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MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Suspected Carbamate Intoxications – Nebraska

Nebraska has recently reported 2 outbreaks of illness associated with consumption of hydroponic cucumbers. A carbamate pesticide is suspected as the etiologic agent.

In the period April 1-15, 1977, 9 residents of the Kimball, Nebraska, area experienced onset of acute illness within 15 to 135 minutes after the ingestion of locally grown hydroponic cucumbers. The illness was characterized by diarrhea (100%), nausea/vomiting (89%), excessive perspiration (89%), blurred vision (75%),* abdominal pains (67%), temporary paralysis of the extremities (67%), dyspnea (67%), muscle fasciculation (56%), and headache (11%). The ill persons, 6 women and 3 men, ranged in age from 7 to 80 years. Seven of the 9 sought medical attention and were either kept under observation at nearby hospital emergency rooms or hospitalized. Initial diagnoses included influenza and hypersensitivity to cucumbers.

The duration of illness for 8 of the 9 individuals ranged from 4 to 12 hours, with an approximate mean of 6 hours. One 80-year-old woman was hospitalized for 36 hours. None of the patients received specific medical treatment, yet all recovered quickly and completely.

The rapidity of onset strongly suggested that a chemical toxicant was the etiologic agent. The signs and symptoms of the illness indicated that this agent was a cholinesterase inhibitor. Pieces of cucumber associated with the illness were analyzed for organophosphate pesticides by gas-liquid chromatography. However, no evidence of these pesticides was detected.

Because carbamate pesticides also inhibit cholinesterase, the remaining samples of cucumber associated with the illness were analyzed for carbamates by thin-layer chromatography. The results indicated the presence of a carbamate, but lack of standardized chemical compounds prevented specific identification.

Over 1 year later–July 16-25, 1978–5 residents of Scottsbluff, Nebraska, about 45 miles north of Kimball, experienced illness within 30 to 60 minutes after eating hydroponic cucumbers. Investigation revealed that the cucumbers involved were grown at the same greenhouse as those associated with the 1977 outbreak. The patients, 3 males and 2 females, ranged in age from 6 to 49 years. One person ate 2 different cucumbers on consecutive days and became ill both times.

Four of the 5 persons sought medical help. The illnesses were again characterized by acute onset of diarrhea (100%), abdominal pains (100%), excessive perspiration (100%), nausea/vomiting (100%), dyspnea (100%), muscle fasciculation (80%), blurred vision (60%), and headache (60%). The individuals were acutely ill for 3 to 5 hours, with a mean

*This percentage was calculated for 8 individuals because 1 subject had cataracts and could not determine if her vision was impaired.

Carbamate Intoxications – Continued

of approximately 4½ hours. As in the previous outbreak, all persons recovered without specific medical treatment.

Although all cucumbers associated with illness were eaten, 2 others from the same shipment were procured. Laboratory analysis, using a gas chromatograph equipped with a flame photometric detector incorporating a filter specific for sulfur-containing compounds, detected 6.6 and 10.7 parts per million (ppm), respectively, of aldicarb, a carbamate insecticide, in the cucumbers. The water-nutrient solution that nourished plants grown at the hydroponic greenhouse was also analyzed; 1.8 ppm aldicarb was detected in it. Water from the well supplying the greenhouse did not contain this chemical, indicating that the aldicarb probably did not come from a source outside the greenhouse. The greenhouse operator denied using any systemic pesticides in the greenhouse, and the source of aldicarb contamination was not determined.

Reported by M Aaronson, PhD, SA Ford, RN, EA Goes, MS, EP Savage, PhD, HW Wheeler, BS, Colorado Epidemiologic Pesticide Studies Center, Colorado State University, Fort Collins; G Gibbons, BS, PA Stoesz, MD, State Epidemiologist, Nebraska State Dept of Health; Special Studies Br, Chronic Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: A major difference in the toxicology between organophosphate and carbamate insecticides is that the former almost irreversibly phosphorylate the acetylcholinesterase of tissues, whereas the carbamates cause reversible carbamylation of the enzyme. In humans, exposure to organophosphates can cause depression of plasma cholinesterase to persist for 1 to 3 weeks; red blood cell depression can last up to 12 weeks. In cases of carbamate poisoning, plasma and red blood cell cholinesterase may be depressed, but they commonly revert to normal within a few hours after exposure (*1*).

Aldicarb is a broad-spectrum, systemic carbamate insecticide which inhibits cholinesterase and is highly toxic to mammals (*1,2*). The LD_{50} for the rat is 0.9 mg/kg. The commercially available mixture is only 10%-15% aldicarb because of the high toxicity of the parent compound. Aldicarb is intended for use as a soil application; if the granules are mixed with water, the resultant solution may be extremely hazardous (*3*).

References

1. Morgan DP: Organophosphate cholinesterase-inhibiting pesticides, in U.S. Environmental Protection Agency: Recognition and Management of Pesticide Poisonings. 2nd ed. Washington DC, U.S. Environmental Protection Agency, Office of Pesticide Programs, 1977, pp 4-12

2. George DA, Maitlen JC, Powell DM, McDonough LM: Aldicarb residues in potatoes. Environ Entomol 4:642-644, 1975

3. Berg GL, Sine C, Meister S (eds): Farm Chemicals Handbook, 1978. Willoughby, Ohio, Meister Publishing Co, 1978, Sect. D, p 255

Follow-up on DTP Vaccination and Sudden Infant Deaths – Tennessee

Additional case ascertainment and investigation of the vaccination histories of infants who died suddenly during the 2 time periods, August 1977 through March 1978 and August 1978 through mid-March 1979, reported last week (*1*), have been carried out in Tennessee. Data on the 114 children who died at 6 weeks of age or older are summarized in Table 1. The proportion who had ever received DTP immunization was significantly higher in the 1978-79 period ($p<.05$).

Further examination of the vaccination histories of infants who died suddenly has revealed no additional instances of vaccination within 24 hours before death. Thus, 4 deaths have been found that occurred within 24 hours after receipt of vaccine from Lot No. 64201, compared with no deaths within 24 hours after DTP vaccination in the earlier 8-month period in Tennessee (Figure 1).

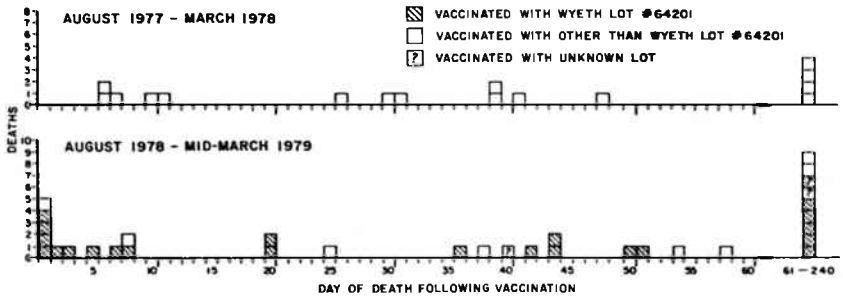
DTP Vaccine – Continued

TABLE 1. Cases of sudden death in infants ≥6 weeks of age by history of DTP vaccination, Tennessee

Time period	Deaths	DTP vaccination		
		Yes	No	Unk
August 1978-mid-March 1979	61	33*	13	15
August 1977-March 1978	53	16	18	19
Total	114	49	31	34

*p<.05

FIGURE 1. Sudden deaths in infants known to be vaccinated with DTP vaccine, by day of death following vaccination, in 2 time periods, Tennessee



Reported by R Hutcheson, Jr, MD, State Epidemiologist, Tennessee State Dept of Public Health; Immunization Div, Bur of State Services, Field Services Div, and Special Pathogens Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: This cluster of deaths is being analyzed further. There has been no suggestion of any greater risk of sudden infant death in association with the use of other lots of Wyeth DTP vaccine or DTP vaccine from other manufacturers. The significance of the recent association between vaccination and sudden infant deaths remains unclear. Available data indicate no association between DTP vaccination in general and sudden infant death. The cluster of deaths in Tennessee in possible association with 1 particular lot of DTP vaccine should not interfere with current recommended childhood immunization practices.

Reference

1. MMWR: DTP vaccination and sudden infant deaths. 28:131-132, 1979

International Notes

Monkeypox in Humans – West Africa

A 35-year-old man from Omifounfoun Village in Oyo State, Nigeria, developed a rash on November 24, 1978. On December 5 he went to the hospital in Parakou town, Borgou Province, Benin, where medical authorities suspected smallpox or monkeypox. They immediately placed the patient in isolation and took specimens for laboratory analysis. Typical poxvirus particles were seen on electron microscopic examination by the World Health Organization (WHO) Collaborating Center at CDC on December 24, and monkeypox virus was isolated on December 27.

Although the patient's residence is in the Republic of Benin, he reportedly had been visiting in Nigeria for 2 months before the onset of rash. He had no smallpox vaccination scar. There have been no secondary cases reported in Benin. Joint Benin/WHO and Nigeria/WHO investigations are in progress.

Monkeypox in Humans – Continued

Editorial Note: Besides this case, 35 cases of monkeypox in humans have been reported from West and Central Africa since 1970; 27 have occurred in Zaire, 4 in Liberia, 2 in Nigeria, and 1 each in the Ivory Coast and Sierra Leone. Twenty-eight cases have been in children 9 years of age or younger. Six patients have died.

The disease is clinically indistinguishable from smallpox. The most important epidemiologic difference between the 2 is that monkeypox transmits poorly between humans; in only 2 instances has possible secondary transmission occurred in the same family. Among susceptible family members, the monkeypox secondary attack rate is less than 4%, in comparison to 30%-45% for smallpox.

Thirty-two of the 36 people with monkeypox had never been vaccinated. (Smallpox vaccination protects against monkeypox.) However, since over 50% of children in the areas reporting monkeypox are susceptible to smallpox, the absence of more monkeypox cases is yet another indication that the disease is rare and not very contagious.

Monkeypox virus is an orthopoxvirus that differs from variola virus in several biological characteristics. The source of human monkeypox is unknown, but it is thought to be a zoonosis. The virus was associated with 10 outbreaks in nonhuman primates among captive monkey colonies in European and North American laboratories between 1958 and 1968. Special study groups convened by WHO in 1973, 1976, and 1978 have concluded that monkeypox is not a public health problem. They have recommended that the epidemiology and ecology of this disease be further defined.

Reported by the WHO in the Weekly Epidemiological Record 54:12-13, 1979

TABLE I. Summary – cases of specified notifiable diseases, United States

[Cumulative totals include revised and delayed reports through previous weeks.]

DISEASE	12th WEEK ENDING		MEDIAN 1974-1978**	CUMULATIVE, FIRST 12 WEEKS		
	March 24, 1979	March 25, 1978*		March 24, 1979	March 25, 1978*	MEDIAN 1974-1978**
Aseptic meningitis	52	20	28	583	439	427
Brucellosis	4	5	3	18	39	37
Chickenpox	8,374	5,637	5,637	72,653	47,795	48,444
Diphtheria	2	–	5	51	21	44
Encephalitis: Primary (arthropod-borne & unspec.)	10	8	14	112	124	146
Post-infectious	4	3	3	39	34	47
Hepatitis, Viral: Type B	293	306	300	3,019	3,486	3,295
Type A	603	545	685	6,678	6,324	8,325
Type unspecified	258	169	150	2,576	1,868	1,932
Malaria	6	8	8	85	108	75
Measles (rubeola)	501	1,121	1,121	3,131	6,070	6,598
Meningococcal infections: Total	89	67	54	783	644	463
Civilian	88	64	54	781	637	458
Military	1	3	1	2	7	6
Mumps	547	602	1,266	4,394	5,166	15,122
Pertussis	32	42	25	332	541	277
Rubella (German measles)	485	547	547	2,787	2,851	3,644
Tetanus	–	2	1	8	9	9
Tuberculosis	585	607	626	6,177	5,911	6,559
Tularemia	–	–	2	25	16	17
Typhoid fever	12	6	8	90	122	81
Typhus fever, tick-borne (Rky. Mt. spotted)	1	–	–	22	10	11
Venereal diseases:						
Gonorrhea: Civilian	17,877	16,914	16,914	219,547	208,726	215,867
Military	636	342	342	6,468	5,189	6,108
Syphilis, primary & secondary: Civilian	470	453	453	5,573	4,651	5,112
Military	5	9	5	69	73	73
Rabies in animals	76	51	51	689	559	542

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1979		CUM. 1979
Anthrax	–	Poliomyelitis: Total	2
Botulism	3	Paralytic	2
Congenital rubella syndrome (Mich. 1, Tex. 1)	6	Psittacosis† (Calif. 4)	28
Leprosy (Tex. 1, Calif. 1)	40	Rabies in man	1
Leptospirosis† (R.I. 1, Ohio 1, Hawaii 1)	13	Trichinosis (Conn. 1)	23
Plague	1	Typhus fever, flea-borne (endemic, murine) (Tex. 1)	3

*Delayed reports received for calendar year 1978 are used to update last year's weekly and cumulative totals.

**Medians for gonorrhea and syphilis are based on data for 1976-1978.

†Delayed reports: Leptospirosis: Minn. +1 (1978), Md. +3 (1978); Psittacosis: Minn. –3 (1978), Ore. +2 (1978)

TABLE III. Cases of specified notifiable diseases, United States, weeks ending March 24, 1979, and March 25, 1978 (12th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1979	1978	1978	1979	CUM. 1979	1979	1978*	1979	1978	1979	1979	1979	CUM. 1979
UNITED STATES	52	4	8,374	2	51	10	8	4	293	603	258	6	85
NEW ENGLAND	2	–	1,225	–	–	–	1	–	14	20	6	–	4
Maine	–	–	130	–	–	–	–	–	1	5	–	–	–
N.H.	–	–	12	–	–	–	–	–	–	2	–	–	–
Vt.	–	–	6	–	–	–	–	–	–	1	–	–	–
Mass.	–	–	382	–	–	–	1	–	3	6	6	–	–
R.I.	1	–	114	–	–	–	–	–	2	–	–	–	3
Conn.	1	–	581	–	–	–	–	–	8	6	–	–	1
MID. ATLANTIC	3	1	1,052	–	–	–	–	1	53	47	23	1	12
Upstate N.Y.	–	1	843	–	–	–	–	1	13	20	7	–	2
N.Y. City	–	–	82	–	–	–	–	–	15	7	7	1	8
N.J.	3	–	NN	–	–	–	–	–	15	13	8	–	1
Pa.	–	–	127	–	–	–	–	–	10	7	1	–	1
E.N. CENTRAL	3	–	3,435	–	–	2	3	–	33	66	5	–	3
Ohio†	–	–	405	–	–	2	–	–	11	20	–	–	1
Ind.†	1	–	329	–	–	–	–	–	3	5	1	–	–
Ill.	–	–	397	–	–	–	–	–	2	18	1	–	–
Mich.	2	–	1,708	–	–	–	3	–	16	22	3	–	2
Wis.	–	–	596	–	–	–	–	–	1	1	–	–	–
W.N. CENTRAL	1	1	1,153	–	–	–	–	1	18	32	6	–	3
Minn.	–	–	–	–	–	–	–	–	3	9	1	–	2
Iowa	1	1	321	–	–	–	–	–	–	2	1	–	–
Mo.	–	–	168	–	–	–	–	–	11	15	1	–	1
N. Dak.†	–	–	47	–	–	–	–	–	–	–	–	–	–
S. Dak.	–	–	15	–	–	–	–	–	2	3	–	–	–
Nebr.	–	–	31	–	–	–	–	–	1	1	2	–	–
Kans.	–	–	571	–	–	–	–	1	1	2	1	–	–
S. ATLANTIC	9	2	508	–	–	4	1	1	55	118	33	2	20
Del.	–	–	6	–	–	–	–	–	–	–	–	–	1
Md.	–	–	26	–	–	–	–	–	3	2	9	–	3
D.C.	–	–	1	–	–	–	–	–	–	2	–	–	4
Va.†	3	–	45	–	–	–	–	–	13	6	4	–	5
W. Va.†	–	–	174	–	–	–	–	–	1	2	1	–	1
N.C.	3	1	NN	–	–	1	1	–	22	42	8	1	1
S.C.	–	–	5	–	–	3	–	–	1	4	3	–	–
Ga.†	–	–	–	–	–	–	–	–	–	20	–	–	1
Fla.†	3	1	251	–	–	–	–	1	15	40	8	1	4
E.S. CENTRAL	5	–	28	–	–	–	1	–	17	41	6	–	–
Ky.	–	–	24	–	–	–	–	–	6	14	1	–	–
Tenn.	–	–	NN	–	–	–	1	–	6	19	4	–	–
Ala.	4	–	4	–	–	–	–	–	1	–	1	–	–
Miss.	1	–	–	–	–	–	–	–	4	8	–	–	–
W.S. CENTRAL	10	–	400	–	–	2	–	1	24	65	50	1	8
Ark.	–	–	10	–	–	1	–	–	–	4	4	–	1
La.	2	–	NN	–	–	1	–	–	3	10	1	–	–
Okla.	1	–	–	–	–	–	–	1	1	17	5	–	–
Tex.†	7	–	390	–	–	–	–	–	20	34	40	1	7
MOUNTAIN	1	–	136	–	1	–	–	–	12	96	72	1	2
Mont.	–	–	45	–	–	–	–	–	–	–	–	–	–
Idaho	–	–	6	–	–	–	–	–	–	–	1	–	–
Wyo.	–	–	–	–	–	–	–	–	–	–	–	–	1
Colo.	–	–	71	–	–	–	–	–	5	11	5	1	1
N. Mex.†	–	–	–	–	–	–	–	–	3	24	–	–	–
Ariz.	–	–	NN	–	1	–	–	–	1	51	42	–	–
Utah	1	–	7	–	–	–	–	–	1	5	22	–	–
Nev.	–	–	7	–	–	–	–	–	2	5	2	–	–
PACIFIC	18	–	437	2	50	2	2	–	67	118	57	1	33
Wash.†	2	–	404	2	49	1	1	–	5	6	2	–	1
Oreg.	2	–	10	–	–	–	–	–	7	16	1	–	2
Calif.†	9	–	–	–	1	1	1	–	53	92	53	1	29
Alaska†	–	–	1	–	–	–	–	–	1	2	–	–	–
Hawaii	5	–	22	–	–	–	–	–	1	2	1	–	1
Guam†	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
P.R.	–	–	11	–	–	–	–	–	–	4	–	–	–
V.I.	–	–	–	–	–	–	–	–	–	–	–	–	–
Pac. Trust Terr.	–	–	3	–	–	–	–	–	–	–	–	–	–

NN: Not notifiable. NA: Not available.

*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: Asep. meng.: Fla. –1, Wash. –1; Chickenpox: Ind. +526, W. Va. +2, Ga. +6, Fla. +157, Calif. +277, Guam +3; Hep. B: N. Dak. +1, Va. –1, Ga. +7, Fla. +10, Tex. +1, N. Mex. +1, Alaska –1; Hep. A: Va. –1, Ga. +55, Fla. +31, Tex. +1, N. Mex. –1, Guam +1; Hep. unsp.: Ind. –1, Va. –1, Fla. +6, Tex. –5, Guam +2; Malaria: Ohio +2.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending March 24, 1979, and March 25, 1978 (12th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	1979	1979	CUM. 1979	CUM. 1979
UNITED STATES	501	3,131	6,070	89	783	644	547	4,394	32	485	2,787	8
NEW ENGLAND	1	110	427	3	23	36	12	211	3	98	328	-
Maine	1	4	249	-	1	3	3	88	-	-	11	-
N.H.	-	3	10	-	4	5	-	2	-	5	23	-
Vt.	-	3	5	-	1	1	-	4	-	40	122	-
Mass.	-	-	71	2	6	12	1	15	2	21	98	-
R.I.	-	100	4	-	1	7	1	8	-	1	8	-
Conn.	-	-	88	1	10	10	7	94	1	31	66	-
MID. ATLANTIC	65	237	453	4	109	81	29	299	2	76	367	1
Upstate N.Y.	45	124	310	1	41	28	1	46	-	11	114	1
N.Y. City	13	86	74	2	30	22	4	37	2	8	37	-
N.J.†	6	19	1	1	28	14	17	154	-	54	146	-
Pa.	1	8	68	-	10	17	7	62	-	3	70	-
E.N. CENTRAL	74	703	2,311	12	71	60	293	1,861	4	76	643	1
Ohio	-	4	96	6	22	13	108	575	-	3	24	-
Ind.†	4	60	43	-	16	11	11	100	2	14	114	-
Ill.	2	155	320	3	3	7	16	318	-	-	55	-
Mich.	35	304	1,488	3	24	25	112	390	1	51	377	1
Wis.	33	180	364	-	6	4	46	478	1	8	73	-
W.N. CENTRAL	2	338	61	7	28	25	47	324	2	14	114	-
Minn.	-	135	12	1	4	3	-	2	-	-	13	-
Iowa	1	2	8	1	4	4	13	104	-	1	39	-
Mo.	1	190	4	4	16	12	12	108	1	1	15	-
N. Dak.	-	2	9	-	-	-	-	1	-	2	8	-
S. Dak.	-	1	-	1	2	2	-	1	-	-	-	-
Nebr.	-	-	3	-	-	-	-	3	-	-	-	-
Kans.	-	8	25	-	2	4	22	105	1	10	39	-
S. ATLANTIC	106	356	1,669	16	180	183	20	155	5	41	217	2
Del.	-	-	4	-	2	-	-	6	-	-	1	-
Md.	-	5	1	-	11	8	1	21	-	-	-	-
D.C.	-	-	45	-	-	1	-	1	-	-	-	-
Va.†	33	61	1,146	2	35	25	4	39	-	5	11	-
W. Va.	1	32	249	-	3	5	5	39	1	3	51	-
N.C.	11	60	40	8	32	41	9	17	4	14	70	2
S.C.†	6	30	115	3	30	14	1	2	-	11	27	-
Ga.†	31	33	5	2	31	24	-	2	-	-	1	-
Fla.†	24	135	64	3	36	65	-	28	-	8	56	-
E.S. CENTRAL	6	53	455	3	59	53	17	481	6	25	105	2
Ky.	3	11	50	1	12	11	12	407	6	15	36	-
Tenn.	1	10	317	-	16	18	1	48	-	10	49	-
Ala.	2	26	1	-	16	14	4	8	-	-	12	2
Miss.	-	6	87	2	15	10	-	18	-	-	8	-
W.S. CENTRAL	27	358	383	19	149	90	87	640	7	8	77	2
Ark.†	-	8	3	2	13	12	2	262	-	-	-	2
La.	-	95	188	7	75	24	-	17	-	-	6	-
Okla.	-	3	7	3	11	8	-	-	1	-	16	-
Tex.	27	252	185	7	50	46	85	361	6	8	55	-
MOUNTAIN	6	68	48	4	39	11	10	142	1	17	138	-
Mont.	4	22	29	-	2	1	-	5	-	4	27	-
Idaho	-	1	1	-	3	1	-	2	-	10	81	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	2	6	7	-	1	2	-	46	1	2	14	-
N. Mex.	-	9	-	-	2	2	-	2	-	-	-	-
Ariz.	-	15	6	4	27	3	-	9	-	-	11	-
Utah	-	13	1	-	3	1	8	70	-	1	5	-
Nev.	-	2	4	-	1	1	2	8	-	-	-	-
PACIFIC	214	908	263	19	125	103	32	281	2	130	798	-
Wash.†	59	373	32	1	16	17	17	120	-	6	69	-
Oreg.	-	9	65	2	9	4	5	27	-	-	36	-
Calif.	140	466	165	16	95	78	10	116	2	124	686	-
Alaska	8	14	-	-	1	3	-	5	-	-	1	-
Hawaii	7	46	1	-	4	1	-	13	-	-	6	-
Guam	NA	-	1	-	-	-	NA	-	NA	NA	1	-
P.R.	6	109	62	-	-	-	6	208	-	-	9	3
V.I.	-	1	6	-	-	-	-	1	-	-	-	-
Pac. Trust Terr.	-	5	279	-	1	2	1	11	26	-	-	-

NA: Not available.

*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: Measles: N.J. +2, Ind. +9, Fla. +42, Ark. −1, Wash. −2; Men. inf.: N.J. +2, Va. −1, S.C. +1, Ga. +3, Fla. +1; Mumps: Ind. +15, Fla. +4; Pertussis: Ind. +2, Ga. +3; Rubella: Ind. +71, Va. −1, Fla. +10.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending March 24, 1979, and March 25, 1978 (12th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1979	CUM. 1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	1979	CUM. 1979	CUM. 1978*	1979	CUM. 1979	CUM. 1978*	CUM. 1979
UNITED STATES	585	6,177	25	12	90	1	22	17,877	219,547	208,726	470	5,573	4,651	689
NEW ENGLAND	19	177	1	–	7	–	–	528	5,975	5,334	7	99	153	13
Maine	2	13	–	–	1	–	–	26	367	386	–	1	2	12
N.H.†	–	3	–	–	–	–	–	19	185	253	–	2	1	1
Vt.	–	6	–	–	–	–	–	15	98	128	–	–	–	–
Mass.	10	106	1	–	4	–	–	214	2,481	2,407	7	66	103	–
R.I.	–	12	–	–	1	–	–	34	474	344	–	3	3	–
Conn.	6	37	–	–	1	–	–	220	2,370	816	–	27	44	–
MID. ATLANTIC	76	1,001	–	1	14	–	3	1,595	23,782	23,185	78	896	598	6
Upstate N.Y.	12	168	–	–	3	–	3	311	4,298	3,374	12	75	40	6
N.Y. City	27	375	–	–	5	–	–	570	8,594	9,306	48	602	421	–
N.J.	19	175	–	1	5	–	–	220	4,472	4,337	9	109	67	–
Pa.	18	283	–	–	1	–	–	494	6,418	6,168	9	110	70	–
E.N. CENTRAL	84	880	–	–	5	–	2	2,391	33,503	28,889	50	714	490	40
Ohio	6	171	–	–	–	–	2	208	9,075	7,620	3	157	84	3
Ind.	7	129	–	–	–	–	–	350	2,737	3,320	7	43	28	4
Ill.†	28	333	–	–	3	–	–	901	10,627	8,179	36	406	323	20
Mich.	39	213	–	–	2	–	–	610	7,546	7,027	2	83	40	–
Wis.	4	34	–	–	–	–	–	322	3,118	2,743	2	25	15	13
W.N. CENTRAL	14	206	9	2	3	–	1	827	10,536	10,409	5	68	104	139
Minn.	2	24	–	2	2	–	–	161	1,877	1,977	1	21	41	37
Iowa	–	23	–	–	–	–	–	90	1,370	1,262	1	7	9	37
Mo.	6	111	7	–	1	–	–	278	4,394	4,026	3	26	28	32
N. Dak.	–	7	–	–	–	–	–	12	173	253	–	–	–	11
S. Dak.	3	13	1	–	–	–	–	28	349	397	–	–	1	10
Nebr.	–	2	1	–	–	–	–	50	671	801	–	1	3	–
Kans.	3	26	–	–	–	–	1	206	1,702	1,693	–	13	22	12
S. ATLANTIC	123	1,407	1	2	9	1	9	4,510	52,101	50,249	109	1,427	1,249	94
Del.	–	12	–	–	–	–	–	88	835	837	1	9	3	–
Md.	12	195	–	2	4	–	4	731	6,439	7,000	9	98	93	–
D.C.	2	61	–	–	1	–	–	327	3,260	3,248	9	100	107	–
Va.	11	163	–	–	1	–	–	358	4,889	4,568	14	147	113	2
W. Va.	6	54	–	–	–	–	–	78	759	771	1	21	4	–
N.C.	23	240	–	–	–	1	4	703	8,223	6,801	10	133	104	–
S.C.	4	56	1	–	–	–	1	301	4,286	4,686	4	76	58	31
Ga.	20	204	–	–	–	–	–	834	9,843	9,446	37	379	296	60
Fla.	45	421	–	–	3	–	–	1,090	13,567	12,892	24	464	471	1
E.S. CENTRAL	61	576	4	–	6	–	5	1,417	18,988	18,042	31	400	211	26
Ky.	10	124	2	–	2	–	–	182	2,618	1,984	3	41	22	7
Tenn.	26	169	2	–	1	–	1	548	6,690	6,679	8	167	77	10
Ala.	8	114	–	–	3	–	4	395	5,596	5,434	10	80	29	9
Miss.	17	169	–	–	–	–	–	292	4,084	3,945	10	112	83	–
W.S. CENTRAL	74	731	4	1	6	–	1	2,180	29,257	29,380	114	965	730	291
Ark.	3	43	2	–	–	–	–	168	2,314	2,161	6	32	28	60
La.	11	173	1	–	–	–	–	497	5,136	4,649	47	224	151	2
Okla.	16	102	–	–	–	–	–	205	2,544	2,626	–	15	25	52
Tex.	44	413	1	1	6	–	1	1,310	19,263	19,944	61	694	526	177
MOUNTAIN	18	182	5	2	5	–	1	560	8,302	7,720	6	71	90	8
Mont.	–	5	–	–	–	–	–	34	412	476	–	4	6	–
Idaho	–	4	–	–	–	–	–	38	388	264	–	6	–	–
Wyo.	–	3	–	–	–	–	–	12	212	177	–	3	3	–
Colo.	2	13	–	1	1	–	–	161	2,307	2,131	2	27	30	–
N. Mex.	2	28	1	–	1	–	–	90	1,055	1,093	3	10	21	5
Ariz.	10	108	–	1	2	–	–	137	2,293	1,937	–	11	19	3
Utah	2	5	4	–	–	–	–	19	409	460	–	1	3	–
Nev.	2	16	–	–	1	–	1	69	1,226	1,182	1	9	8	–
PACIFIC	117	1,017	1	4	35	–	–	3,869	37,103	35,518	70	933	1,026	72
Wash.	18	31	–	–	1	–	–	153	2,837	2,462	NA	40	44	–
Oreg.	4	52	–	–	–	–	–	183	2,457	2,531	1	42	30	–
Calif.	87	846	1	1	27	–	–	3,380	30,017	28,737	66	829	941	70
Alaska†	–	25	–	–	–	–	–	123	1,208	1,134	–	2	4	2
Hawaii	8	63	–	3	7	–	–	30	584	654	3	20	7	–
Guam†	NA	8	–	NA	–	NA	–	NA	15	27	NA	–	–	–
P.R.	14	76	–	–	1	–	–	30	435	599	10	136	92	4
V.I.	1	1	–	–	–	–	–	2	36	55	–	–	4	–
Pac. Trust Terr.	–	8	–	–	–	–	–	3	47	120	–	–	–	–

NA: Not available.

*Delayed reports received for 1978 are not shown below but are used to update last year's weekly and cumulative totals.

†The following delayed reports will be reflected in next week's cumulative totals: TB: Guam +1; GC: N.H. –1, Ill. +548, Guam +1 civ., +2 mil.; Syphilis: Ill. +25, Alaska +1.

TABLE IV. Deaths in 121 U.S. cities,* week ending March 24, 1979 (12th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	688	455	160	30	21	42
Boston, Mass.	230	137	62	11	12	17
Bridgeport, Conn.	48	38	10	-	-	4
Cambridge, Mass.	30	23	3	1	-	3
Fall River, Mass.	30	24	4	1	-	1
Hartford, Conn.	43	28	9	6	-	2
Lowell, Mass.	15	10	5	-	-	1
Lynn, Mass.	19	15	4	-	-	-
New Bedford, Mass.	25	17	7	1	-	2
New Haven, Conn.	49	25	11	5	5	1
Providence, R.I.	60	45	11	1	2	4
Somerville, Mass.	6	6	-	-	-	-
Springfield, Mass.	31	16	8	3	1	1
Waterbury, Conn.	43	31	10	-	-	2
Worcester, Mass.	59	40	16	1	1	4
MID. ATLANTIC	2,136	1,381	512	116	67	87
Albany, N.Y.	55	33	15	2	3	2
Allentown, Pa.	24	21	3	-	-	-
Buffalo, N.Y.	132	90	35	6	-	8
Camden, N.J.	40	17	17	1	4	1
Elizabeth, N.J.	36	22	11	2	-	4
Erie, Pa.†	26	18	6	2	-	2
Jersey City, N.J.	39	22	11	3	2	2
Newark, N.J.	68	34	14	6	11	3
N.Y. City, N.Y.	1,374	882	337	82	33	47
Paterson, N.J.	24	14	8	1	-	1
Philadelphia, Pa.†	259	163	75	14	4	18
Pittsburgh, Pa.†	52	30	18	4	-	3
Reading, Pa.	38	31	6	1	-	4
Rochester, N.Y.	106	72	20	4	6	8
Schenectady, N.Y.	22	16	3	2	-	-
Scranton, Pa.†	21	16	3	1	-	-
Syracuse, N.Y.	68	43	15	2	5	1
Trenton, N.J.	60	47	11	1	1	4
Utica, N.Y.	23	16	3	1	1	1
Yonkers, N.Y.	27	21	3	2	1	1
E.N. CENTRAL	2,415	1,416	645	159	96	74
Akron, Ohio	61	38	14	3	1	-
Canton, Ohio	42	28	10	1	2	4
Chicago, Ill.	590	341	156	43	25	13
Cincinnati, Ohio	176	101	62	6	5	3
Cleveland, Ohio	160	87	40	14	8	6
Columbus, Ohio	141	76	39	15	5	1
Dayton, Ohio	85	56	20	3	2	1
Detroit, Mich.	284	157	76	23	13	6
Evansville, Ind.	54	32	15	5	-	4
Fort Wayne, Ind.	63	47	12	1	3	2
Gary, Ind.	25	9	6	5	1	-
Grand Rapids, Mich.	71	42	21	4	3	3
Indianapolis, Ind.	165	94	44	10	8	13
Madison, Wis.	38	20	11	3	2	6
Milwaukee, Wis.	148	105	32	5	3	3
Peoria, Ill.	66	38	17	5	4	4
Rockford, Ill.	36	26	7	2	1	1
South Bend, Ind.	48	30	15	2	1	4
Toledo, Ohio	109	62	31	6	5	-
Youngstown, Ohio	53	27	17	3	4	-
W.N. CENTRAL	676	442	155	32	27	29
Des Moines, Iowa	67	48	14	3	2	1
Duluth, Minn.	23	19	3	1	-	1
Kansas City, Kans.	36	26	5	3	-	-
Kansas City, Mo.	104	59	24	5	10	5
Lincoln, Nebr.	27	17	6	1	2	1
Minneapolis, Minn.	80	52	18	4	4	5
Omaha, Nebr.	68	42	19	5	-	2
St. Louis, Mo.	164	106	44	6	4	5
St. Paul, Minn.	58	38	12	4	3	1
Wichita, Kans.	49	35	10	-	2	8

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
S. ATLANTIC	1,272	753	344	92	48	64
Atlanta, Ga.	197	108	56	14	10	8
Baltimore, Md.	51	30	16	2	1	2
Charlotte, N.C.	55	20	25	4	5	2
Jacksonville, Fla.	96	64	18	8	3	4
Miami, Fla.	158	88	44	14	9	4
Norfolk, Va.	55	28	14	4	4	2
Richmond, Va.	91	51	26	10	2	6
Savannah, Ga.	43	32	8	2	1	7
St. Petersburg, Fla.	119	100	15	2	2	10
Tampa, Fla.	65	45	12	5	1	5
Washington, D.C.	282	156	86	25	7	10
Wilmington, Del.	60	31	24	2	3	4
E.S. CENTRAL	711	415	200	44	18	33
Birmingham, Ala.	109	71	22	6	4	3
Chattanooga, Tenn.	54	36	13	2	1	5
Knoxville, Tenn.	48	34	7	4	1	-
Louisville, Ky.	93	46	35	4	2	8
Memphis, Tenn.	167	90	50	14	2	11
Mobile, Ala.	70	36	25	2	4	-
Montgomery, Ala.	66	45	14	2	3	-
Nashville, Tenn.	104	57	34	10	1	6
W.S. CENTRAL	1,273	718	339	103	52	43
Austin, Tex.	43	27	7	5	1	3
Baton Rouge, La.	22	13	9	-	-	1
Corpus Christi, Tex.	51	32	7	4	5	-
Dallas, Tex.	236	122	70	26	6	2
El Paso, Tex.	38	20	7	4	1	4
Fort Worth, Tex.	98	59	23	9	3	10
Houston, Tex.	294	158	79	32	10	4
Little Rock, Ark.	76	43	22	4	3	3
New Orleans, La.	141	73	46	9	6	-
San Antonio, Tex.	157	98	38	9	9	6
Shreveport, La.	44	26	11	-	5	4
Tulsa, Okla.	73	47	20	1	3	6
MOUNTAIN	566	344	133	45	22	26
Albuquerque, N. Mex.	56	32	15	2	4	3
Colo. Springs, Colo.	27	16	8	1	1	2
Denver, Colo.	117	71	30	9	5	7
Las Vegas, Nev.	48	28	8	7	-	4
Ogden, Utah	19	13	4	2	-	1
Phoenix, Ariz.	132	71	38	12	7	4
Pueblo, Colo.	23	16	3	2	-	3
Salt Lake City, Utah	48	31	13	1	1	2
Tucson, Ariz.	96	66	14	9	4	-
PACIFIC	1,673	1,066	403	100	48	48
Berkeley, Calif.	18	13	3	1	-	-
Fresno, Calif.	57	34	11	5	4	3
Glendale, Calif.	22	15	6	1	-	-
Honolulu, Hawaii	67	35	18	8	2	6
Long Beach, Calif.	83	51	27	1	1	-
Los Angeles, Calif.	407	264	99	15	10	12
Oakland, Calif.	79	48	17	10	3	5
Pasadena, Calif.	32	16	10	4	-	-
Portland, Oreg.	128	85	29	4	7	1
Sacramento, Calif.	68	43	13	5	4	5
San Diego, Calif.	149	89	42	13	3	1
San Francisco, Calif.	186	129	41	8	4	-
San Jose, Calif.	145	94	32	11	2	6
Seattle, Wash.	153	93	40	11	4	3
Spokane, Wash.	40	31	6	1	2	2
Tacoma, Wash.	39	26	9	2	2	4
TOTAL	11,410	6,990	2,891	721	399	446
Expected Number	11,168	7,006	2,795	664	405	450

*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 4 Pennsylvania cities, there will now be 117 cities involved in the generation of the expected values used to monitor pneumonia and influenza activity in the United States. Data from these 4 cities will appear in the tables but will not be included in the totals for the United States and the Middle Atlantic Region.

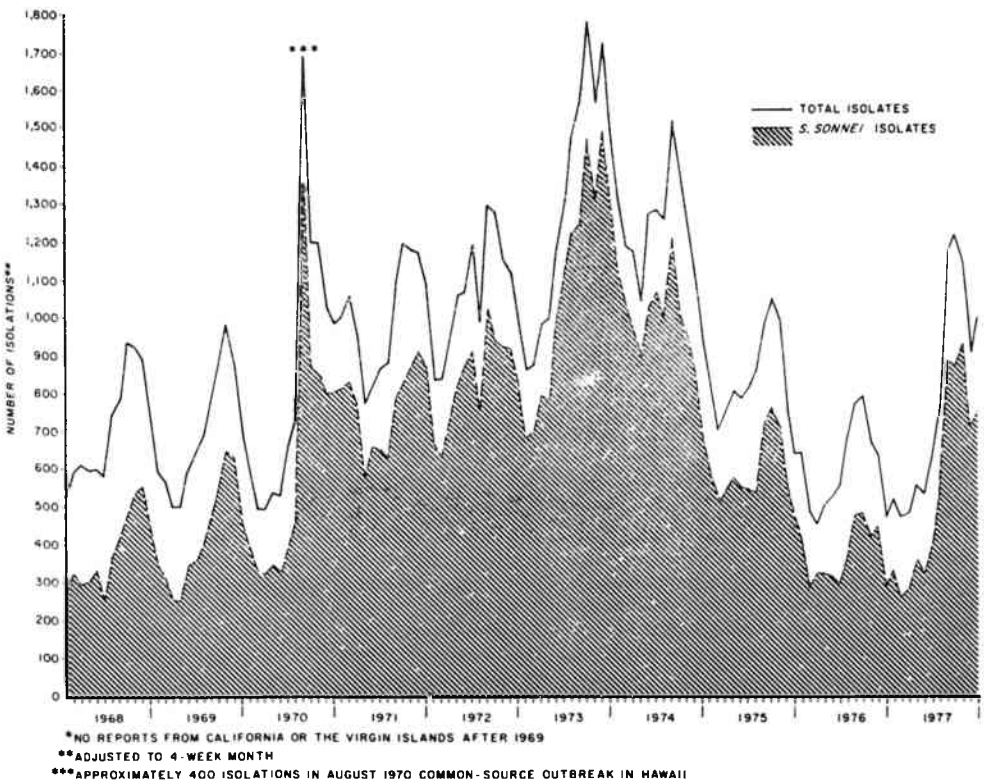
Surveillance Summary

Shigellosis — United States, 1977

Each week, all states (except California) and the District of Columbia report data on isolations of *Shigella* in the United States. Age, sex, county of residence, date of report, and the species and often serotype of the organism are included.

The total reported number of *Shigella* isolates in 1977 was higher than in 1976, reversing a downward trend which began in 1974 (Figure 2). The highest rate of reported *Shigella* isolations in 1977 was in 2-year-old children (Figure 3). A higher isolation rate was reported in females than males for the age group 20-29; otherwise, the isolation rates by sex were similar. Of the reported isolates, 71.4% were *S. sonnei*, 26.9% *S. flexneri*, 1.1% *S. boydii*, and 0.6% *S. dysenteriae*. *Shigella flexneri* 2a and 3a comprised 40.5% of the total *S. flexneri* isolates. Because of recurrent problems with shigellosis in certain population groups, data are tabulated separately for institutions and Indian reservations. Forty-four percent of reports included data on residence of the patient at the time of onset; of these, 4% lived in institutions, 3% on Indian reservations, and the remainder in other communities. Two-thirds of the isolations from residents of institutions were *S. sonnei*, and the remainder *S. flexneri*. In contrast, 14% of the isolates from residents of Indian reservations were *S. sonnei* and the remainder *S. flexneri*. Seventy-eight percent of the isolates from residents of other communities were *S. sonnei* and 19% *S. flexneri*.

FIGURE 2. Reported isolates of *Shigella* in the United States,* 1968-1977



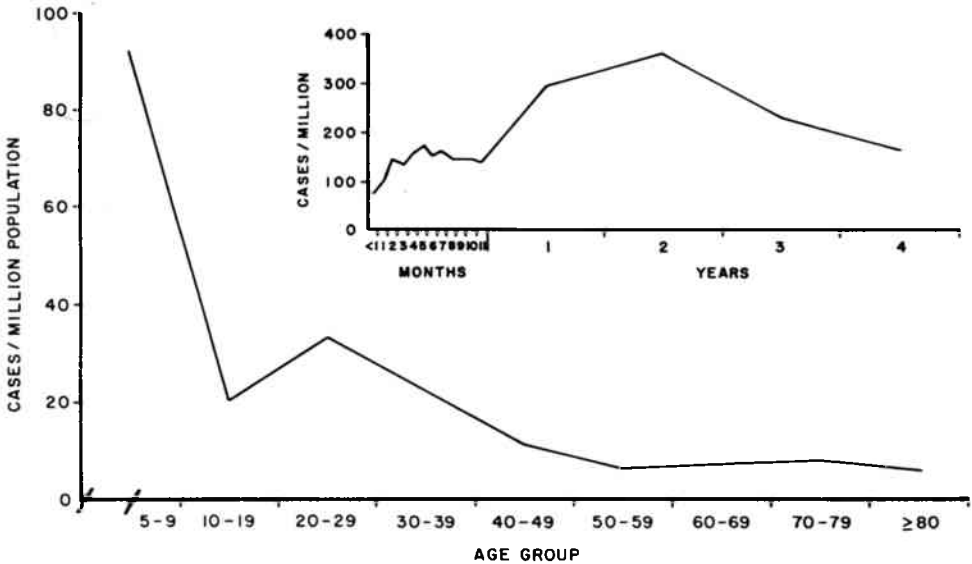
*NO REPORTS FROM CALIFORNIA OR THE VIRGIN ISLANDS AFTER 1969

**ADJUSTED TO 4-WEEK MONTH

***APPROXIMATELY 400 ISOLATIONS IN AUGUST 1970 COMMON-SOURCE OUTBREAK IN HAWAII

Shigellosis — Continued

FIGURE 3. Shigellosis rates, by age, United States,* 1977



*excluding California

Isolations peaked in the fall months. This seasonal pattern was more evident with children than with adults.

Reported by the Statistical Services Br, and Enteric Diseases Br, Bacterial Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The secular changes in numbers of reported *Shigella* isolates cannot be explained by changes in reporting practices, control efforts, or a single *Shigella* species or serotype. *S. flexneri* is common only in selected populations. The high isolation rate in children age 2-3 years may be the result of a higher frequency of culturing diarrhea in children than adults. However, the highest reported rates of *Salmonella* isolates, which are also often associated with diarrhea, are in 2- to 3-month-old children. The difference may be that shigellosis is characterized by person-to-person spread, in contrast to salmonellosis, which is most often a foodborne disease.

International Notes

Quarantine Measures

The following changes should be made in the "Supplement—Health Information for International Travel," MMWR, Vol. 27, September 1978:

SENEGAL
Cholera — Delete: None. Insert code II. ALSO on page 17 delete: None. Insert code II.
SINGAPORE
Smallpox — Insert: A certificate is required ALSO from travelers who have been in transit in a country any part of which is infected. ALSO on page 17 after code insert *.
TUVALU
Smallpox — Under code insert >1 yr.
UNITED ARAB EMIRATES
Smallpox — Delete code I >3 mos. Insert code III >6 mos. ALSO on page 18 change code to III.

Current Trends

Primary and Secondary Syphilis — United States, November 1978

Reported cases of primary and secondary syphilis numbered 1,723 in November 1977 and 1,987 in November 1978, representing an increase of 15.3%. This is the ninth consecutive month that such infections have increased over the number reported in the same month of the previous year.

During the first 11 months of 1978 (January-November), 19,760 cases were reported, up 5.7% (1,057 cases) over the number reported during the equivalent time period of 1977. During this time period 3 areas reported an increase of 250 cases or more (Los Angeles, 250; Chicago, 337; and Texas, 419). Los Angeles, however, reported fewer cases in November 1978 than in November 1977. Among 59 reporting areas, 32 reported an increase of cases, 1 area reported the same number of cases, and 26 areas reported fewer cases in the first 11 months of 1978.

Reported by Venereal Disease Control Div, Bur of State Services, CDC.

TABLE 2. Summary of reported primary and secondary syphilis cases, by reporting area, November 1978 and November 1977 — provisional data

Reporting Area by HEW Region	November		Calendar Year Cumulative January-November		Reporting Area by HEW Region	November		Calendar Year Cumulative January-November		Reporting Area by HEW Region	November		Calendar Year Cumulative January-November	
	1978	1977	1978	1977		1978	1977	1978	1977		1978	1977	1978	1977
Connecticut	19	17	162	169	Illinois					Arizona	14	17	105	147
Maine	1	4	9	27	(Excl. Chicago)	13	4	141	138	California				
Massachusetts	21	42	313	509	Chicago	125	93	1,277	940	(Excl. LA & SF)	151	187	1,570	1,435
New Hampshire	0	0	6	5	Indiana					Los Angeles*	153	166	1,564	1,314
Rhode Island	4	2	24	11	(Excl. Indianapolis)	9	6	78	86	San Francisco*	54	61	568	766
Vermont	0	0	3	6	Indianapolis*	8	3	70	53	Hawaii	3	4	41	32
REGION I TOTAL	**45**	**65**	**517**	**727**	Michigan	20	19	216	238	Nevada	12	2	54	17
					Minnesota	10	20	139	143	**REGION IX TOTAL**	**387**	**437**	**3,902**	**3,711**
New Jersey	41	33	328	333	Ohio	49	25	421	437					
New York					Wisconsin	8	8	63	102	Alaska	2	2	12	29
(Excl. NYC)	34	23	200	249	**REGION V TOTAL**	**242**	**178**	**2,405**	**2,137**	Idaho	0	1	9	7
New York City	233	160	1,822	1,669						Oregon	17	9	157	131
REGION II TOTAL	**308**	**236**	**2,350**	**2,251**	Arkansas	7	2	68	63	Washington	28	25	242	243
					Louisiana	59	18	664	605	**REGION X TOTAL**	**47**	**37**	**420**	**410**
Delaware	3	0	12	16	New Mexico	6	8	81	82					
District of Columbia	31	47	379	509	Oklahoma	3	6	89	75	**UNITED STATES TOTAL**	**1,987**	**1,723**	**19,760**	**18,703**
Maryland					Texas	281	218	2,320	1,911					
(Excl. Baltimore)	16	17	154	149	**REGION VI TOTAL**	**356**	**252**	**3,232**	**2,737**					
Baltimore	20	16	259	247						Puerto Rico	45	50	494	558
Pennsylvania					Iowa	2	2	36	36	Virgin Islands	3	1	24	12
(Excl. Philadelphia)	6	12	95	155	Kansas	3	2	83	54	**UNITED STATES, INCLUDING OUTLYING AREAS**	**2,035**	**1,774**	**20,278**	**19,273**
Philadelphia	24	27	204	235	Missouri	11	6	136	151					
Virginia	35	25	437	490	Nebraska	1	0	13	25					
West Virginia	5	1	30	4	**REGION VII TOTAL**	**17**	**10**	**268**	**266**					
REGION III TOTAL	**140**	**145**	**1,570**	**1,805**										
					Colorado	12	9	112	111					
Alabama	18	12	179	153	Montana	1	1	8	7					
Florida	139	126	1,796	1,669	North Dakota	0	0	2	3					
Georgia					South Dakota	0	0	3	11					
(Excl. Atlanta)	78	58	763	736	Utah	1	0	13	10					
Atlanta*	48	43	538	415	Wyoming	1	1	6	3					
Kentucky	15	19	141	104	**REGION VIII TOTAL**	**15**	**11**	**144**	**145**					
Mississippi	27	13	361	231										
North Carolina	52	40	565	735										
South Carolina	26	22	271	241										
Tennessee	27	19	338	230										
REGION IV TOTAL	**430**	**352**	**4,952**	**4,514**										

*County data

Note: Cumulative totals include revised and delayed reports through previous months.

Source: CDC 9-98, HEW, PHS, CDC, BSS, VD Control Division, Atlanta, Georgia 30333

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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Send reports to: Center for Disease Control, Attn: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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Erratum, Vol. 28, No. 10

p 117 In the article "Surveillance of Childhood Lead Poisoning — United States," in the last line of the fifth paragraph, delete the word "children" and make the following italicized addition: "70.1 hazard abatements occurred per 100 *hazards* identified."

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