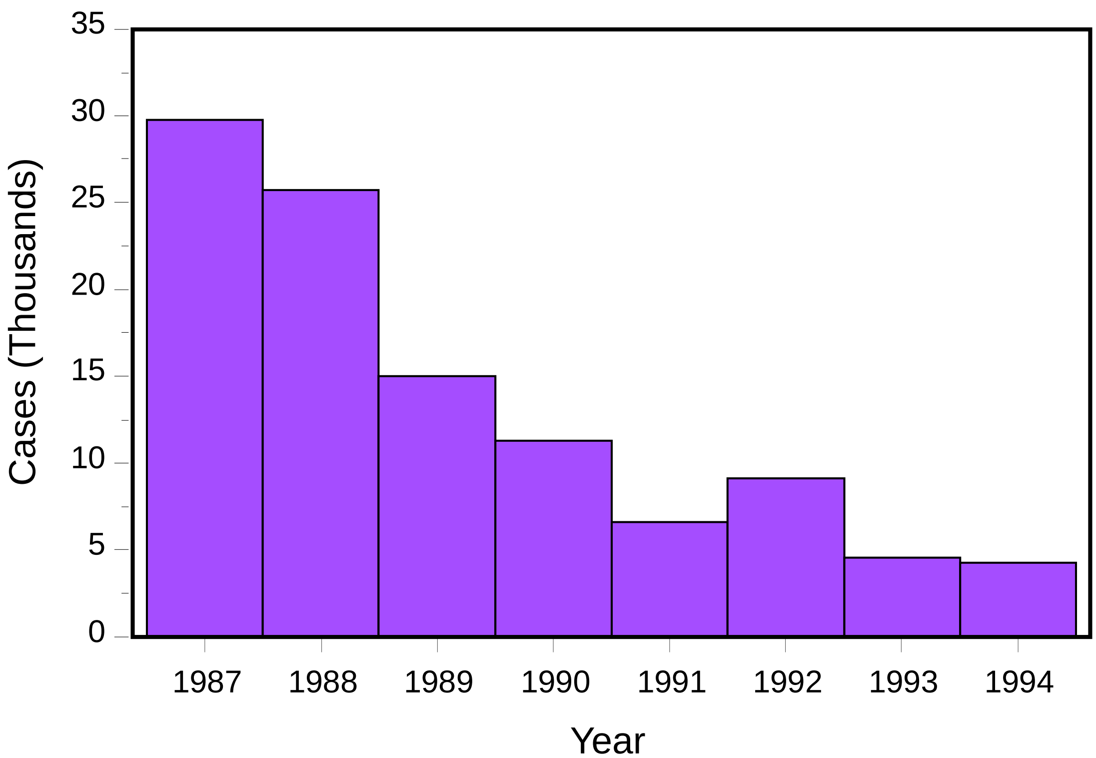
Region (SEAR) of WHO†. In August 1994, Thailand became the first SEAR country to conduct NIDs; by February 1996, seven of the 10 member countries will have conducted NIDs. This report summarizes progress toward the eradication of polio in SEAR countries from 1988 though 1994 and is based on data reported through June 1995.

Regional Summary

From 1988 through 1994, the number of paralytic polio cases reported in the region decreased by 82%, from 25,711 cases to 4373 cases (Figure 1); however, in 1994, cases reported from SEAR accounted for 58% of the total number of paralytic polio cases reported worldwide. Within SEAR, during 1994, four subcontinent countries—Bangladesh, India, Myanmar, and Nepal—accounted for 4368 (99%) of the 4373 reported cases.

† Member countries of SEAR are Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, and Thailand. Mongolia, formerly a member country, was administratively transferred in 1995 to the Western Pacific Region of WHO; this report includes data for Mongolia through 1994.

FIGURE 1. Number of reported cases of paralytic poliomyelitis, by year — South East Asia Region (SEAR),* World Health Organization (WHO), 1987–1994



* Member countries of SEAR are Bangladesh, Bhutan, Democratic People's Republic of Korea (DPR Korea), India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, and Thailand. Mongolia, formerly a member country, was administratively transferred in 1995 to the Western Pacific Region of WHO; data are included for Mongolia through 1994.

Poliomyelitis Eradication — Continued

TABLE 1. Incidence rate* of reported acute flaccid paralysis (AFP) among persons aged <15 years in countries conducting AFP surveillance†, by year — South East Asia Region (SEAR),§ World Health Organization (WHO), 1991–1994

Country	1991	1992	1993	1994	% Reported cases in 1994 for which stool specimens collected for viral culture
Bangladesh	0.59	0.42	0.46	0.56	29
Indonesia¶	0.30	0.20	<0.01	0.01	—
Nepal	0.15	0.15	<0.05	0.05	50
Sri Lanka	1.20	1.40	1.60	1.40	69**
Thailand	—	0.53	1.01	0.61	53**

*Cases per 100,000 persons aged <15 years.

†Surveillance indicators are routinely used to monitor the performance of reporting and investigation of AFP cases. These indicators include AFP reporting rates per 100,000 persons aged <15 years, the percentage of AFP cases for which a virologic investigation was conducted, and the percentage for which two stool cultures were collected within 14 days of onset of paralysis.

§Member countries of SEAR are Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, and Thailand. Mongolia, formerly a member country, was administratively transferred in 1995 to the Western Pacific Region of WHO; data are included for Mongolia through 1994.

¶Rates calculated retrospectively. AFP reporting initiated in 1995.

**Percentage of cases for which two stool cultures were collected <14 days after onset of paralysis.

By 1994, five (Bangladesh, Indonesia, Nepal, Sri Lanka, and Thailand) of the 10 member countries were conducting surveillance for acute flaccid paralysis (AFP)§ (Table 1) (*3*). Of these five countries, Sri Lanka and Thailand routinely conducted surveillance for both AFP and wild polioviruses.

India

Regional progress toward eradication primarily reflects achievements in India, where reported polio cases declined 83% during 1988–1994, from 24,257 to 4052, respectively. During 1992–1994, the median age of persons with polio was 18 months, the same median age as in the early 1980s (*4*). The proportion of persons aged <3 years with polio ranged from 79% in 1992 to 82% in 1993 and 1994; the proportion aged <4 years ranged from 88% in 1992 to 91% in 1993.

In 1993, stool specimens were collected for viral culture from 604 (14%) of 4236 reported polio cases; polioviruses were isolated from the specimens for 193 (32%) cases. Of the 193 polioviruses isolated, 46 (24%) were wild poliovirus type 1; 46 (24%), wild poliovirus type 2; 59 (31%), wild poliovirus type 3; 34 (18%), a mixture of at least two types; and eight (4%), unknown. In 1994, stool specimens were collected for viral culture from 1075 (27%) of 4052 reported cases; polioviruses were isolated from the specimens for 397 (37%) cases. Of the 397 polioviruses isolated, 299 (75%) were type 1; 35 (9%), type 2; 42 (11%), type 3; and 21 (5%), a mixture. The proportion of cases with type 2 poliovirus isolates decreased from 24% in 1993 to 11% in 1994.

§Any case of AFP in a person aged <15 years is reported as a suspected case of polio. Effective AFP surveillance can detect an annual incidence of at least one case of AFP per 100,000 persons aged <15 years.

Poliomyelitis Eradication — Continued

The first NIDs in India ("Pulse Polio Immunization Days") will be conducted on December 9, 1995, and January 20, 1996, with a target of vaccinating approximately 75 million children aged <3 years with one dose of oral poliovirus vaccine (OPV) in each of two rounds.

Bangladesh

In 1994, Bangladesh reported 289 cases of polio, a 46% decline from the 540 cases reported in 1988. In 1993, stool specimens were collected for viral culture from 61 (26%) of 233 AFP cases; polioviruses were isolated from the specimens for 17 (28%) cases. Of the 17 polioviruses isolated, 16 (94%) were type 1, and one (6%) was type 2. In 1994, stool specimens were collected for viral culture from 123 (43%) of 289 AFP cases; polioviruses were isolated from the specimens for nine (7%) cases. Of the nine polioviruses isolated, six (67%) were type 1, and three (33%) were type 3.

During March–April 1995, Bangladesh conducted its first NIDs. Of the 19.8 million children aged <5 years in the country, 90% received at least one dose of OPV, and 83% received two doses.

Myanmar

In 1994, Myanmar reported 25 polio cases, a 58% decline from the 60 cases reported in 1988. Vaccination coverage levels with three doses of OPV at age 1 year increased from 10% in 1987 to 77% in 1994.

The first NIDs in Myanmar will be conducted on February 10 and March 10, 1996. Because China, an adjacent country that has nearly eliminated polio, will be conducting NIDs for the third consecutive year during December 1995–January 1996, the implementation of NIDs in Myanmar in early 1996 is critical to the expansion of the polio-free zones in neighboring countries.

Nepal

In 1986, the government of Nepal intensified its vaccination program by implementing the Universal Childhood Immunization project. From 1986 through 1990, reported coverage with three doses of OPV among children aged 1 year had increased from 34% to 74%; however, by 1994, coverage had gradually declined to 64%.

Nepal reported nine polio cases in 1988, compared with two cases in 1994. In 1994, the reported rate of AFP was 0.05 cases per 100,000 children aged <15 years (Table 1).

Indonesia

In 1994, Indonesia reported nine polio cases, a 99% decline from the 773 cases reported in 1988. Because AFP reporting was not implemented until 1994, estimated rates of AFP through 1994 were low (Table 1). In 1993, stool specimens were collected for viral culture from four AFP cases; poliovirus was isolated from the specimen of one case. In 1994, stool specimens were collected from viral culture from 13 AFP cases; wild poliovirus type 1 was isolated from the specimen of one case.

In September 1995, Indonesia conducted its first NIDs. Because the population of the country is dispersed among approximately 3000 islands, NIDs were conducted during a 1-week period. Preliminary reports indicate that >95% of all children aged <5 years received OPV during the campaign.

Poliomyelitis Eradication — Continued

Thailand

In 1994, Thailand reported one polio case, a decline of 91% from the 11 cases reported in 1988. Reported rates of AFP cases per 100,000 persons aged <15 years were 0.5 (1992), 1.0 (1993), and 0.6 (1994). Stool specimens for viral culture were collected from 151 (94%) of the 161 AFP cases reported in 1993 and 90 (92%) of the 98 AFP cases reported in 1994. The percentage of AFP cases with at least two stool specimens collected within 14 days of onset of paralysis increased from 37% in 1992 to 53% in 1994.

Of 11 specimens from culture-confirmed polio cases reported in 1993, five were type 1; two, type 2; and four, type 3. The last reported culture-confirmed case of polio occurred in June 1994 and was associated with type 1 wild poliovirus. In 1994, poliovirus was isolated from three other AFP cases; all were vaccine-related polioviruses, one each of types 1, 2, and 3.

In August 1994, Thailand accelerated efforts to eradicate polio by conducting the first NIDs in the region; approximately 95% of the 5.3 million children aged <5 years were vaccinated.

Sri Lanka

In 1994, Sri Lanka reported no cases of polio, compared with 16 cases in 1988. During 1992–1994, the annual rate of AFP exceeded 1.0 cases per 100,000 persons aged <15 years (1.4 in 1992, 1.6 in 1993, and 1.4 in 1994). The percentage of AFP cases for which two stools were collected within 14 days of paralysis onset increased from 27% in 1992 to 69% in 1994.

The last culture-confirmed case of polio in Sri Lanka occurred in November 1993 and was associated with wild poliovirus type 1. In 1994, stool specimens were collected for viral culture from 80 AFP cases; only a vaccine-related type 2 poliovirus was isolated from the specimen of one case. The first NIDs in Sri Lanka will be conducted on November 4 and December 9, 1995, with a target of vaccinating approximately 1.8 million children aged <5 years.

Mongolia

Mongolia reported no polio cases in 1994, compared with one case in 1988. In 1993, stool specimens were collected for viral culture from one AFP case; poliovirus was not isolated. In 1994, stool specimens were collected for viral culture from 26 AFP cases; one specimen was positive for wild poliovirus type 1.

Bhutan, Democratic People's Republic of Korea, and Maldives

Three countries in the region—Bhutan, Democratic People's Republic of Korea, and Maldives—reported no polio cases during 1989–1994, which suggests that wild poliovirus transmission has been interrupted. However, in addition to interruption of wild poliovirus transmission for at least 3 years, certification of polio eradication requires adequate AFP surveillance, which has not been implemented in these countries.

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Editorial Note: The findings in this report document substantial progress toward polio eradication in SEAR, with an 82% reduction in annual reported cases during 1988–1994. Although wild poliovirus infection is endemic in at least seven (Bangladesh,

Poliomyelitis Eradication — Continued

India, Indonesia, Myanmar, Nepal, Sri Lanka, and Thailand) of the 10 countries of SEAR, six of these seven countries plan to have conducted NIDs by February 1996. Despite this progress, member countries of SEAR reported 4373 polio cases in 1994, accounting for 58% of the global total. This region and sub-Saharan Africa are the two persistent and major reservoirs of polio worldwide (*2*).

Worldwide eradication of wild poliovirus requires the implementation of NIDs and the establishment and maintenance of strong AFP surveillance systems in polio-endemic countries (*5*). In the Americas, eradication of wild poliovirus was accomplished primarily by targeting NIDs to children aged <5 years in polio-endemic countries during the low season of transmission (*1*). Rapid mass vaccination of children with OPV effectively interrupts community transmission of wild poliovirus (*6*). Further progress in SEAR is contingent on the identification of sufficient resources—in addition to those provided by international organizations such as WHO, the United Nations Children's Fund (UNICEF), and Rotary International—to implement NIDs. In India, upcoming Pulse Polio Immunization Days will be restricted to children aged <3 years because of financial and operational constraints to including additional birth cohorts of approximately 25 million children each. Because recent surveillance data suggest that 8%–9% of reported polio cases occur in children aged 3 years, inclusion of these children in future NIDs will be critical. Because most polio cases in the world are reported from SEAR, the ability of member countries in the region to strengthen integrated AFP and virologic surveillance will be critical to the success of the global polio eradication initiative (*7*).

References

1. de Quadros CA, Andrus JK, Olive J-M, de Macedo CG, Henderson DA. Polio eradication from the Western Hemisphere. Annu Rev Publ Health 1992;13:239–52.
2. World Health Organization. Progress towards poliomyelitis eradication, 1994. Wkly Epidemiol Rec 1995;70:97–104.
3. Yang B, Zhang J, Otten MW, et al. Eradication of poliomyelitis: progress in the People's Republic of China. Pediatr Infect Dis J 1995;14:308–14.
4. Basu RN, Sokhey J. Prevalence of poliomyelitis in India. Indian J Pediatr 1984;51:515–9.
5. Andrus JK, de Quadros CA, Olive J-M. The surveillance challenge: final stages of eradication of poliomyelitis in the Americas. MMWR 1992;41(no. SS-1):21–6.
6. Sabin AB, Ramos-Alvarez M, Alvarez-Amezquita J, et al. Live, orally given poliovirus vaccine: effects of rapid mass immunization on population under conditions of massive enteric infection with other viruses. JAMA 1960;173:1521–6.
7. Cochi SL, Orenstein WA. Commentary: China's giant step toward the global eradication of poliomyelitis. Pediatr Infect Dis J 1995;14:315–6.

Adult Blood Lead Epidemiology and Surveillance — United States, Second Quarter, 1995

CDC's National Institute for Occupational Safety and Health (NIOSH) Adult Blood Lead Epidemiology and Surveillance program (ABLES) monitors elevated blood lead levels (BLLs) among adults in the United States (*1*). Twenty-three states, representing 64% of the U.S. population, report BLL surveillance results to ABLES. This report presents data from ABLES for the second quarter, 1995.

Adult Blood Lead Epidemiology — Continued

Based on the total U.S. population, the 26,832 reports (*2*) of adults with BLLs ≥25 µg/dL reported to ABLES in 1994 represents approximately 42,000 reports throughout the United States, and the 12,137 persons on whom these reports were made represents approximately 19,000 persons.

During April–June 1995, ABLES received 5870 reports of BLLs ≥25 µg/dL, a decrease of 7% from the 6314 reports for the same period in 1994 (Table 1). Compared with the second quarter, 1994, reports for 1995 decreased 4% for BLLs 25–39 µg/dL, 17% for BLLs 40–49 µg/dL, and 21% for BLLs 50–59 µg/dL; reports increased 4% for BLLs ≥60 µg/dL. During January–June 1995, cumulative reports of BLLs ≥25 µg/dL increased 1% over reports for the same period in 1994 (Table 1). Cumulative reports increased for BLLs 25–39 µg/dL but decreased for all higher levels. Although there was some variation in the second quarter of 1995, the trend of increasing reports at the lower reporting levels and decreasing reports at the higher levels is consistent with the data for 1994 (*2*).

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TABLE 1. Number of reports of elevated blood lead levels (BLLs) among adults, number of adults with elevated BLLs, and percentage change in number of reports — 23 states,* second quarter, 1995

Reported BLL (µg/dL)	Second quarter 1995		Cumulative reports, 1995	Cumulative reports, 1994¶	% change 1994–1995
	No. reports†	No. persons§			
25–39	4,393	3,476	9,307	8,659	+ 7%
40–49	1,152	817	2,349	2,754	–15%
50–59	208	136	453	540	–16%
≥60	117	68	199	229	–13%
Total	**5,870**	**4,497**	**12,308**	**12,182**	**+ 1%**

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

†Data for Alabama and Michigan are missing; second quarter 1994 data are used as an estimate.

§Individual reports are categorized according to the highest reported BLL for the person during the given quarter. Pennsylvania provides the number of reports, but not the number of persons; the number of persons for Pennsylvania in this table are estimates based on the proportions from the other 22 states combined and the number of reports received from Pennsylvania. Data for Alabama and Michigan are missing; second quarter 1994 data are used as an estimate.

¶Data for the second quarter of 1994 are corrected (*3*) from data published earlier (*4*) and include data for Maine, which were not previously included.

Adult Blood Lead Epidemiology — Continued

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Editorial Note: Reporting of adults with elevated BLLs reflects monitoring practices by employers. Variation in national quarterly reporting totals may result from 1) changes in the number of participating states, 2) timing of receipt of laboratory BLL reports by state-based surveillance programs, and 3) interstate differences in worker BLL testing by lead-using industries.

The data presented in this report document the persistence of work-related lead exposures as an occupational health problem in the United States. ABLES can further enhance surveillance for this preventable condition by expanding the number of participating states, reducing variability in reporting, and distinguishing between new and recurring elevated BLLs in adults.

References

1. CDC. Surveillance of elevated blood lead levels among adults—United States, 1992. MMWR 1992;41:285–8.
2. CDC. Adult blood lead epidemiology and surveillance—United States, 1994 and first quarter, 1995. MMWR 1995;44:515–7.
3. CDC. Erratum: Vol. 43, No. 40, 1995. MMWR 1995;44:15.
4. CDC. Adult blood lead epidemiology and surveillance—United States, second quarter, 1994. MMWR 1994;43:741–2.

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